

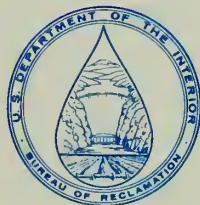
# Uncompahgre Valley Reclamation Project

## AB Lateral Hydropower Facility


### Final Environmental Impact Statement Volume II, Comments and Responses



United States Department of the Interior



Bureau of Reclamation



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## DRAFT ENVIRONMENTAL IMPACT STATEMENT

The draft environmental impact statement (DEIS) was filed with the Environmental Protection Agency on April 19, 1989. Public hearings on the draft were held in Denver, Montrose, and Delta, Colorado, on May 30 and 31 and June 1, 1989, respectively. The comment period ended on June 22, 1989.

The availability of the DEIS and the public hearing schedules were published in the Federal Register and in local and regional newspapers. Numerous written and oral comments were received on the DEIS.

## FINAL ENVIRONMENTAL IMPACT STATEMENT

In this final environmental impact statement (FEIS), summaries of oral statements, copies of written comments, and responses are presented. Because many comment letters contained the same questions or statements, the reader is often referred to other comments and responses for information. Public hearing comments and responses are presented first, followed by comments from Federal agencies (designated as F), State agencies (S), local governments and organizations (OR), and individuals (I). These comments and responses are then followed by the actual comment letters.

The following table of contents of comments and responses has been included to allow easy reference to specific categories of concerns or questions. The contents refer the reader to specific responses for more information. (Please see Volume I of the FEIS for references cited in the responses.)

Alternatives: Responses F-11, F-66, and F-76; OR-5, OR-6, OR-8, OR-9, OR-67, and OR-122; I-25, I-49, and I-139

Aspinall Unit regulation: Responses F-82; I-40, I-41, I-60, and I-66

Bald eagles: Responses F-17, F-19, F-57, F-83, F-91, and F-106; OR-19; I-68

Bank stabilization on Uncompahgre River: Responses F-5, F-32, F-72, F-77, and F-107 through 117; S-7 and S-8; OR-13, OR-16, OR-17, OR-36, OR-38, and OR-46; I-11, I-26 through I-33, I-39, I-62, I-104, I-127, I-133, I-134, and I-136

Black Canyon of the Gunnison National Monument: Responses F-2, F-18, and F-70

Cumulative impacts: Responses F-86; OR-113; I-38

Economic evaluations: Responses OR-29 through OR-31, OR-41, OR-44, and OR-80 through OR-82; I-121

Endangered species: Responses F-4, F-17, F-38, F-59, and F-85

Financial feasibility ratio: Responses F-21 and F-23; OR-6, OR-28, OR-31, OR-43, and OR-83

Fisheries, Gunnison River: Responses F-27, F-37, F-40 through F-47, F-62, F-81, F-87, and F-94 through 96; OR-23 through OR-27, OR-63, OR-68 through OR-71, and OR-98; I-6, I-16 through I-22, I-64, I-81, I-84, I-108, I-117, I-123, I-124, and I-126

Fisheries, Uncompahgre River: Responses F-47 and F-48

Gunnison River, Federal land management: Responses F-61 and F-80; OR-59, OR-65, OR-73, OR-74, OR-81, OR-103, OR-105, and OR-106

Gunnison River flows: Responses F-7, F-10, F-11 through F-13, F-15, F-25, and F-29; OR-22 and OR-91; and Delta Hearing No. 29

Gunnison River morphology: Responses F-32 through F-34, F-53, F-54, F-83, F-89, F-93, and F-101; I-34

Hydrology studies: Responses F-28, F-29, F-39, F-82, F-90, F-91, F-93; OR-22 and OR-91; I-29, I-40, I-41, I-60, I-105, I-106, and I-111

Minimum streamflows: Responses F-11, F-31, F-89 and F-119

Need for power: Responses F-6; OR-1 through OR-5, OR-53, OR-77, and OR-89; I-74, I-96, and I-98

NEPA compliance: Responses F-84; OR-33, OR-75, OR-90, OR-114, OR-115, OR-122, OR-124, and OR-128

Organic Act (National Monument): Responses OR-103 and OR-105

Rafting: Responses F-63, F-64, F-66, and F-104; OR-29; I-83, I-95, I-99, and I-122

Recreation: Responses F-63, F-64, F-66, F-99, and F-104; OR-28, OR-29, OR-73, OR-79, OR-92, OR-93, OR-105, OR-106, OR-139, and OR-141 through OR-145; I-36, I-37, I-46, I-63, I-78, I-83, I-95, I-99, and I-122

Reserved water right: Responses F-1 and F-68; OR-107

Riparian vegetation: Responses F-50, F-52, F-55, F-98 through F-100, and F-102; S-9; OR-12 through OR-13; OR-34, OR-35, and OR-39; I-85

River ice conditions: Responses F-3, F-20, and F-58; OR-69; I-13

River otter: Responses F-58 and F-103; I-7 and I-68

Tourism: Responses F-66; I-83 and I-102

Uncompahgre River flows: Responses F-79; S-1; OR-47; I-14  
and I-73

Water quality: Responses F-18, F-36, F-71; S-9; OR-10,  
OR-17, OR-20, OR-21, OR-27, OR-52, OR-61, OR-62, OR-65,  
OR-66, OR-72, OR-94, and OR-96; I-3, I-9, I-57, and  
I-107

Water temperature: Response F-53

Waterfowl: Responses I-12, I-70, I-91, and I-135

Wetlands: Responses F-75, F-76, F-109, and F-110;  
I-11

Wild and scenic river: Responses F-80; I-81, I-86, I-113,  
and I-137

Wilderness designation: Responses F-61 and F-80; OR-74 and  
OR-104 through OR-106; I-120

The following is a list of commentators for whom responses were necessary, as they appear in this volume. Again, public hearing speakers are presented first, followed by letters from Federal agencies (F), State agencies (S), local governments and organizations (OR), and individuals (I). Those letters that did not require responses are at the end of this volume.

## PUBLIC HEARINGS - DENVER

Bruce Hoagland  
John Wood  
Marty Walter  
Don Thompson  
Don Ravenhill

## PUBLIC HEARING - MONTROSE

Marshall Wilson  
Ginnie Brannon  
Fred Wetlaufer  
Bob Cory  
Ted Hermann  
John Baldus  
Marv Ballantyne  
Brad Hatcher  
Carter McKnight  
Tracy Blashill  
Gary Whitlock

## Public Hearing - Montrose (Continued)

Shawn Lund  
John Unger  
Jim Zartman  
Caleb Gates  
Regina Sowell  
Hank Hotze  
Jon Sering  
Rick Brunton  
Eileen McGlynn  
Steve Hinchman  
Hank Hotze  
Richard Proctor  
James Clark  
Scott Jorgensen  
Chuck Worley  
Leroy Stanford  
Don French  
Richard Wallbrinck  
Bob Watson  
Steve Shea  
Alvin Pfifer  
Bob Corey  
James Gall  
Roger Blough  
Bernard Heideman  
Pamela Zoline  
Jonathan Gates  
Dwain McCarty  
Mark Paigen  
Jane McGarry  
Bill Brunner  
Steve Sheldon  
Kevin Parks  
Mark Pearson  
Philip Egidi  
Rick Proctor  
Steve Hinchman

## FEDERAL AGENCIES

National Park Service  
Environmental Protection Agency  
Fish and Wildlife Service  
Bureau of Land Management  
U.S. Army Corps of Engineers  
Bureau of Mines  
Soil Conservation Service

## STATE AGENCIES

Colorado Division of Wildlife  
Colorado Department of Highways  
State Soil Conservation Board

## LOCAL AGENCIES AND ORGANIZATIONS

Western Colorado Congress  
City of Delta  
City of Montrose  
Delta County Commissioners  
San Miguel County Planning, Building, and Sanitation Department  
Mesa County Water Association  
Colorado Wildlife Federation  
University of Colorado Wilderness Study Group  
Colorado Environmental Coalition  
Western Slope Energy Research Center  
Colorado Trout Unlimited (Denver)  
Audubon Society of Western Colorado  
National Parks and Conservation Association  
Colorado Trout Unlimited (Wheatridge)  
Sierra Club Legal Defense Fund  
Wilderness Aware  
Colorado-Ute Electric Association  
Sierra Club, Rocky Mountain Chapter  
Paonia Chamber of Commerce

## INDIVIDUAL COMMENTS

Scott Jorgensen  
Bradford Hatcher  
Mitchell Swanson  
Kent Wheeler  
Ralph E. Clark III  
Ruth Hutchins  
Caleb Gates  
Esther and John Acquafresca  
Stan Adams  
C. Courtney Antrim and Helen W. Beale  
Linda Baker  
Marvin Ballantyne  
Bruce Barnhart  
Lynn Becker  
Robert Becker  
Tracy Blashill  
James R. Clark  
Richard Cline  
Steve Dahlman  
Ronald Delano  
Joanne Fagan  
Richard Frazier

## Individual Comments (Continued)

Beth French  
Everett Gilbert  
Bernard Heideman  
Leonard Hendzel  
Karl Kiser  
Jesse Landis  
Stephen Lewis  
Glen Miller  
Robin and Gretchen Nicholoff  
James Ritkin  
Lee Sayre  
John Welfelt  
John Wood  
Mark Silversher  
Gary and Syril Whitlock



## PUBLIC HEARINGS

Public hearings were held in Denver, Montrose, and Delta, Colorado, on the draft environmental impact statement (DEIS). Notice of the hearings was made in the Federal Register and in news releases. The hearings were conducted by James Limb, an attorney for the U.S. Department of the Interior (USDI). The Bureau of Reclamation (Reclamation) representatives attended all hearings to receive testimony. Copies of the transcripts are available in Reclamation offices or local libraries. A total of 53 people presented statements. The following is a paraphrased summary of concerns and statements made. Reclamation's responses to the comments follow each summarized statement. In many cases, the comments were also received in comment letters, and the reader is referred to responses found later in Volume II.

### DENVER HEARING

1. **MR. BRUCE HOAGLAND, representing COLORADO TROUT UNLIMITED,** expressed concern with the development alternatives because of aquatic impacts in the Gunnison River and because the need for the project was not shown. He stated that Trout Unlimited opposes any project and resulting flow regime for the Gunnison River that would permit the river to frequently or periodically drop below its optimum flow level of 500-600 ft<sup>3</sup>/s.

**RESPONSE:** The AB Lateral Facility alternatives, including the no-action alternative, would not create optimum conditions in the Gunnison River for trout. The excellent fishery that has developed in the river has occurred under a variety of flow conditions. The EIS compares the no-action alternative with project development conditions and concludes that the fishery would be protected. Postproject flows are not compared to optimum flows because the no-action alternative does not represent optimum conditions. Postproject flows would fall below the suggested level of 500 to 600 ft<sup>3</sup>/s. See **RESPONSE** to **COMMENT F-6**.

2. **MR. JOHN WOOD, representing FRIENDS OF THE GUNNISON RIVER,** questioned the need for power from the project, especially in light of existing conditions of excess power. He stated that the significant increase in 300 ft<sup>3</sup>/s flow levels was unacceptable. For example, changes in water temperature would shorten the length of river that can produce optimum size trout. In 1988, flows in the 300-400 ft<sup>3</sup>/s range caused water temperatures in the lower portion of the gorge and below the North Fork to exceed 70 degrees in several places which he felt was totally unacceptable.

Mr. Wood commented that at lower flows, frazil and anchor ice could scour the riverbottom and destroy the trout spawning habitat as well as harm aquatic insects, river otters, and bald eagles. Bald eagle studies in the DEIS are inadequate and should be extended downstream to Austin. The DEIS alludes to the fact that if there are adverse effects on eagles and otters, they may

move to the Uncompahgre River; however, extensive erosion and loss of riparian habitat in the Uncompahgre River associated with increased flows will preclude this.

The Uncompahgre River with increased flows and channel protection will be poor habitat for waterfowl. The bank protection plan does not have a cost estimate; it could become astronomical. If this gets to the point where Mitex pulls out, who's going to pay for that. The impacts of the bank protection plan are not presented in adequate detail.

The lower flows in the Gunnison River will reduce the chances of extending the Black Canyon of the Gunnison National Monument into a National Park downstream along the Gunnison River.

Increased silt in the Uncompahgre River will make irrigation more difficult; selenium will also increase in the Uncompahgre River.

Project sponsors are unwilling to compromise, only their alternatives are presented in the DEIS; why is not a smaller project appropriate.

**RESPONSE:** The need for the power is discussed in additional detail in chapter 1 of the environmental impact statement (EIS) and the **RESPONSE** to written **COMMENTS F-6** and **OR-1**. Data show a long-term need for additional power in the region.

Water temperatures do increase in summer months during low flow periods; the EIS addresses this issue. Of particular importance is that changes in river flows are least during the hot summer months [because the Gunnison Tunnel (Tunnel) is operating at or near capacity during irrigation periods]. Therefore, the change from existing conditions as a result of implementing the project would not be as dramatic as predicted in the comment. Temperatures do occasionally exceed optimum levels. Fishery data from 1988 do not indicate any adverse effect on the fishery; see responses to the following written comments, including effects of temperature: **F-27, 37, 41** through **47, 62, 81, 87, 94** through **96; OR-23, 25** through **27, 63, and 68** through **70**.

The frequency of ice formation in the Gunnison River would increase significantly with project alternatives. Scouring of the river bottom is not expected to occur except near Delta where existing diversion dams create ice jams. In areas such as these, scouring would occur, and use by species such as bald eagles and waterfowl would decline. Ice formation is a natural occurrence in the Gunnison River. Severe ice conditions exist on the river upstream from Blue Mesa Reservoir, and aquatic insects and fish continue to thrive.

Additional details are presented in the EIS on the bank stabilization program on the Uncompahgre River. A cost estimate is included, along with details on the long-term maintenance program. Additional details on bank stabilization are found in the following responses to written comments: **F-5, 32** through **34,**

72, 77, and 106-117; OR-16, 17, 36, 38, 46, and 90; I-11, 26 through 29, 33, 39, 62, 104, 127, 133, 134, and 136. The potential for erosion along the river increases under development alternatives; the bank stabilization program is designed to mitigate this problem.

The AB Lateral Facility would not prevent extending the Black Canyon of the Gunnison National Monument (Monument) into a national park downstream along the Gunnison River. Resources along the river would be affected, however, as described in the EIS.

Increased silt load would be expected to occur in the Uncompahgre River during the construction of bank stabilization measures and during initial operation of the facility. In the long term, proposed bank protection measures would reduce but not eliminate increased erosion. The irrigation systems along the Uncompahgre River presently operate with high silt loads without problems. Total selenium content in the Uncompahgre River should not change with the project; however, concentrations should decrease due to dilution downstream from Montrose.

Several alternatives were presented in the EIS, including a smaller plan than recommended by the Sponsors. Several smaller alternatives were also considered but found infeasible as reported in chapter 2. The results of negotiations on a possible compromise are reported earlier in chapter 4 of the FEIS.

**3. MR. MARTY WALTER: (Representing Indian Peaks Group of Sierra Club).** Equal consideration is not given to the environment in the DEIS. Also, the Bureau of Reclamation has kept contracts secret despite several freedom of information requests and Congressional inquiry. The EIS should answer questions raised at the hearings.

**RESPONSE:** The EIS presents impacts of the financially feasible alternatives. Mitigation measures, including minimum flows, wetland protection, and endangered species conservation, have been included in the alternatives. The Sponsors consider the actual contract between the UVWUA and Montrose Partners confidential; however, Reclamation has included relevant information from the contract and proposal for development services in the FEIS. See **RESPONSE to COMMENT OR-32** for additional information.

**4. MR. DON THOMPSON: (President of the Colorado Environmental Coalition).** The Gunnison River presently provides high-quality recreation, tourism, and, in its natural state, does a much better job than the effects of the hydropower proposal.

The economic necessity for the project is not shown; hydro-electric power is generally considered clean power, but there are a large number of impacts with this particular project. Impacts on wildlife, tourism, and Wild and Scenic River designation far exceed the benefits of the project. Mr. Thompson was concerned

that the hydropower proposal will reduce or eliminate the chances to obtain Wild and Scenic River status on the Gunnison. Additional flows on the Uncompahgre are also a concern.

**RESPONSE:** The need for the project power is discussed in Chapter 2 of the EIS; additional information is also found in the **RESPONSE** to **COMMENT F-6**.

The EIS documents impacts of the alternative proposals on recreation and other resources. It is recognized that the river presently does support high-quality recreation as well as other important resources. The river itself is presently highly regulated and is not considered in a natural flow regime; it would be further changed from its present state by development alternatives. However, the river would remain eligible as a Wild River; criteria for this eligibility would be affected as discussed in the EIS.

**5. MR. DON RAVENHILL: (Representing Colorado Whitewater Association).** He was concerned that the DEIS ignored many impacts; he commented that there is unused power generation capacity on the Western Slope and use of this capacity should be considered.

Bureau of Reclamation should fund the opposition to these projects in the same amount of money that is wasted on environmental studies. The scientific omissions in this study are manifest and manifold. You haven't got the slightest idea of what the impacts of reduced flows would be, nor the flood control measures that might be necessary.

Under PURPA, utilities are required to take the project's power. This is an economic windfall to private investors and a loss to the environment, loss to recreationists, and a loss to the local economy. Project should be looked at with a much larger perspective.

**RESPONSE:** The need for the project power is discussed in the EIS and also is addressed in **RESPONSES** to **COMMENTS F-6** and **OR-1**. Studies for this project are funded by the Sponsors; results are reviewed by Reclamation and other agencies. Conclusions in the EIS are Reclamation's. The impacts and the economic effects of the project are described in chapter 3 of the EIS.

## MONTROSE HEARING:

**6. MR. MARSHALL WILSON (Chairman of Board of Montrose County Commissioners)** read a Resolution adopted by the Montrose County Commissioners. The project is vital to the residents of Montrose County, will increase county tax revenues by \$400,000 to \$700,000 per year, and directly reduce the repayment obligation of the irrigators under the Uncompahgre Project. The environmental

impacts are minimal and the mitigation measures extensive. The achievement of the project is of high priority to the Uncompahgre Valley.

**RESPONSE:** The EIS includes a discussion of economic impacts. Environmental impacts would also occur and are detailed in the EIS, along with mitigation measures.

**7. MS. GINNIE BRANNON: (representing Western Colorado Congress).** She discussed economic impacts of the project.

Certain costs are not included. Many economists employ studies called willingness to pay or willingness to accept and what they are trying to capture are the intrinsic benefits to users of a given recreational area. Studies like that should be conducted from a kind of comprehensive and environmental impact analysis.

Travel cost studies could also be employed--consider expenses of traveling to the area. What we call opportunity costs are included, and these opportunity costs could be very large, in the case when the Gunnison Gorge is becoming more and more popular, and free-flowing water is becoming more and more of a scarce resource. There could be huge opportunity costs associated with the loss of recreational activities. Opportunity costs are not adequately addressed.

Reduced flows through Montrose and greatly increased flows downstream will deter potential businesses that consider the attractiveness of a river. Also, the loss to businesses that are located in the area where the construction will be going on is not addressed in the DEIS.

Costs are underestimated. EIS takes user days, multiplies that by daily expenditures and arrives at total revenues coming into the area from fishing and rafting. Data come from the Public Information Corporation which is not site specific; it is based on a statewide survey. I tried to find out the economics of these numbers, but they said they closed their files--so we have no way to determine how accurate these numbers are.

Restaurant and transportation costs are underestimated. In terms of rafting expenditures, the EIS uses \$69 for commercial rafting. Based on contacts with rafters and the BLM, this figure is low. There are no statistics to back up the \$25 per day for fishing expenditures.

Rafting user days were based on registrations and this is not accurate because many people do not register. Gunnison River rafting could very well reach management limits--and that would represent a 30 percent increase over use shown in the DEIS. Angler days are also confusing.

In conclusion, what we have is very much a scarce resource, which will command much higher prices. The AB Lateral does not support the long-term stabilized economic growth, and it also harms the environment.

**RESPONSE:** The proposed development would be financed entirely through private sources; no Federal, State, or local government moneys would be used to construct or operate the Facility. Consequently, the only measure of benefits taken for the financial analysis has been revenues resulting from the sale of power and energy generated. Indirect costs have not been overlooked. Where possible and significant, environmental costs have been economically quantified and added to the EIS to assist in the decisionmaking process (for example, fishing, rafting, economic development, and taxes). Economic analyses have been prepared according to the National Environmental Policy Act of 1969 (NEPA) guidelines. Travel costs, willingness to pay, or other similar type studies are not warranted or required given the levels of use and types of impacts anticipated from this project.

A travel cost study could have been conducted for analyzing impacts on recreation; however, it did not seem warranted because of the small amount of recreation occurring within the canyon relative to the area as a whole. It would be difficult to isolate recreation associated with fishing or rafting from the other activities the recreationist might be participating in on the same trip. This analysis requires a study to determine the source for the visitors, an estimate of their travel costs, and construction of a composite demand curve. The benefits or willingness to pay is the consumer surplus associated with this demand curve and represents the value to the recreationist that he/she enjoyed but did not have to pay for; i.e., what he/she would have been willing to pay to obtain the recreation experience.

Reduced flows through Montrose would have a definite aesthetic impact along the Uncompahgre River, and we concur that an attractive river is an asset to any community. Additional flow information on this reach of river is found in the EIS and also in **RESPONSE to COMMENT OR-21**.

There should be no significant disruption of existing businesses during construction. Estimates of boater days for the baseline (alternative A) and all other alternatives are not estimates based on any sampling or observation procedure. Boater day estimates for the baseline are the maximum number of boating days possible given current Bureau of Land Management (BLM) regulations and goals.

The prices used (from the Public Information Corporation) for lodging, transportation, and food in the EIS are reasonably accurate estimates of the average per-person expenditures. For example, assuming an average party size of 2.5 people, the motel cost would be \$47.50 (2.5 times \$19). Motel rooms for \$47.50 for

a party of three are abundant in the region. Please see **RESPONSES to COMMENTS OR-28** through **OR-30** for further information.

**8. MR. FRED WETLAUFER: (Represented Western Colorado Congress).** He indicated that his organization felt that the ecosystem of the Gunnison River would best be served with water levels maintained near the 600-ft<sup>3</sup>/s level for the majority of the time. The ecosystem would suffer irreparable damage at water levels below this amount for extended periods of time. With the project, flow levels at 300 ft<sup>3</sup>/s would increase from 8 percent to 48 percent of the time. He stated that his position is supported by statements submitted by Jack Stanford and by historical flow data.

Low flows in the Uncompahgre River through Montrose would reduce aesthetic values and preclude the potential development of self-supporting fisheries. Downstream from Montrose, the river would have to undergo extensive bank stabilization to accommodate increased flows; the full extent of that work and its causes and effects are still under study.

Without knowing the terms of the contract between the Water Users and Mitex, it is impossible to assess the possible benefits or liabilities to the water users.

Western Colorado Congress recognizes that hydropower is a clean and non-polluting source of electricity. We understand that Public Service Company will have a need for more power by 1992, when this project is scheduled to go on line. Therefore, this project will not replace any existing coal-fired power production, but will displace whatever highest cost power they have available to them at the time, be it coal-fired, natural gas, or even possibly another hydro project. This project will also preclude the same amount of power that Colorado-Ute may have been able to sell to Public Service Company in 1992, just by the nature of their being there, that it pushes other potential producers out of the market. This project only adds to the financial burden of Colorado-Ute.

The project's power contract expires in 15 years. Not only will a new contract be required to be renegotiated, they will also be in a much more competitive market, due to the revisions and the PURPA laws.

The economic data on fishing and rafting industries is not fully quantified, especially in the area of economic growth; there is very little accounting of the possible growth rate of these industries.

Western Colorado Congress has been in contact with the water users seeking an alternative that could be built and still protect the Gunnison and Uncompahgre Rivers.

If existing values are diminished or decreased, it makes Montrose a less attractive place to live.

**RESPONSE:** The frequency of flows at 300 ft<sup>3</sup>/s would increase significantly with the project, particularly in the nonirrigation season. The EIS presents information on minimum and optimum flow levels in the river; the development alternatives do not provide optimum flows. The existing conditions in the river have developed over a wide range of flows; rarely have they been or stayed in the 500- to 600-ft<sup>3</sup>/s range. The EIS evaluates the difference between the no-action flows and the with development flows, none of which represent optimum conditions.

Low flows in the Uncompahgre through Montrose would reduce the potential for a fisheries development in this reach. Additional information has been developed for the EIS on this subject; also see **RESPONSE** to **COMMENT OR-21**. Fishery conditions should improve upstream from the Loutzenhizer Diversion Dam and downstream from the tailrace. Extensive bank protection is planned with the development alternatives and is described in additional detail in the EIS. Bank protection would continue to be added to the river under the no-action alternative, but it would not be as extensive.

The Sponsors consider the actual contract between the UVWUA and Montrose Partners confidential. Reclamation has included relevant information from the contract and proposal for development services in the EIS.

The need for power section of the EIS has been expanded. Additional information on this and the Colorado-Ute Electric Association (Colorado-Ute) situation can be found in the **RESPONSES** to **COMMENTS F-6** and **OR-1**.

Chapter 3 contains information on the economic effects of the no-action and development alternatives on fishing and rafting. These recreational uses are expected to increase in the future; however, the increase will be limited by BLM and National Park Service (NPS) land management plans designed to prevent overuse and damage to resources. The management restrictions have been considered in the analysis.

Efforts to develop an alternative acceptable to Western Colorado Congress (WCC) are described earlier in Volume I of this FEIS. However, proposals submitted by WCC have not been found to be economically or financially feasible.

**9. MR. BOB CORY:** Concerning fisheries, with the Aspinall Dams on the Gunnison River and the Dallas Reservoir and the AB Lateral, there will be an improvement, especially in the Uncompahgre River. The only bad thing I see is that there will be less water for rafting.

**RESPONSE:** It is hoped that the fishery in the Uncompahgre River will improve due to Ridgway Dam. The EIS recognizes a reduction in rafting in the Gunnison River.



**10. MR. TED HERMANN:** The increased tax revenues should lower mill levies by one or two mills. That is not a whole lot, but it certainly could help a lot of people, and especially your fixed income or your older people.

Approximately \$6 million dollars will be spent in the valley in each of the two construction years. Water assessments paid by irrigators would be reduced. Assessments per acre could be reduced by \$2 to \$12.

**RESPONSE:** The tax revenues generated in Montrose County are presented in chapter 3 of the EIS along with other economic effects during the construction and operation of the project.

**11. MR. JOHN BALDUS:** The environmental statement is completely inadequate and in violation of the National Environmental Policy Act. We do not know what the effects of the project will be. For example, in the cost-benefit analysis, there are no mitigation costs assumed for any wildlife impacts. If problems occur with endangered species or other wildlife, no one knows what it might cost to take care of the problems or what those problems would result in.

Impacts to wildlife are not mentioned; impacts to wetlands along the Gunnison and Uncompahgre Rivers are not presented.

The stylized channel drawing of the Gunnison River in the DEIS does not represent the entire river. We need serious, scientific data that explains how many miles of river bed will be affected, what types of riverbeds are found, and how broad the riparian zones are.

Sediment is not adequately considered--referring to the North Fork sediment load as "not large" is not scientific. We need to know where the sediment sources are, how much sediment they may contribute at what periods of the year, and what effects this change in the river will have on those sources.

The description of the Uncompahgre River is only a sketch; more information is critical to understanding the effects on wildlife and other resources.

If there is not sufficient information to make a decision on impacts, then a worst case scenario must be done according to the National Environmental Policy Act; this has not been done anywhere in the DEIS and is needed in 6 or 8 places.

Icing impacts, especially downstream from the North Fork, are not adequately addressed. If something goes wrong, who is going to fix it?

**RESPONSE:** Reclamation believes that the EIS is in compliance with NEPA, as the document presents alternatives, impacts, and mitigation measures. Fish and wildlife mitigation measures include minimum flow levels, wetland replacement and bank

stabilization plans, deer escapes along canals, raptor-proof powerlines, and conservation measures for endangered species. Costs of these measures are included in project costs.

Impacts to wetlands and wildlife are discussed in chapter 3 of the FEIS. The wetlands analysis has been prepared in cooperation with the Fish and Wildlife Service (FWS) and the Colorado Division of Wildlife (CDOW).

The information on river morphology and riparian vegetation along both the Gunnison and Uncompahgre Rivers has been supplemented in the FEIS. These issues are also addressed in the index. Additional information on sediment and Uncompahgre River resources and bank stabilization plans are also included in the FEIS.

The worst case analysis is presented when impacts are unknown and is not needed in this EIS. A conservative approach has been taken in several areas, primarily where impacts on river flows are considered. Flow changes shown for development alternatives in the Gunnison River may not be as great as actually shown due to conservative estimates of existing Tunnel operations. River ice on the Gunnison River would increase with development alternatives (as described in the EIS) but is not predicted to have significant adverse effects.

**12. MR. MARV BALLANTYNE:** I have concerns with the Gunnison River but want to concentrate on the Uncompahgre River. Flow increases will be too great to improve fisheries. Required channel protection will harm fish and wildlife. For example, 1,500 to 2,000 mallards winter on a mile of the unchannelized river near the Ash Mesa Bridge and only about 20 in a channelized area.

Flows through Montrose would be significantly reduced in the summer and winter. This is in the area where the Ute Museum and Chipeta Lakes are. Canals such as the M&D and Loutzenhizer would receive a much higher percentage of Uncompahgre River water than they now receive and this would reduce the quality of water used by irrigators on these canals.

Low flows through Montrose would be mostly return flows and would contain agricultural pesticides and chemicals. Is this what we really want to have in the River Bottom Park in Montrose?

In the Gunnison River, low flows would be much more frequent. If we have a Gold Medal fishery now, and we change the flows that much, isn't it an awfully big likelihood we are going to lose it altogether?

The benefits to farmers are small; we should not be taking chances with the recreational opportunities we have.

**RESPONSE:** The Uncompahgre River would be changed by development alternatives in three segments. First, flows would be reduced

between the South Canal and the Loutzenhizer Diversion Dam during the irrigation season; second, flows would be greatly reduced in the segment between the Loutzenhizer Diversion and the proposed tailrace; and third, flows could increase between the tailrace and Delta. The fishery conditions could improve in the first and third sections and decrease in the middle section (see FEIS and subsequent comments and responses).

The FEIS addresses the changes in water quality to irrigators. Quality would decline in some cases and improve in others because of changes in dilution.

Channelization is often detrimental to waterfowl and other wildlife, so this method of bank protection has been dropped from consideration. Effects of flow changes and bank protection measures proposed are presented in the FEIS. The value of waterfowl habitat would change along the Uncompahgre River, declining in some areas, and improving in other areas.

The effects on the Gold Medal fishery are included in the FEIS; however, significant adverse impacts are not predicted. Agricultural interests would benefit primarily from increased revenues that could be used to improve or maintain irrigation systems and to reduce water costs.

**13. MR. BRAD HATCHER:** He discussed the impacts of reduced flows in the Gunnison River and on the need for power. His comments were also submitted in written form and are discussed later. Please refer to **RESPONSES** to **COMMENTS I-13** through **I-25**.

**14. MR. CARTER MCKNIGHT:** The Uncompahgre River flows through Montrose are often below 50 ft<sup>3</sup>/s now. The Gunnison Tunnel has been very important to this area; this valley would still be semi-arid without it.

**RESPONSE:** Yes, it is true that flows in the Uncompahgre River through Montrose are now often below 50 ft<sup>3</sup>/s, particularly in the nonirrigation season. During the irrigation season, however, flows in this reach are generally high because this reach of river is used to carry imported Gunnison River from the South Canal to downstream canals.

**15. TRACY BLASHILL:** She was concerned with how the project would affect designation of a wilderness along the river or how fish and wildlife would be affected. The EIS is too vague on this. The Gunnison River did not become a Gold Medal fishery with continual low flows of 300 to 400 ft<sup>3</sup>/s. The project would take the last traces of wildness from the Gunnison. I don't think we should chance losing an already established Gold Medal fishery, an already established bald eagle habitat, and an already healthy and growing tourism industry in Montrose.

**RESPONSE:** River flows would change significantly in the nonirrigation season under development alternatives; changes during the irrigation season would be much less because the

Tunnel would be carrying irrigation diversions from the Gunnison River. The flow changes would affect the mentioned resources and are addressed in the EIS. Where appropriate, additional information has been provided in the FEIS.

**16. MR. GARY WHITLOCK:** He shared concerns of previous speakers for the Gunnison River's wildlife habitat and for the flow changes in the Uncompahgre River. He also discussed the quality of rafting at various flows. When the river is down to around 800 ft<sup>3</sup>/s, it becomes a little slower and not as much fun; below 400 ft<sup>3</sup>/s, it is very slow. As a draw to tourists, as a draw to local people who want to float the Gunnison, or fish it, he would see a constant 300 ft<sup>3</sup>/s as a real detriment.

**RESPONSE:** Input from commercial and private rafters and from BLM reports indicated that the river can be floated at low flow levels. The low flow levels (300 ft<sup>3</sup>/s), however, do not represent optimum conditions. Optimum conditions for float-fishing are higher, perhaps around 500 to 800 ft<sup>3</sup>/s, and for whitewater floating even higher; and the EIS reflects this. Conversely, the popularity of hike-in fishing has been shown to increase at lower flows in the 200- to 500-ft<sup>3</sup>/s range. The development alternatives do not create constant 300-ft<sup>3</sup>/s conditions; during the recreation season, flow changes would be relatively small because the Tunnel is also being used for irrigation. Flow changes are greater in the fall, early spring, and winter. Rafting would probably be affected to the largest extent during the fall when weather conditions are still good for rafting and when other rivers in the region are often at their lowest flows. Regarding the comment about tourism, the EIS predicts an increase in fishing-related tourism and a decrease in rafting-related tourism.

**17. MR. SHAWN LUND:** The ability to produce power without pollution is attractive; however, the problem is that it will destroy two rivers. Uncompahgre River flows through town will be reduced to a trickle; the river is valuable now even if it is not a fishery or a rafting resource. The Gunnison River is a small creek at 300 ft<sup>3</sup>/s. In addition to the value to rafting and fish, the river flow itself has a value--the value of flowing water--that is not addressed in the DEIS.

The project produces power that is not needed and not wanted; the same people that support this project are the same people that want to bring a nuclear dump to Montrose.

**RESPONSE:** Chapter 3 of the FEIS presents impacts, both positive and negative, of the development alternatives on the Uncompahgre and Gunnison rivers. The greatest impact may occur in the reach of the Uncompahgre River that runs through the city of Montrose where summer flows would be substantially reduced.

Chapter 3 also addresses the values of riverflows. The need for project power is addressed in the EIS and in the responses to other comments (see **RESPONSE** to **COMMENT F-6**).

**18. DR. JOHN UNGER:** The DEIS is flawed in many ways that have already been brought out. The willingness to pay issue is important and will become more important as more and more citizens make use of these resources.

I read in the paper that Colorado-Ute is uncomfortable with this concept of more power being produced, when they are awash in it, and drowning in their own power, laying off more people. The project will generate electricity that is not needed and they will be forced to buy it under Federal law. The price of the electricity is distorted--it is not market driven--it is done through PURPA. We need to be cautious with projections of power need. We need to decrease our need for increased electricity.

The loss of parts of two of the five criteria for the Wild and Scenic River designation is significant. This could completely eliminate the Gunnison from designation. Non-consumptive use of resources is important to the economy.

The low flows in the Uncompahgre River through Montrose takes away the beauty from the town. Reducing flows in the Gunnison River by one-half cannot help the Gold Medal fishery in the Gunnison River and needs more explanation.

We need to look to the future at tourism and recreation; the Gunnison River should be protected for economic growth. Productivity can also be measured in beauty, in our natural environment. That's why so many of us live here. It can be measured by fish in the streams, rafting those streams. It attracts people here who have non-consumptive attitudes, without using them up, and point them in some other direction, which takes them out of the place of this beautiful panorama of beauty, and scenic splendor we live in.

**RESPONSE:** The issue about willingness to pay is discussed in the response to Ms. Ginnie Brannon (see **COMMENT NO. 7**). Project power would be sold to the Public Service Company; Colorado-Ute would be involved in wheeling the energy. As mentioned in Mr. Unger's comment, the power would be sold under the Public Utilities Regulatory Policies Act of 1978 (PURPA). Please see **RESPONSE** to **COMMENT F-6** for additional information.

Based on input from the NPS, the EIS concludes that the river would remain eligible for designation as a wild river. Two criteria that make it eligible would be affected, not lost, as explained in the EIS.

The reduced flows in the Uncompahgre River through the city of Montrose would have aesthetic and other impacts. The flow reduction would occur during the irrigation season and primarily from July through September. The EIS addresses the impacts of this reduction; also see **RESPONSES** to **COMMENTS F-79** and **OR-21**. Gunnison River flows would be reduced under all development alternatives; the effect of this on the trout fishery is discussed. Certain aspects would have positive as well as

negative effects on trout habitat; one example of a negative effect is the reduction in winter flows that help move sediment out of the Gunnison Gorge area.

The concerns with tourism, recreation, and economic growth are valid. The FEIS concludes that some losses to rafting would occur and some gains to fishing. However, in the long term (even under the no-action alternative), management controls may be needed to control the increased numbers of recreationists, or much of the attractiveness of the river environment would be compromised.

**19. MR. JIM ZARTMAN: (Representing Riverside Grange and Uncompahgre Pomona).** More people are attracted to this area by a green and growing agriculture than by all of the recreation projects put together. This project is an opportunity to help the farmer and rancher in the area. The disadvantages are small in comparison.

**RESPONSE:** The development alternatives are designed to give irrigation water priority over hydropower water. In addition, revenues would directly and indirectly benefit irrigators in the Uncompahgre Valley.

**20. MR. CALEB GATES:** People come to the Gunnison River to catch big fish; not fish hatchery fish, and having flows at 300 ft<sup>3</sup>/s will compromise the river. At a minimum, the river will heat up; we have to be cautious with long-term effects.

The Bureau's alternative flow data differs a lot from the historical flow data, and I would just like that clarified in the final EIS. This is because we are getting down to some very low thresholds on the Gunnison River; we can't have 200-500 through 1,000 ft<sup>3</sup>/s differences in the computer model.

The Uncompahgre River is of high economic concern; the potential for erosion from increased flows is significant. Uncompahgre flow tables in the DEIS contain averages, not minimums and maximums. The information is incomplete and misleading. There is no information on flows at Delta or below the Selig Canal or on a year-by-year basis as there is at Colona.

DEIS proposes riprapping by dropping boulders on the bank, and lateral erosion will cause them to fall into the river and serve as protection. Later, the EIS talks about placing the riprap on the bank. Also, canalization is discussed along with loss of riparian habitat and headgates of canals being filled with sediment. The river will be constantly fighting to get back to equilibrium and will be very costly.

Is the Uncompahgre Valley Water Users Association or Mitex prepared to pay for these potential problems? The DEIS does not discuss cost overruns. I am concerned about how informed all members of the Uncompahgre Valley Water Users are concerning this project, the potential cost overruns, and the potential to lose

whatever profit they have built into this project. Is the project really needed by the water users; the livelihood of farmers will be compromised as well as that of the Gunnison River.

**RESPONSE:** The Gunnison River is one of the few major fisheries in the State that is considered a wild trout fishery; it is not maintained by stocking. The CDOW has done an extensive study of trout reproduction in the river and has concluded that project flow changes would not adversely affect this situation. Habitat conditions with the development alternatives would not be optimum, nor are they optimum under the no-action alternative.

Temperatures would increase during the summer, especially in the North Fork to Austin reach of the river. However, closely examining the flow tables in the EIS shows that flow changes, and therefore temperature changes, are the least during the summer because the Tunnel is at or near capacity for irrigation, particularly during dry years. Please see the index of comments and responses for additional information on fisheries.

Flows under the no-action alternative differ from actual gauge data on the Gunnison River; this phenomenon occurs for several reasons. The no-action flows are simulated flows that consider the operation of the Aspinall Unit. Simulated flows were used for the hydrologic analysis on this project because not a long enough post-Aspinall record period exists for meaningful comparison. Simulated flows are necessary to determine both post-project flows and water availability for hydropower and to present an accurate prediction of impacts. Errors in actual flow tables (see attachment B) were also found in the DEIS and have been corrected.

The no-action flows sometimes differ from actual flows even when the Aspinall Unit was operating. This phenomena occurs for several reasons. Filling Blue Mesa Reservoir accounts for major differences for several years beginning in October 1965, as do the construction and filling of Morrow Point and Crystal reservoirs (which ended in the mid-1970's).

It is not possible to make a valid short-term comparison between the simulated operation and the actual or historical operation of the Aspinall Unit. Many factors that affect the actual operation of the unit, such as power system emergencies, downstream water demands that vary from month to month and year to year, errors in forecasting inflows, and operator judgment cannot be simulated by the computer operation model to match identical flow conditions for a given year. However, the model is extremely useful in showing longer term trends and is considered accurate in predicting the frequency of low flows.

Studies of the Uncompahgre River, including historical accounts, indicate that the potential for erosion is high under existing

conditions and that post-development flows would aggravate this problem. **RESPONSES** to **COMMENTS I-26** through **I-33** and the EIS contain additional information on this subject.

Riprapping by dropping boulders on the bank and channelization have both been eliminated from the bank stabilization plan as indicated in chapter 2 of the EIS. The channel protection plan would be funded by the hydropower project; cost estimates include contingencies to reduce the chances of cost overruns. A sinking fund would be established to fund future channel maintenance. Extensive channel protection activities presently occur on the river and are funded by the individual landowners, the UVWUA, or local governments.

**21. MS. REGINA SOWELL:** The project does not make economic or environmental sense. There is too much electricity now and too much demand on the Gunnison River. The costs of the project outweigh the benefits; if it is built and turns out to be a mistake, who will pay?

**RESPONSE:** The EIS discusses the need and use of the power produced and the effects on the Gunnison River. There would be some flexibility in future years to change the operation of the project if "it turns out to be a mistake," but this flexibility would be limited by water rights, financial arrangements, and legal agreements. Also see **RESPONSE** to **COMMENT F-70**.

**22. MR. ERICK SOWELL:** The power is not needed; do we need a water company to generate it? Power would go to the eastern slope; there are enough people there. Shall we continue to supply them with our raw materials of power and water? If we don't need this power, we don't need this project.

**RESPONSE:** Please see **RESPONSE** to **COMMENT F-6** concerning need for power. The power will be used outside of the immediate area for at least the first 15 years of operation.

**23. MR. HANK HOTZE:** Has a number of specific questions and concerns about the DEIS; these will be sent to Reclamation. The project is causing conflicts in the valley. It is up to the Uncompahgre Valley Water Users Association to make this decision, but it's not up to the users to sacrifice a National Resource.

We have an opportunity here to put a project in line, to keep a river flowing, and to bring tourism and recreation into the area, and to benefit agriculture. The environmental community and the water users need to seek a compromise. For a few hundred second feet of water, the water users can have a project, the rafters can continue to float, and the quality fishery can remain. Reclamation can help with Blue Mesa.

I propose that the Bureau act as a mitigating agent, and pull us together, and we come up with a plan that we can all sign off on, and we are all in a better situation.



**RESPONSE:** As a result of this suggestion, negotiation sessions were held with concerned parties to see if a compromise alternative could be reached. These negotiations are discussed in chapter 4 of the FEIS. However, a compromise alternative that was financially feasible was not reached.

**24. MR. JON SERING:** I am opposed to the project. The Gunnison River is a National Treasure and it is right in our backyard. The Gunnison Gorge and National Monument are public lands; they belong to everybody.

Tourism and recreation are non-consumptive, non-destroying; they don't pollute the air; they don't take away, they constantly give. Tourism brings people here; a diverse recreation market is a real strength.

**RESPONSE:** The EIS addresses impacts on recreation use and tourism. While recreation and tourism are considered non-consumptive uses of resources, outdoor recreation use can have significant impacts on wildlife and other natural resources.

**25. MR. RICK BRUNTON:** There are three dams on the Gunnison River and that is enough; this project should be defeated.

**RESPONSE:** Thank you for your comment.

**26. MS. EILEEN MCGLYNN:** The project might certainly diminish the ecosystem of the Gunnison for people as well as for wildlife. We need to preserve, rather than attempt to dominate, the integrity and beauty of the Gunnison and its ecosystem and species which co-exist there. There are limits to growth, without irreparable environmental damage, and I believe the DEIS shows a hands-off management to be the best plan, because of all of the questions it leaves unanswered. Issues of wildlife and endangered species are not addressed in the DEIS. Hikers are not addressed, nor birdwatchers, in the study, nor those who are content to know the Gunnison in its simple worth, and just being untampered by mankind.

**RESPONSE:** Thank you for your comments. The EIS addresses changes along the Gunnison River. Fish and wildlife and endangered species analyses are included in the EIS and have been prepared in cooperation with the CDOW and the FWS.

## DELTA HEARING

**27. MR. STEVE HINCHMAN:** The USGS flows in attachment B of the EIS do not match the numbers in the no action alternative and they should. We took the years 1966, 1976, 1977, 1978, 1981--those are the driest years between 1965 and 1983 when the Aspinall Unit was on line--and the numbers in attachment B and alternative A do not match. Also during spring runoff, why are

the model lines a straight line? Actual flows for real years show a V going up and down. There is a big problem with the model numbers, in terms of adequacy of the DEIS.

Presentation of logarithmic graphs in the DEIS is not straight forward--it makes the project look better than it is. Not enough detail is shown for critical periods. There is also inadequate flow information presented on the Uncompahgre River flows--only averages are given. You don't account for return flows and irrigation in the summer.

The project reflects a concentration on money, not efficiency; the average operating capacity of the powerplant is only between 66 and 70 percent.

Project economics are now based on artificial price supports in the form of the PURPA Act; these price supports may not be there in 15 years when the current contract expires. It is likely there will be pressure to use more water from the Gunnison, by building these large-scale projects, is inefficient, in the course of time.

I am concerned the Uncompahgre Valley Water Users Association could violate the 300 ft<sup>3</sup>/s flow on the Gunnison in the name of irrigation by ignoring the Uncompahgre flows, and then using the excess irrigation diversions for hydropower. There needs to be a better, more complete monitoring system. The above scenario would represent a waste of water under Colorado water law and the water users would be subject to losing water rights.

We doubt that the Uncompahgre River bank protection measures will work. The DEIS has no assessment of potential loss of wetlands due to riprap and other measures. However, the DEIS lists 5,000 acres of wetlands along the river. Congress has stated a no loss of wetlands policy. Section 404 permit regulations require acre-for-acre replacement of wetlands. This is a gaping hole in the DEIS. There is also no mention for rights-of-way agreements for bank stabilization work or compensation for landowners for impacts to their property. Failure to address this impact of riparian habitat and wetlands is a possible violation of the Clean Water Act, the National Environmental Policy Act, and the Threatened and Endangered Species Act.

While the DEIS claims increased flows in the Uncompahgre will replace lost habitat on the Gunnison, for species such as the federally endangered bald eagle and the endangered river otter, the DEIS also states that the speed of flow in the river will be too great to support fish and wildlife. Those are the prey species that eagles and otters depend on. These are contradictory statements, and what we call disinformation.

The proposed sinking fund to monitor and continue bank stabilization does not list specific amounts in that fund. The cost of bank stabilization and erosion control were listed in the

DEIS as reasons for eliminating alternatives G and H as uneconomical, again proving that this is a serious economic problem. I suggest the Bureau require the sponsors to put up a bond between 5 and 10 million dollars, or more, before the operation begins. The danger is that if damage is too high, Mitex will pull out, leaving the water users liable. Then their rates will go up, not down.

I question why the DEIS was released with preliminary and inadequate information. The 1976 law requires a full-scale study of all environmental, social, and economic impacts to be presented for public review. I question if the Bureau of Reclamation glossed over these potential problems to speed up the report so as to meet the sponsor's deadline for producing electricity, based on its contract with Public Service Company. The Bureau has public responsibility and depriving the public and other agencies and institutions of adequate information to evaluate the project in order to meet deadlines for profit is unethical, amoral, and illegal. The only solution is to rewrite the DEIS when studies are complete.

**RESPONSE:** For information on the differences between modeled flows and actual gauged flows, please see the **RESPONSE** to **COMMENT 20** at the Montrose Public Hearing. The modeled flows do not show a typical "V" pattern during runoff periods, primarily because the model includes upstream regulation of runoff by Aspinall Unit Reservoirs. This storage tends to moderate runoff peaks.

The logarithmic presentation of flow data has been mentioned by several commentors as confusing. The best way to compare flows with and without development is to compare the flow tables in chapter 3 that provide average monthly flows throughout the study period. Additional information on the Uncompahgre River flows is provided in the EIS in chapter 3 including more detail on return flows.

The efficiency of the powerplant is less than 100 percent because the plant would not receive a 100 percent water supply. Minimum flow and irrigation commitments receive priority and naturally occurring periods of low flows exist.

Project power sales are covered under the PURPA Act; further information is found in the **RESPONSES** to **COMMENTS OR-1** through **3**, and **F-6**. A new contract would be negotiated at the end of 15 years. Selling hydropower energy upon debt repayment has not been a problem in the United States, primarily because a fuel cost doesn't exist as a cost does with coal-fired powerplants. See **RESPONSE** to **COMMENT OR-45**.

The lease of power privilege and water rights considerations would prevent hydropower diversions under the name of irrigation diversions. Monitoring flow requirements are described in the EIS.

The bank protection plan is presented in the EIS; information in the FEIS has been supplemented. (Also see the contents to the comments and responses for further information.) The bank protection plan, which has been reviewed by Reclamation, will also require a Section 404 Permit before construction. The FEIS addresses wetland losses and wetland replacement or mitigation. Agreements such as rights-of-way would be required with local landowners. Impacts to landowners would be short-term, construction-type impacts and long-term bank protection impacts. Neither the bank protection plan nor the EIS violates the Clean Water Act, NEPA, or the Endangered Species Act.

The EIS does not indicate that habitat for bald eagles and river otters on the Uncompahgre River would replace that on the Gunnison. The increased flow in the Uncompahgre may be beneficial in some respects to these species; however, the increased water velocity associated with the increased flows would probably create less than optimum habitat in many river sections. Increased bank erosion would also be detrimental to wildlife.

Alternatives G and H were eliminated for economic reasons. The cost of bank stabilization was only part of these reasons. Additional information on the sinking fund and bank stabilization plan is contained in the FEIS. Compliance with these commitments would be assured in the lease of power privilege. Adequate information was available to prepare the EIS, and additional information is contained in the FEIS based on comments received and additional studies of the Uncompahgre River bank stabilization plan.

**28. MR. HANK HOTZE:** There are many things that I have problems with in the DEIS, but I think that all those things are going to be adequately covered by others. I proposed at the Montrose hearing that responsible parties meet to see if a compromise solution can be arrived at; we met this afternoon and hopefully this process will be successful.

**RESPONSE:** See response to Mr. Hotze's comments at the Montrose Public Hearing (No. 23).

**29. MR. RICHARD PROCTOR:** The AB Lateral project is not a new project, it has been talked about and perceived as a new project. It is more of a utilization and extension of an existing project. The irrigation system is being used, and expanded to a more beneficial use, besides that of irrigation to that of hydropower. Irrigation water continues to receive priority, power second.

The EIS does not make it clear that the rafting industry came about during a period of unusually high flows. Some people are calling for 600 ft<sup>3</sup>/s in the river; this would have to come by shutting down the Gunnison Tunnel or from Blue Mesa storage. Erosion can be contained on the Uncompahgre River by carefully placed riprap.

Concerning the impacts of ice in the Gunnison River, historically the river froze so that one could ice skate up into the canyon.

The EIS overestimates irrigation season flows in the Gunnison River under the no-action alternative. This is because the models do not reflect the increased use of the Gunnison Tunnel for irrigation in recent years. The DEIS exaggerates impacts on the Gunnison River during the irrigation season. In the summer, flows are not going to change because the tunnel will only carry so much water. Flow changes will occur in early spring, fall, and winter.

The minimum payment to Water Users from the project is \$150,000 and those projections go up to a conservative estimate of \$1 million. It will pay \$400,000 to \$800,000 in taxes in Montrose County.

There is a need for the power as shown in Public Service Company forecasts.

**RESPONSE:** It is recognized that rapid growth in the rafting industry on the Gunnison River occurred during a period of high flows. These flows will, of course, not be available in many years, even under the no-action alternative. Flows in the 1988 and 1989 rafting season have been below normal. The industry can expect variable flow levels in the future because of differences in precipitation levels.

As the comment indicates, ice formation in the Gunnison River is a natural occurrence; however, ice formation above Delta has been reduced greatly over the last 25 years due to the Aspinall Unit reservoirs. The hydrology for the EIS was based on long-term historical tunnel diversions; recently, diversions have increased. If these higher diversions continue, impacts to the river during the irrigation season may be overstated. As stated in the EIS, the project hydrology superimposes historic irrigation practices upon simulated releases from the Aspinall Unit for the 32-year study period.

The commentator is correct in stating that recent irrigation practices have led to more irrigation diversions than would have been predicted by simply extending the historical averages. Tunnel work since the late 1970's has resulted in the capacity of the Tunnel increasing from about 1,000 ft<sup>3</sup>/s to 1,135 ft<sup>3</sup>/s. In addition, during the past several years, the UUVUA has generally run the Tunnel at or near its new capacity for longer periods than it did previously, subject to flow availability in the Gunnison River.

If this trend continues, for the peak irrigation season, the Black Canyon flows under the no-action alternative during the 32-year study period would actually be slightly lower than are predicted. This results in hydroproject impacts being exaggerated in the EIS, since the difference between postproject and alternative A flows would be less. For the peak irrigation

season (July and August), the project would have little and frequently zero impact on Gunnison flows, since the Tunnel would consequently be full. The table below highlights effects of the increased diversions from 1985 to 1989 (compared to the 1932-1983 average):

Additional hydrorelated diversions  
for hydropower from the Gunnison River  
(alternatives B, E, and F; ft<sup>3</sup>/s)

	1932-1983					
	Average	1985	1986	1987	1988	1989
June	286	557 <sup>1</sup>	364 <sup>1</sup>	152	0	0
July	162	0	199	0	0	0
August	173	0	5	94	0	0

<sup>1</sup> Spring runoff in 1985 and 1986 was unusually high, allowing UVWUA to rely more heavily on Uncompahgre versus Gunnison flows. Thus, diversions in these months do not represent normal conditions.

This hydrologic situation was reviewed while creating the hydrologic model for the project when it was determined that the best path would be to base impact assessment on the historical UVWUA diversions, without adjustment for recent trends. The reason for this decision was twofold: first, no guarantee exists that recent trends will continue and future cropping patterns may revert to the 32-year historical average at any time; second, while the Tunnel can now carry more water than it could during much of the study period, there is no way of knowing to what extent the UVWUA would have used (and in the future will use) this additional capacity. By using the historic flows during 1932-1983, more conservative results were attained; that is, they resulted in the maximum reasonable prediction of post-project reductions in Gunnison River flows.

The three months being considered (June through August) also correspond to the peak recreation season. If recent irrigation trends do continue, then most of the late summer impacts to Gunnison River recreation predicted in the EIS will occur under the no-action alternative as well as under the development alternatives.

With project development, the actual impact on the Gunnison would lie between the two extremes of greatest impact (as presented in EIS tables and analysis) and least impact (full Tunnel use for irrigation 3 months per year). By using the more conservative methods, the FEIS approaches a "worst-case" analysis. The FEIS has been revised to clarify this issue in the streamflow section

of chapter 3. The tax revenues and revenues to the water users in Montrose and Delta counties are contained in chapter 3 of the EIS.

**30. MR. JAMES CLARK:** Boating use of the Gunnison River is in its infancy; it has the potential to become a huge business. Low flows impact this use; low flows require increased work at the Relief Diversion Dam and this is dangerous to boaters.

I am in strong disagreement with the DEIS conclusions that there will be no adverse impacts on the trout fishery. A full river channel of 500-600 ft<sup>3</sup>/s is best when considering the entire life cycle of trout. This is because a full channel increases the population of aquatic plants as well as aquatic insects. Also, a full channel provides more habitat for the trout. The optimum flow of 500-600 ft<sup>3</sup>/s would grow larger and more trout because the increased area and increased biomass would allow favorable growth, reproduction, and health of this world class fishery.

Studies show that the river between the North Fork and Austin to be growing larger trout than the Gunnison Gorge. I feel that the confluence to Austin stretch represents a fabulous resource for our area. This reach with low flows in the 300 to 400 ft<sup>3</sup>/s range last summer had water temperatures up to 72 to 75 degrees during many of the days, and this had a negative effect on the trout. The emergence of aquatic insects was reduced. Fishing that is normally excellent was very slow. Trout do not do well when the water temperature is in the seventies--oxygen is reduced and the metabolism, growth, and health of the cold water species are all negatively affected by these high temperatures.

I also heard reports of fish with parasites or leeches; it could be the resistance was down on some fish. Studies dealing with the warm water in the lower Gunnison River and the effect on the aquatic life needs to be entered in the EIS.

The hydropower proposal would threaten the proposed Wild and Scenic River designation.

There is no need for the project other than to help the water users with debt retirement.

Mitigation measures, as proposed in the DEIS, fall way short of alleviating the harm and loss of priceless aesthetics and riparian habitat. The long-term economic losses to our communities, as priceless resources and recreation, are compromised and would in my opinion exceed the revenue gained from power generation that appears unneeded.

**RESPONSE:** Boating on the Gunnison River has the potential to increase in the future. The popularity of floating the river has increased during high flow years; however, the low flow years that invariably follow may slow this popularity. In spite of the assumed decreased popularity, the demand for floating the river

will probably increase; and updated management regulations will be needed if this use is not to conflict with other resources. The BLM management plans now call for controlling use.

Several diversions downstream from the North Fork will require additional work in the low flow years, and these diversions can be dangerous to floaters. The relatively small change in river flows due to the project during the summer recreation and irrigation season would not significantly change this situation (see chapter 3). Changes would be the most significant in early spring and late fall.

The EIS addresses both minimum and optimum flows for the trout fishery. The AB Lateral Project would not result in optimum flows. The EIS compares trout habitat without development and with the development alternatives. Increased flows do not necessarily result in increased habitat, although flows of 500 to 600 ft<sup>3</sup>/s mentioned in the comment are near optimum at certain times of the year.

In the reach between the North Fork and Austin, temperatures do increase during low flow years, which would occur more often under development alternatives. However, during low flow periods during the warm summer months, the development alternatives would have the least effect on flows. Trout populations did very well in this reach of the river following the low flows in the summer of 1988 (as explained in the EIS). On the other hand, the fishery did poorly in 1989 as the result of flash floods in the drainage and sediment buildup.

Parasites, which could be related to warmer temperatures, high fish density, or other factors, were noted on fish in the North Fork to Austin reach in the low water years of 1988 and 1989. Growth and condition of the fish were excellent in 1988, but preliminary indications are that the fishery in the Gunnison River did poorly in 1989. The greatest impacts would occur in the North Fork to Austin reach if hydropower development would adversely affect fisheries.

The development alternatives would affect criteria that make the river eligible as a wild river; however, the NPS has concluded that, nonetheless, the river would remain eligible. The need for the project, mitigation measures, and economic effects are discussed further in the FEIS.

**31. MR. SCOTT JORGENSEN:** The power from the project is not needed; there is no need for the project other than debt retirement for the water users; and this self-serving purpose may be detrimental to the entire Gunnison River system and its tourism and recreational industries.

Outdoor recreation will be a bigger factor in the economy of the Western Slope than even agriculture. I cannot endorse the short-term economic benefits of this project. Rather than an overnight sensation, we need the long-term development and



stability of tourism in our economy, nor can we allow the environmental degradation of the Gunnison and Uncompahgre Rivers proposed by this EIS.

By decreasing the average flows in the Gunnison River, the entire biological make-up, including trout, will be negatively affected. The river reach between the North Fork and Austin has increased greatly in fisheries value. Increased temperatures in this reach will reduce trout growth potential and increase hooking mortality. Trout metabolism increases with temperature rises; the trout react to this danger by decreasing their activity levels, and the fishing becomes slower.

Eagles and otters will be impacted. The Uncompahgre River will not support prey species for these. Eagles winter near Austin and the DEIS does not address this.

**RESPONSE:** The need for the project power is discussed in chapter 1 of the FEIS, and additional information can be found in the **RESPONSE** to **COMMENT F-6**. The hydropower project would contribute economically to the region for the long term, as would agriculture and tourism. The EIS describes impacts on recreation and tourism; rafting is expected to decline, while hike-in fishing would increase along the Gunnison River.

The effect of flow changes on fish and fish habitat is described in the EIS. As indicated, summer temperatures would increase, particularly in the lower reaches of the river. However, low flow periods also occur under the no-action alternative. River flows are changed the least during the summer months of low flow years when temperatures increase the most.

The Uncompahgre River and the Gunnison River would continue to provide eagle and otter habitat. Habitat conditions would not be ideal in the Uncompahgre River, but in some areas they could improve over existing conditions.

**32. MR. CHUCK WORLEY:** Under normal circumstances, I could support this project because hydropower is nonpolluting; however, there are some aspects of this project that make it a bad bargain. The power is not needed. Doesn't it make more sense for Public Service Company to buy or rent some of Colorado-Ute's excess capacity rather than add another source to the glut? Furthermore, there is no real assurance that this project will help the Uncompahgre Valley Water Users in the long run. There may not be a market for the power when the existing contract expires in 15 years. What happens if there are increased mitigation costs after Mitex pulls out? Many of the negative impacts of this project may not be known for 25 years. Do the water users assume these responsibilities?

Another power factor that needs to be considered is the inadequacy of the national energy situation--the whole energy situation is so volatile right now, that nobody knows for sure

what's going to be happening in 25 years...what happens if nuclear fusion, solar cells, or conservation become really competitive?

The least intellectually responsible part of the DEIS is its treatment of the impacts of this project on the natural and social environments...it reads as though there is a built-in pre-determination to approve the project. How in the world can anyone honestly believe that cutting the Gunnison River down to a third of its natural flow will not negatively affect the fishery?

Many potential problems are neglected in the DEIS--effect of decreased flow on aquatic insects, effect on eagles and otters, effect on fishery downstream from the North Fork.

Hiking would not necessarily increase with lower flows because vertical walls preclude this; even if it did increase, it would not replace rafting. When people want a river recreation experience, they want to experience the massivity of a river, not an oversized creek. How can the DEIS claim there would be no social negative impacts?

To create any project that has the very real risk of killing recreation and tourism is a very stupid idea; if a viable project cannot be built out of the present diversions, then I urge the no-action alternative.

**RESPONSE:** Please see **RESPONSES** to **COMMENTS F-6** and **OR-1** for additional information on the need for power and the relationship of the project to Colorado-Ute. The market for power in 15 years cannot be guaranteed, of course, but the demand for hydropower is normally high. Project expenses would decrease over the years, causing revenues to increase.

The future of the national energy situation is not unknown; predictions show increased power demands. Alternative power sources could be developed in the future. Hopefully, power will be used more efficiently in the future; however, it is presently believed that conventional methods such as hydropower will continue to be an important factor in meeting energy needs over the life of the project.

The EIS analyzes project impacts. Also, refer to the index to the responses and comments for specific areas such as fisheries. More flow is not necessarily better for fish and wildlife; different species and different waterways have their own optimum and minimum flow levels.

Impacts on the various types of recreation are discussed in the FEIS recreation section rather than the social section, because the tradeoff can be presented in more detail.

Hike-in recreation is expected to increase with development alternatives, but we agree that the canyon's topography, which includes sheer cliffs, would continue to control use. From the

standpoint of recreation, people's perception of what is a good flow varies considerably--hike-in anglers may prefer low flows, rafting anglers a moderate flow, and others may prefer to view the river at high levels.

**33. MR. LEROY STANFORD:** In reference to a previous comment, the river used to freeze, but there were not any trout in it at that time and place. The river has reset itself since the dams, the trout are down lower.

I have seen a deterioration of the river this year (after low flows). The use of water to support a fishery is just as important as using it for irrigation. We should not forget that we have one of the best rivers in the whole world for trout fisheries and that doesn't include the rafting, scenery, and other aspects.

**RESPONSE:** Historically, ice buildup was more common and the trout fishery occurred further upstream. The CDOW fishery data indicated that the fishery was in extremely good condition following the low flow year of 1988. As mentioned in the EIS, flash floods during the summer of 1989 harmed the fishery. Higher flows would have reduced flash flood damage to the fishery.

**34. MR. DON FRENCH: (Represented Colorado Whitewater Association).** He stated that a permit for the AB Lateral project should not be issued. The river as a recreational resource is desperately needed; the project forces an already burdened utility company to purchase the power generated at inflated costs.

The project compromises the quality of life that most people have chosen, and it destroys one of the few self-thriving wilderness areas remaining. Progress like this is a blatant slap in the face. You people should make it a priority to manage all resources with foresight and concern to the future to come.

**RESPONSE:** Please see **RESPONSES** to **COMMENTS F-6** and **OR-1** for additional information on the need for power and the relationship of the project with Colorado-Ute. The river and wilderness values would be affected as discussed in the FEIS.

**35. MR. RICHARD WALLBRINCK:** If the AB Lateral Project is built, the water that is being used from the Gunnison River for irrigation will still be used; the AB Lateral will not increase diversions in dry years like last year. If more than 300 ft<sup>3</sup>/s is needed, it will have to come from Blue Mesa Reservoir.

The project is an opportunity to produce clean environmentally safe power and it is needed. The project is one step in reducing pollution from fossil fuels.

There is a ground where everyone may benefit, both the farmer, the rafter, and nothing will change without the project going in. The water will still come through the tunnel; the waters are still not going over 300 ft<sup>3</sup>/s in the Gunnison River.

**RESPONSE:** Project changes are indeed the lowest during the irrigation season, particularly during dry years. See chapter 3 in the EIS for additional information on benefits to rafters and farmers.

**36. MR. BOB WATSON:** (Delta County Commissioner). He stated that he was at the hearing to listen and would ask questions later.

**RESPONSE:** None was necessary.

**37. MR. STEVE SHEA:** He went on the record in support of the AB Lateral project.

**RESPONSE:** None was necessary.

**38. MR. ALVIN PFIFER:** I irrigate out of the Gunnison River downstream from the North Fork. At flows of 300 ft<sup>3</sup>/s, we have to go in and dam up the river to divert water. Our diversion is for 230 ft<sup>3</sup>/s and when it is taken out that leaves only 70 ft<sup>3</sup>/s in the river to Delta. I am not opposing the AB Lateral. All I am saying is in times of stress and drought, there are problems.

**RESPONSE:** Diversions do require additional maintenance during low flow periods. It is shown in flow tables that the river flow would be affected the least during the irrigation season, particularly during dry years since the Tunnel would be operating at or near capacity for irrigation.

**39. MR. BOB COREY:** The AB Lateral Project has been compared to large projects like Two Forks; this is not true because the water is already going through the tunnel. I think that the water users should have the right to use their water through the Tunnel in a hydroelectric plant.

Concerning riparian vegetation issues, flooding is the biggest problem. The AB Lateral will not cause an increase in flooding in the Uncompahgre--it would put 1000 ft<sup>3</sup>/s in the river compared to 4,000 ft<sup>3</sup>/s in recent floods.

**RESPONSE:** The EIS recognizes the effect of the Tunnel operation on flows in the Gunnison River. Diversions would increase with hydropower development, but these increases would be the lowest during the irrigation season. The primary change in the Uncompahgre River would occur during the winter. Additional information is contained in the FEIS on how this would affect riparian vegetation.

**40. MR. JAMES GALL: (Mayor of Paonia).** He stated that the Town Council of Paonia feels there will be detrimental, irreparable changes suffered in the Gunnison system, should the permit be granted.

Concerns include the need for power, the division of profit between Montrose Partners and the irrigators, wetlands mitigation, eagle populations below Delta, and the Uncompahgre bank stabilization plan which are detailed only for a minority of the distance.

Tourism is very important in Delta County, in the last 7 years we have seen 1,000 mining jobs lost in our immediate area. The AB Lateral Project endangers the wild and scenic prospects, as well as the National Park candidacy. We see no rhyme or reason in being forced to loan the major part of our river to someone, somewhere else, and then have them give it to still others, when they are finished with it. The Town of Paonia feels the project is ill advised and should be denied.

**RESPONSE:** The concerns are recognized. Please see the index to the comments and responses for additional information on the individual concerns expressed.

**41. MR. ROGER BLOUGH:** The Uncompahgre Project has been critically important to development of the Uncompahgre Valley. We have a valley here that contains several thousand people dependent on the Uncompahgre Project. I think we need to look at this AB Lateral Project in a calm and rational light. For the most part, I can see no harm in it. This valley needs every bit of economic development it can possibly get. Our agriculturalists need every help they can get, in order to put their produce out, and I believe if we stick together, as some of the speakers have commented, instead of being polarized, we can get the job done.

**RESPONSE:** None was necessary.

**42. MR. BERNARD HEIDEMAN:** I feel there are many potentially damaging economic effects in Delta County. The DEIS does not reflect the true value of rafting and recreation. During dry years, alternative C and E produce unacceptable flows for rafting and fishing. This is directly caused by the AB Lateral. It seems like to go ahead with the project, especially in the dry years, will compromise the Gunnison being considered wild and scenic and this would be a detriment to Delta County. To accept any alternative other than A would take a chance on killing a great tourism possibility for Delta County. The DEIS does not adequately address streambank erosion. Banks need constant protection and maintenance, costs may be higher than projected.

Unless flows in the Gunnison River can be maintained at the 500 to 600 ft<sup>3</sup>/s range, alternative A is the only acceptable one for most of Delta County.

**RESPONSE:** The EIS discusses impacts on rafting and angling. A reduction in rafting use is predicted with development alternatives, while angling may increase. Additional information can be found in the comments and responses section and in chapter 3 (the recreation section) of the EIS on streambank erosion. Alternative A will not maintain flows of 500 to 600 ft<sup>3</sup>/s.

**43. MS. PAMELA ZOLINE:** I think that there is a fair amount of evidence that the AB Lateral, at the scale that it's being planned for would result in a damage of the Gunnison; would result in damage of the Uncompahgre; would result in damage to the River Park at Montrose; and might also hurt the trout and possible Wild and Scenic River designation.

The argument in the DEIS that fish will do all right at low flows because they have done so occasionally in the past is fallacious; the system needs time to recover from the impacts, and increasing the adverse low flows by a factor of seven makes recovery doubtful.

There are some serious questions on the need for the project. Also, economic benefits need to be studied. I have a paper that suggests that we are looking at a plan that will give 4 percent of the profits of this project to the water users and 96 percent of the profit to the French. The \$4 million net annual profit is after the annual debt service of \$8,754,713, which is a fair return to the investor for their construction funds of \$63 million. The DEIS indicates that \$150,000 annually would be paid to the water users with no reduction in water charges. This leaves an approximate net annual profit to Mitex, the French, of \$3,850,000. Thus, the water users are receiving less than 4 percent of the profits during the first 15 years.

The DEIS states after 15 years the water users would receive over \$1 million annually; however, after 15 years, the project will be paid for, and the water users would receive approximately \$1 million out of a total approximate profit of over \$13.7 million. This is less than 8 percent of the profits. If one calculates for inflation, at 5 percent, the gross revenues in 15 years will be approximately \$28.5 million and the water users will still receive less than 4 percent of the annual profits of the project.

If we want a win-win solution, we are going to be looking at a question of scale, I believe, for this project. We are going to be looking at a smaller project that gives the water users some profits, and at the same time protects the existing resources that we have, which are valuable and irreplaceable.

**RESPONSE:** Additional information on the impacts of the development alternatives can be found in chapter 3 of the FEIS and in the comments and response section. More details on the referenced calculations are needed for a thorough response to the comment; however, the figures do not match those calculated by

the Sponsors. We know of no basis for the comment concerning French profits. See **RESPONSE OR-32** for further information. The \$150,000 benefit to the UUVUA quoted is a minimum payment, which is actually less than would be anticipated. This benefit is cited as such in the EIS and is meant to be conservative. In calculating the Sponsor's net profit, expenses for equity returns, wheeling, operation and maintenance, insurance, and taxes must also be subtracted. The result is expected to be less than \$1 million annually, well below the \$4 million cited. See **RESPONSES** to **COMMENTS OR-31** and **OR-86** for additional details.

Calculating gross revenues 15 years after project operation is speculative (see **RESPONSE OR-45**). The Sponsors have indicated that the cited \$1 million annual benefit to the UUVUA is extremely conservative.

**44. MR. JONATHAN GATES:** I support the no-action alternative. If a compromise position can be worked out in the future, where the integrity of the river can be preserved, as suggested by Dr. Jack Stanford, I can support that, and then we can develop more industry for the water users, but only if the river can be protected in its present state.

At present, the project seems to jeopardize the criteria number 3 and 5 of the Wild and Scenic River, which is an adequate volume of high quality water and outstanding recreational values.

I am concerned about the fishery, eagles, otters, and wildlife as others have discussed. I would like to comment on the way Reclamation monitors the winter snowpack and the amount of water we are looking at every spring. It seems that the Bureau, and probably in conjunction with the SCS, is somewhat inept in having a real grasp on how much runoff we are going to have every spring; that this last year, for example, they released 1,600 ft<sup>3</sup>/s all the way through April, and come April, they realized we are not going to have a good runoff, so they shut everything down in May. At present, I believe they measure the snowpack once a month at the end of the month and they see what changes we have had; so it can be a great snow year in January and February, and then we can have a dry March, where like we had this year, and all of a sudden they realize we are in drought conditions. We would be better off if the Bureau and the SCS can monitor the snowpack--you can read the ski reports throughout the region and get a better idea of how much snow we actually have.

**RESPONSE:** Efforts to negotiate a compromise plan are discussed earlier (see **RESPONSE** to **COMMENT 23**). Alternatives that included minimum flows of 500 or 600 ft<sup>3</sup>/s (as recommended by Dr. Stanford in his report) are not financially feasible because costs of producing power would exceed revenues and would jeopardize existing irrigation practices.

Concerning monitoring runoff, we concur that the system could be improved. However, natural precipitation and weather patterns in late winter and early spring can and do significantly alter

runoff conditions, which occurred in the spring of 1988 mentioned in the comment. Storage in Blue Mesa Reservoir does help to moderate the effects of variable runoff conditions.

**45. MR. DWAIN MCCARTY:** I think we need to learn a lot. I think we need to learn before we speak out and say things we know nothing about. I think agriculture is the number one industry. We need other industries--we need something in the area to keep the economy going.

**RESPONSE:** None was necessary.

**46. MR. MARK PAIGEN:** The DEIS is very biased toward the development alternatives.

The AB Lateral would generate 38 to 48 MW of power; we can't use it over here, because we already have a surplus. In fact, Colorado-Ute, our local utility, is in dire straits financially because it can't use all the power it has. Should the AB Lateral Project go through, the power would be transmitted to the Front Range where the Public Service Company would buy it. The irony is, they don't want it. Public Service Company requested a moratorium on the law that requires them to buy this expensive power, and received it, though not in time to cancel the in-progress negotiations with the AB sponsors.

The contract between the Public Service Company and the AB sponsors lasts 15 years. What then? If Public Service Company can get cheaper power, 15 years from now, will a major environmental impact have been created that can't even pay its way?

I have read the DEIS that says reduced flows in the Gunnison, yielding higher summertime temperatures, icing in the winter, and less than bank-to-bank streamflows would improve the trout fishery. I am not convinced. Such major changes in the ecology cannot be made without adversely affecting the fisheries, as well as the terrestrial wildlife.

I have seen a rise in the number of sightings of bighorn sheep in the past 2 years, yet the DEIS states that any of the development alternatives would adversely affect wildlife like the bighorn. I am also concerned about diminished habitat of the river otter, due to reduced water volume and winter icing.

The Uncompahgre, as the result of increased flows, would become more unstable as a result of the increased flows, with severe lateral erosion on the outside of river bends not now protected. The DEIS states that up to 70,000 linear feet of channel bank would be stabilized as part of the project. That amounts to one out of every four feet of stream bank between Montrose and Delta. And that probably wouldn't be the end of it. As I understand it, the more you channelize a river, the faster it goes, creating the need for more channelization. All that work to contain the water that should be flowing in the Gunnison.



The DEIS lists the need for the project as power production, to develop a renewable resource, to improve the Uncompahgre Valley Water Users Association ditches, and to help repay debt. We don't need the power and we already have a beautiful renewable resource--the Black Canyon and Gunnison Gorge. As for improving the ditches, and paying off the debt on the irrigation system, the Uncompahgre Valley Water Users need to carry their own weight. They comprise 5.4 percent of the population of Delta and Montrose Counties. The negative impacts to both river corridors, the questions of the surplus of electric power, and the potential loss of revenues suffered by fishing and rafting industries indicate a project that gives marginal benefits to a few, while adversely affecting many.

It is stated if the project goes through, there will be no additional water taken out of the Gunnison River; that it will flow just as it is flowing now. During the irrigation season (Alternative C), flows could be diverted up to 1,300 ft<sup>3</sup>/s, subject to the availability, priority, and irrigation requirements. As I understand that, that is taking more water out of the river, and I think people need to understand that.

**RESPONSE:** Additional information on the need for project power is found in the EIS; also refer to **RESPONSE** to **COMMENTS F-6** and **OR-1**.

The postproject flows would not be optimum for fisheries nor are the no-action flow levels (see EIS, chapter 3). Overall, the EIS concludes that the fishery would not be adversely affected.

The primary effect of the project on big game, such as bighorn sheep, would relate to how the project affects human activity. Increased hike-in use is predicted with the project and would occur primarily in the spring and fall. Human activity during the winter may decrease as floating ice would be more common and would deter winter anglers. Rafting is predicted to decrease with the project.

River channelization is no longer proposed for the Uncompahgre River. A bank stabilization plan designed to reduce erosion is described in additional detail in the EIS. Please see the index to comments and responses for additional information.

Chapter 3 of the EIS presents impacts on recreation, economics, and other concerns addressed in the comment. Development alternatives would take additional water out of the Gunnison River as discussed in the EIS. Greatest changes would occur during the nonirrigation season because the Tunnel operates at or near capacity during the irrigation season. Alternative C, which would enlarge the Tunnel, would have the greatest change in diversions.

**47. MS. JANE MCGARRY:** The AB Lateral Project would hurt the Gunnison River, and hurt tourism, and recreation in the County,

and by a trickle down, would end up hurting me and a lot of others. The water needs for fish and wildlife are important also.

**RESPONSE:** We appreciate your concerns. The effects of development alternatives are detailed in chapter 3 of the FEIS.

**48. MR. BILL BRUNNER:** The DEIS fails to a large degree to consider all of the impacts that are foreseeable from this project. The purpose and need is up in the air, only the desire is established. A large part of the cost-benefit ratio is dependent upon the contract between the water users and Mitex which is a secret document...the best the proponents can come up with is a 1.056-to-1 benefit ratio. It is unconscionable that secret data are used to make documents of this sort.

Data are presented in an unbalanced manner. An example is a graph that is presented logarithmically and does not show flow changes in an understandable manner.

The National Environmental Policy Act requires a wide range of alternatives. All of the alternatives presented in the DEIS are virtually identical. The one with the greatest impact is the one that is preferred.

The study area is insufficient. It looks at a very narrow portion of the local area; basically, Montrose County. It ignores all of Delta County, from the confluence to the Town of Delta. There are four ditch companies in that area that are going to be impacted, and there is a thriving fishery in there that is totally ignored in the document...also, eagles in this area are ignored.

The assessments are inadequate...the effect on migratory waterfowl and the effect of channelization and river control on them.

The report indicates that the Uncompahgre will become a tailrace, the place where otters and eagles can go to live. On the other hand, it is stated in the document that no fish will grow there. This is confusing.

The document does not discuss likely encroachment of carp and suckers. This is going to have an impact on what is going on, and the assumptions, falsely outrageous as they are, are based on computer models in which very controversial testimony by experts that if you choose the right expert, you get the testimony you want.

The benefit-cost ratio does not consider a county-wide impact or the area-wide of what is going to happen. The \$69 cost to a rafter is low and also does not include things like motels,

restaurants, gear, gasoline, airline flights, etc. The benefit-cost ratio as presented shows you can make more on your money in Delta Savings and Loan. There is something funny going on here.

The AB Lateral will kill chances of Wild and Scenic River designation. It will destroy riparian vegetation along the Uncompahgre by flooding and along the Gunnison by drying it up.

If you channel part of the Uncompahgre River, you are going to have to channel the whole thing.

**RESPONSE:** For additional information on the need for power question, please see **RESPONSES** to **COMMENTS F-6** and **OR-1**.

**RESPONSE** to **COMMENT OR-31** addresses the question of the contract that is not public.

The financial feasibility ratio is based solely on project costs, expenses, and revenues. The terms of the UVWUA/Montrose Partners contract do not affect the ratio. Additional information on the subject has been added to and clarified in the section describing alternatives in chapter 2 in the FEIS. Additional information on economic effects from rafting can be found in **RESPONSES** to **COMMENTS F-63, F-64, and F-66; OR-79; and I-43**.

The EIS contains detail on streamflows (see Chapter 3). The graph was mentioned as confusing by several commentators. Flow data in tabular form is also presented and may be easier to understand. Alternative C was identified as the Sponsor's preferred alternative and involves the largest diversions. Alternative E, Reclamation's preferred alternative, involves smaller diversions.

The impact area in the EIS includes Delta County. The river segment mentioned is between the North Fork and Gunnison River confluence and the city of Delta. Flows would be reduced in this segment; impacts of this reduction on irrigation practices and fish and wildlife are addressed in the EIS.

The Uncompahgre River downstream from the tailrace may improve as a fishery because additional high-quality Gunnison River water will be imported. The EIS indicates that fish habitat conditions would still have problems which does not mean that a fishery would not develop; it means that optimum conditions would not occur.

Fishery analysis is based largely on long-term studies by the CDOW. Reclamation's interpretation of this data has been reviewed by the CDOW and by the FWS.

The Gunnison River would still be eligible for designation as a wild river, but several of the criteria that make it eligible would be affected (see **RESPONSES** to **COMMENTS I-81, 86, 113, and 137**).

Additional information on riparian vegetation and on the Uncompahgre River bank stabilization plan is contained in the EIS. See also the index to comments and responses. Channelization along the Uncompahgre River is no longer proposed.

**49. MR. STEVE SHELDON:** We have a state of emergency here. We are opening our hearts and trying to process the information, and come up with an answer, and we should find that answer in our hearts.

**RESPONSE:** None was necessary.

**50. MR. KEVIN PARKS:** The DEIS seemed to cite specific examples, and then apply the specifics to the Gunnison River in general. It made numerous references to studies done by Stanford, Nehring, Anderson, and Miller; but parts of the studies were taken out of context and made to seem to support the AB Lateral Project. For example, the report showed that the water flow of 300 to 400 ft<sup>3</sup>/s would in fact help the development of the trout fry, which in itself is true, but this fact does not prove anything about the entire river. Also, there is not much information concerning the Gunnison River below the confluence of the North Fork.

If the water flow would be maintained at 300, what would happen to the wildlife if the river froze in the winter and was too hot in the summer?

In August 1988, I fished the Gunnison River below the Austin Bridge and 4 of 6 fish had parasites attached to them. Was this a result of the low flow?

Tourism and recreation are new and upcoming industries for us...we need to find some middle ground where the Uncompahgre Valley Water Users and the remainder of the counties can both be satisfied.

Flows of 300 to 400 ft<sup>3</sup>/s on a regular basis will damage the river.

**RESPONSE:** The analysis on fisheries relied heavily on research on the Gunnison River conducted by the CDOW, who reviewed preliminary versions of the draft and commented on the EIS. The information was not taken out of context.

Information downstream from the North Fork confluence is more limited than upstream. However, fishery surveys, water quality monitoring, and other studies have been conducted in this reach and have been used in preparing the EIS.

Formation of ice in the river is not expected to be detrimental to the fishery--it occurs naturally. The excellent fisheries in the Taylor River (a tributary of the Gunnison) and in the Gunnison upstream from Blue Mesa Reservoir are examples of

fisheries in severe ice condition areas. Prolonged water temperatures that are too high would be harmful to cold water species such as trout.

The parasites you noted could be due to water temperature, fish density, or other factors. As indicated in chapter 4 of the EIS, negotiations were held to try to determine if other alternatives existed that had wider public acceptance.

**51. MR. MARK PEARSON: (Represents Rocky Mountain Chapter of Sierra Club).** Mr. Pearson stated that the Gunnison River, Black Canyon, and Gunnison Gorge are all public resources, and we have a special obligation to protect them.

There is not sufficient information in the DEIS for us to make a determination on whether we as public owners of this resource should go along with this project. The benefit-cost ratio does not provide all the information needed. Alternatives that take less water out of the river were discarded because of low benefit-cost ratios, but we do not know what profits are built in. Could more water be left in the river if Mitex took a smaller profit? We are happy to sit down and talk about alternatives if we have all the information before us.

The reserved water rights for the Monument and the Black Canyon Wilderness precede the AB Lateral Hydropower rights, and neither of those rights have been quantified. The Sierra Club will certainly be urging the Park Service, when they file for their quantification, to assert numbers that are sufficient to maintain the natural ecology of the river.

**RESPONSE:** Additional information is contained on the financial feasibility ratio in chapter 2 of the FEIS, which indicates what alternatives are financially feasible to construct and operate. Several alternatives were discarded because they were economically infeasible, and this group contained several smaller diversions.

The reserved water right for the Monument and the Black Canyon Wilderness would be senior to the hydropower operation under the 1982 and 1987 hydropower decrees and also senior to certain other upstream water rights including the Aspinall Unit. Please see the **RESPONSE** to **COMMENT F-1** for additional information.

**52. MR. PHILIP EGIDI: (Represented the Gunnison River Action Group).** Mr. Egidi indicated that implementing the project would send the wrong message to tourists, also, jobs created by the project would be offset by jobs lost in the Gorge. Concerned that if unexpected occurrences happen to the project, the farmers would be left with a large debt service. The financial concerns were what disturbed him more than anything else.

**RESPONSE:** In chapter 3, the EIS predicts a reduction of rafting that would have an effect on related jobs. Conversely, hike-in fishing is projected to increase. The project was created so it

would limit liability for the Uncompahgre Valley Water Users Association, whose elected board has reviewed and approved the involved contracts.

**53. MR. RICK PROCTOR:** One thing that we can benefit from is helping agriculture in the area. The AB Lateral would decrease farmers' expenses, and this is important to the local economy. Power from project is needed; we need to manage and conserve our water.

**RESPONSE:** Revenues from the facility would be shared by the Uncompahgre Valley Water Users Association. Revenues could be used for debt retirement, rehabilitation, or to reduce increases in water rates.

**54. MR. STEVE HINCHMAN:** Obviously, the 1:1 benefit-cost ratio does not represent a break even; it represents the cost plus an acceptable rate of return on the investment. This is not pointed out in the DEIS. Smaller scale alternatives have been eliminated without letting the public know what costs and profits are. If they are not going to come clean on what kind of profit they want, they are going to knock out the small scale opportunities and provide opportunities for criticisms. The public also has the right to know about cost overruns, liability, and where profits go. The Bureau says it has a new mission--resource management--this project is not compatible with it. I suggest a new draft EIS that perhaps everyone can live with, and that is what a lot of people have been talking about here.

**RESPONSE:** The financial feasibility ratio in the EIS did include an acceptable rate of return on invested equity. This has been clarified in chapter 2 of the FEIS, and additional information on costs and other issues are also presented.

## FEDERAL AGENCIES

### NATIONAL PARK SERVICE

**COMMENT F-1:** As noted in our previous memorandum, the minimum release of 300 cubic feet per second (ft<sup>3</sup>/s), used in these analyses, should not be considered as quantification of a Federal reserved water right for Black Canyon of the Gunnison National Monument. The United States National Park Service (NPS) was granted Federal reserved water rights for Black Canyon, which remain to be quantified. The Federal reserved water right would be senior to the hydropower rights and could, when quantified, impact the operation and economics of the proposed project.

**RESPONSE F-1:** Additions have been made to the text of the final environmental impact statement (FEIS) in chapter 2 in the water rights section to show the priority of the Federal reserved rights over the hydropower rights. The Sponsors have committed that the hydropower project would honor either that flow required by the adjudicated Federal reserved right for the Monument or 300 ft<sup>3</sup>/s, whichever is greater. The Sponsors recognize that, when quantified, these rights may affect the profitability of the hydropower facility.

**COMMENT F-2:** Of major concern to the National Park Service is the effect the proposed water diversion will have on the natural resources and processes in the monument. Data supplied throughout the EIS has been primarily collected outside of the monument, and that data is then extrapolated to the monument. This may be inaccurate; effects of the increase in the frequency of 300 ft<sup>3</sup>/s minimum flows may not be fully realized at sites outside the monument due to the fact that additional water is placed into the river system at Red Rock Canyon and other points downstream.

**RESPONSE F-2:** The draft environmental impact statement (DEIS) did not specifically address the inflows from Red Rock Canyon because the inflows from the Canyon to the hydrologic budget of the Gunnison River are minimal compared to other sources of water such as Crystal Reservoir, the Smith Fork, and the North Fork. Side tributaries such as Red Rock Canyon and other downstream drainages are more important from the standpoint of carrying heavy runoff and silt loads into the river infrequently during the thunderstorm season. See **RESPONSE to COMMENT F-34** for further discussion. Instream flow studies were based on actual flow measurements, rather than upstream gauge readings, and in this respect do consider inflows.

Earlier flow studies within the Monument (Kinnear and Vincent, 1967) agree with more recent studies downstream from the Monument. Overall, we feel using data from areas immediately downstream from the Monument, supplemented with data from the Monument, is appropriate for projecting impacts associated with the AB Lateral Project.

**COMMENT F-3:** We are concerned that there is no detailed analysis of the impacts of scouring caused by increased ice buildup due to decreased winter flows.

**RESPONSE F-3:** As discussed in the EIS, ice formation in the Gunnison River would increase with development alternatives because of lower winter flows. Average winter flows would be between 450 and 500 cubic feet per second (ft<sup>3</sup>/s) for alternative C and between 550 and 600 ft<sup>3</sup>/s for alternative E. Under alternative A, average winter flows are around 1,350 to 1,450 ft<sup>3</sup>/s. Before Aspinall Unit impoundments, natural mean monthly winter flows averaged around 400 to 500 ft<sup>3</sup>/s.

The EIS discusses the formation of ice in the water column and the formation of sheet ice to estimate the "ice edge." The location of ice formation was predicted using standard models. Observations in low flow winters are also cited. Ice would be formed within the lower Monument under the combinations of low flows and temperatures, and the low flow conditions would increase. This is a very natural occurrence and the native species and exotic species such as rainbow and brown trout are well adapted to it. A good example of this occurrence is the Gunnison and Taylor rivers upstream from Blue Mesa Reservoir that are excellent fisheries which have severe ice conditions almost every year. Because releases from Crystal Reservoir are above 32 degrees Fahrenheit (°F), ice formation in the Monument would still be less than under natural conditions. Ice was not observed to build up so that excessive bottom scouring occurred above the North Fork confluence in the low flow winter of 1988-1989. Scouring did occur downstream from Austin where ice jams formed behind an irrigation diversion. The EIS addresses the type of impacts that this scouring can cause.

**COMMENT F-4:** Copies of the correspondence with the U.S. Fish and Wildlife Service (FWS) under section 7 of the Endangered Species Act should be included in the document. Should public disclosure of that information jeopardize species locations, then at least a summary including the correspondence dates and substance should be included.

**RESPONSE F-4:** A summary of the findings of Section 7 Consultation has been expanded in the FEIS. The Biological Opinion prepared by the Fish and Wildlife Service (FWS) is included as attachment F in the FEIS.

**COMMENT F-5:** This document does not list how each of the alternatives will impact the existing Uncompahgre River banks. The draft says the project will be responsible for bank stabilization to reduce erosion as a general statement. It does not appear the commitment has gone as far as evaluating the different increased flow levels that will be two to three times larger than the historic flows and then incorporating this data into the cost-benefit analysis for each alternative. This cost-benefit analysis for bank stabilization should be added to the EIS.

**RESPONSE F-5:** Under the no-action alternative (alternative A), bank erosion in the Uncompahgre River would continue much the same as it has in the past. Presently, erosion is a serious



problem during spring floods and even occurs in some areas under low flow conditions. The channel of the Uncompahgre is thus extremely dynamic. Bank protection would continue to be constructed by landowners, local governments, and the UVWUA, often in response to spring flooding. Operation of Ridgway Dam will help somewhat by reducing peak discharges that flow through the valley. However, although peak discharges may be reduced, flooding will still occur and bank erosion will still result.

Under development alternatives B through F, additional flows would be discharged into the Uncompahgre River for power production, which would increase bank erosion. The increase would be most noticeable in the nonirrigation season. Alternative E, which would divert the least amount of flow from the Gunnison River, would have the least damaging effect of all of the development alternatives on the Uncompahgre River. To lessen the effect of this problem, the Sponsors would install bank protection measures under all alternatives along 52,740 linear feet of river banks, including 28,190 linear feet of vegetation planting.

Costs of these measures have been included in project cost estimates and are reflected in the Sponsors' financial feasibility ratio. Proposed bank protection measures are more completely listed in chapter 2 of the FEIS. Bank protection measures are the same for all alternatives because all are designed for higher discharge than would be due to any of the hydropower flows. The long-term maintenance costs are also included in the financial analysis.

**COMMENT F-6:** Page S-1: The purpose of the project is cited as "(1) generating electrical power; (2) developing a renewable resource." Many of the economic impacts of the project are presented in this document. One item that is not addressed is how the purchase of this amount of power production will affect the already beleaguered Colorado Ute Company. It appears that power production facilities in the region are much greater than power demands and reasons for adding yet another power production facility that might further jeopardize the utility company should be well-documented. Implementation of the preferred alternative has been justified on the basis of a positive cost-benefit ratio. This ratio does not appear to take into consideration the effects of adding more power to an already overloaded system. The EIS should evaluate the effects of adding more power to the system.

Page S-4, paragraph 4: The last sentence in this paragraph suggests a positive effect from power production. We again suggest that, due to the surplus power production facilities and the economic conditions of Colorado Ute, the power production from this proposal may be an adverse effect. This should be addressed here and in the appropriate impact section.

**RESPONSE F-6:** Utilities that carry a short-term generating surplus exist in the region, and Colorado-Ute is an example. Others either have their supply and demand equal or need new

generation in the short term. Public Service Company's 20-year loads and resources plan (Public Service Company, 1988) demonstrates a need for about 500 megawatts (MW) of new power by 1992, 1,000 MW by 1998, and 2,300 MW by 2008. Nearly all regional utilities also predict additional needs in the future. The WSCC (1988) estimates growth rates for the Rocky Mountain Power Area to range between 2 and 3 percent per year for the next 10 years.

New power generation will be needed to meet expanding needs as well as to fill voids left by older units being retired. The proposed lease of power privilege would cover operations from approximately 1993 to 2033, which not only helps meet the immediate needs of Public Service Company, but generally coincides with forecasted regional demands (as discussed in chapter 1 of the EIS).

Reclamation cannot offer detailed comment on the current financial and management problems or the future plans of Colorado-Ute. However, two items should be considered. First, Colorado-Ute's surplus is expected to be a short-term condition. By contrast, the AB Lateral Project would not even begin operation until 1993 and would then continue for at least 40 years. Second, the existence of Colorado-Ute's surplus does not undermine the calculation of either regional or Public Service Company's needs. Colorado-Ute's loads and resources, including its surplus, have been factored into the projections used to support the needs analysis in the EIS, as well as those used by the Colorado Public Utilities Commission (CPUC) in its approval process for the project's power sales agreement.

In its comments on the DEIS, Colorado-Ute expressed no concern for the proposition that the AB Lateral would add to unnecessary capacity. Actually, Colorado-Ute is expected to benefit from the project, first from enhanced system stability (see EIS, chapter 1, Electrical Power). Secondly, it will benefit from receiving a wheeling fee paid by the Sponsors in return for delivery of project power from the plant to Public Service; the present value of the wheeling fee would be several million dollars. See **RESPONSES to COMMENTS OR-1 through 3** for additional information on power.

Where a need exists, addition of power is considered a positive impact. An approximation to the economic value of project power is the cost that would be incurred by a utility to produce an equivalent amount of power by the cheapest available alternate means. This value is often referred to as a utility's "avoided cost." Since a need for power to the Public Service system has been established and the Sponsor's power sales rate is based upon Public Service's avoided cost (CPUC approved), the economic value of power would be roughly equal to the project's gross revenues from power sales. This value is approximately \$10 million annually, or in present value terms, \$68 to \$82 million, depending upon alternatives (see FEIS, summary table 3).

The financial feasibility ratio is not used to justify the proposed action in this FEIS; it is a measure of internal costs to the Sponsors, indicating financial feasibility of alternatives. Chapter 2 of the FEIS has thus been clarified.

**COMMENT F-7:** Page S-5, paragraph 2: An overall percentage of river flow increase and decrease is listed for the Uncompahgre River. We could not find a similar paragraph for the Gunnison River in the EIS. We suggest that a paragraph be added that summarizes the chart information for the Gunnison in the same detail as that for the Uncompahgre River.

**RESPONSE F-7:** Data pertaining to flow reductions in the Gunnison River were presented in terms of percentages and discharge rates in the FEIS summary and in chapter 3. Percent decreases are shown below:

Flow Reductions in Gunnison River

Time period	Percent decrease for alternative			
	B	C	E	F
Average annual	44.4	49.0	40.7	44.0
Average December through February	65.8	66.2	58.3	64.2
Average July through September	18.6	29.0	18.6	18.6

**COMMENT F-8:** The effects on the established wilderness at Black Canyon of the Gunnison National Monument should also be summarized.

**RESPONSE F-8:** The effects have been added to the FEIS summary as suggested.

**COMMENT F-9:** Page S-10, paragraph 5 and page 1-14, paragraph 1: As mentioned in these paragraphs and others throughout the document, future river operations and proposed operations of the Ridgway Reservoir have been taken into account in the evaluation of impacts. This may be true for the effect of the Ridgway Reservoir but not on the Gunnison River. The Bureau of Reclamation has proposed operational changes at Glen Canyon Dam. Any change of operation at Glen Canyon may impact the operational aspect of the Aspinall Unit since it is part of the same operational system. We feel that the proposed operational changes at Glen Canyon must also be evaluated in this EIS and as part of a simulated flow data chart for inclusion in this document.

Page 1-4, paragraph 3: Are the facts contained in this paragraph accurate considering the present condition of Colorado-Ute? Furthermore, should the Bureau of Reclamation (BOR) institute operational changes at Glen Canyon Dam for peaking power? The power grid to which Bureau of Reclamation will be selling that energy should be identified and the economic effects analyzed.

**RESPONSE F-9:** Reclamation is preparing an EIS to assess the impact of operations of Glen Canyon Dam on the downstream environmental resources. The U.S. Department of the Interior (USDI) will use this EIS to comply with statutory requirements to operate Glen Canyon Dam and to protect downstream resources, including Grand Canyon National Park. The Aspinall Unit usually operates independently but can be used to complement Glen Canyon and other Colorado River Storage Project (CRSP) Units when needed. Presently, the Glen Canyon study has not proposed any changes to the operation of the Aspinall Unit; therefore, flow tables in the AB Lateral FEIS are considered accurate. If changes are proposed in the operation of the Aspinall Unit, the effects of the changes would be evaluated in a National Environmental Policy Act (NEPA) document. See **RESPONSE** to **COMMENT F-6** concerning the need for power.

**COMMENT F-10:** While it is true that flows in the Gunnison River occasionally fell below 100 ft<sup>3</sup>/s, as the paragraph states, it is equally true that flows commonly exceeded 8,000 ft<sup>3</sup>/s in the spring runoff season. This high flow information should be presented as well as the low flow information.

**RESPONSE F-10:** Peak flow information for the Gunnison River is presented on page 3-7 and in attachment B of the DEIS. The historic Gunnison River was characterized by high spring runoff. The text has been modified in the FEIS to include additional peak flow data.

**COMMENT F-11:** Pages 2-3 and 2-4: In the description of Alternative A (No-Action), it is stated that the BOR has controlled releases from Blue Mesa Dam to meet irrigation demands at the tunnel, as well as to allow a minimum instream flow of 200 ft<sup>3</sup>/s to protect the downstream fishery and to meet downstream water rights. It is also stated that, in recent years, "the goal has been increased to 300 ft<sup>3</sup>/s when available." The basis for this minimum instream flow and its availability should be clarified. Specifically, the arrangement (e.g. Memorandum of Understanding) under which this flow is provided should be presented and the conditions under which the flow is "available" should be discussed.

Page 2-22: In the section on water supply allocation, the minimum flows in the Gunnison River are described as "values stipulated in the environmental commitments for each alternative." It should be noted that instream flows for Black Canyon of the Gunnison NM represent recognized water rights and should not be considered simply as "environmental commitments."

Page 2-23, paragraph 4: "...the development would operate continuously..." Would there be peaking power operation of the plant or steady flow? If peaking power, how will that affect hourly flows of and consequent diversions from the Gunnison River?

**RESPONSE F-11:** Officially, a minimum flow has not been established in the Gunnison River as it runs through the Black Canyon of the Gunnison National Monument. A reserved water right has been recognized for the Monument, but it has never been quantified. The National Park Service (NPS) is in the process of quantifying this right.

The authorizing documents for the Curecanti Unit (now Aspinall Unit) of the CRSP provided for a minimum flow of 100 ft<sup>3</sup>/s for the Gunnison as it flows through the Black Canyon. This appears to be the first formal flow commitment on this reach of the river.

When Crystal Dam was completed, Reclamation began maintaining minimum flows of at least 200 ft<sup>3</sup>/s in the Gunnison River; this number was apparently based on downstream water rights considerations and was not based on any detailed biological or environmental considerations. The 200-ft<sup>3</sup>/s flow was also later recommended by the FWS in their 1978 Planning Aid Memorandum on the Aspinall Unit's fish and wildlife program.

In the early 1980's, the Colorado Division of Wildlife (CDOW) and Reclamation began instream flow studies on the Gunnison River. The results of these studies indicated significant habitat gains between flows of 200 and 300 ft<sup>3</sup>/s. Thus, Reclamation began operating the Aspinall Unit with a 300-ft<sup>3</sup>/s minimum, recognizing that water supplies may not support this minimum in extremely dry years because of senior irrigation water rights. The Nature Conservancy, the Colorado Water Conservation Board, and others are attempting to arrange a firm water supply for the 300-ft<sup>3</sup>/s minimum. However, no quantified instream flow water right presently exists on the Gunnison River. Reclamation has required the 300-ft<sup>3</sup>/s flow as a condition of hydropower development.

When the reserved water right for the Black Canyon of the Gunnison National Monument is quantified, it will represent a senior water right to the AB Lateral hydropower rights (1982 and 1987). See chapter 2 (water rights section) of the FEIS for additional information.

Fluctuations in the Gunnison River can be caused by fluctuating releases or spills from Crystal Dam, changes in Tunnel diversions, or thunderstorm events downstream from Crystal. Crystal is a reregulating reservoir and is not used for peaking power production. The AB Lateral Hydropower Facility would not be used as a peaking facility either, so it would not cause additional fluctuations in the river. With the AB Lateral Facility in operation, Tunnel diversions would be more stable. Overall, this would reduce fluctuations in the Gunnison River; however, rapid fluctuations are always a possibility in the river due to unforeseen events.

**COMMENT F-12:** Page 2-24, paragraph 2: We feel that the twice daily checks of flow measurements are inadequate. Twice daily is 12 hours apart and a great deal of flow change and possible damage can result in a 12-hour period. Not only are there the

impacts to the wildlife and natural resources but also to visitor safety. The potential of flow fluctuations within the 12-hour periods could trap hike-in fishermen or leave rafters unexpectedly stranded. We believe hourly checks are necessary to insure adequate flow.

**RESPONSE F-12:** As discussed in **RESPONSE** to **COMMENT F-11**, fluctuations would be reduced under the hydropower project. Through twice daily coordination between Reclamation and the UVWUA, large changes can be minimized. In addition, coordination with Reclamation would occur before any changes in Tunnel diversions. Under all alternatives, including no action, unplanned sudden flow fluctuations can and do occur; therefore, visitors should always keep this in mind while on the river.

**COMMENT F-13:** Alternative A says that flows may occasionally be reduced below 300 ft<sup>3</sup>/s during extremely dry periods. How often might this occur, based on past history? This same type of information should also be included for each of the development alternatives. We are concerned that it's difficult to tell, based on the information provided in this document, what lowest level flows would be. It is important for us to know when, how often, and how long these low flows would occur, so that effects on the monument can be better understood.

In the section on specific water supply consideration, the current operating procedure for the Gunnison River is described (i.e., minimum flow of 300 ft<sup>3</sup>/s downstream from the Gunnison Tunnel) and it is stated that this procedure "would be expected to operate this way in the future." Again, it should be noted that the Federal reserved water right at Black Canyon of the Gunnison NM remains to be quantified. Such quantification could influence future project operation. This quantification, and any modification in operating procedure that might result, will occur with or without the proposed hydropower project.

**RESPONSE F-13:** According to U.S. Geological Survey (USGS) records, the mean monthly flows in the Gunnison River entering the Black Canyon have been less than 300 ft<sup>3</sup>/s in 22 out of 285 months (or 7.7 percent of the time) since Blue Mesa Dam and Reservoir were completed in 1965 (attachment B of the FEIS). During this period, diversions were made through the Tunnel only for irrigation; therefore, this period provides some insight on the future encroachments of the 300-ft<sup>3</sup>/s value. However, during this period (1965 through 1989), the ecological importance of the 300-ft<sup>3</sup>/s value was not fully appreciated (see **RESPONSE** to **COMMENT F-11** and chapter 3, FEIS). Furthermore, during this period, Reclamation was also constructing the Morrow Point and Crystal Dams, which influenced the frequency of encroachments below 300 ft<sup>3</sup>/s. Therefore, the historic values should be extrapolated to the future with the understanding that the Aspinall Unit and the Tunnel are now operated, whenever possible, to avoid such encroachments.

In terms of the impact analysis presented in the FEIS, the frequency of flows below 300 ft<sup>3</sup>/s would not change under any alternatives, including alternative A (no action). It is stated in chapter 2 and attachment A of the FEIS that the Sponsors would not divert flows solely for power production that would reduce flows entering the Black Canyon below 300 ft<sup>3</sup>/s. Nevertheless, under certain combinations of meteorological conditions or man-induced conditions upstream from the Tunnel, encroachments may occur that are beyond both the Sponsors' and Reclamation's control.

**COMMENT F-14:** Listing for alternatives: Under each of the alternative listings there should be a figure of the overall flow removal from the Gunnison River. We suggest that the figures of flow removal be listed in acre-feet and a percentage figure.

**RESPONSE F-14:** Development of the facility would reduce streamflows in the Gunnison River; however, this is an impact which is thoroughly discussed in chapter 3 of the FEIS (see table 3.6). Power diversions are shown in table 3.12 of the EIS as a percentage of existing conditions.

**COMMENT F-15:** Page 2-26, tables 2.4-2.7: Our previous concern about how the information in these tables was generated has been dealt with, but our entire comment was not addressed. These tables should reflect data through 1988 or explain why this data was not included.

**RESPONSE F-15:** The period of study selected for the EIS is 1952 through 1983, a period that included both high and low flow periods and is representative of the period of record. During this time, flows were approximately 92 percent of the long-term average. Therefore, in terms of Monument flows, a slightly conservative estimate of impacts is presented in the FEIS. Table B.3 in attachment B of the FEIS has been expanded to include an extension of hydrology data through December 1988. Actual gauge readings through September 1989 are presented in table B-2 (errors in this table have been corrected in the FEIS). If recent irrigation trends continue, they would result in smaller hydropower impacts to the Gunnison River than are predicted in the FEIS. See **Delta Public Hearing RESPONSE No. 29.**

**COMMENT F-16:** Page 2-30, paragraph 2: The EIS states that the environmental commitments would be included in the lease of power privilege, ensuring compliance. How does this ensure compliance and who is the enforcing Agency? Is the lease of power privilege broken if compliance is not gained and would the hydropower plant be shut down from noncompliance of these "environmental commitments?"

**RESPONSE F-16:** Environmental commitments described in the FEIS would be included in the lease of power privilege, which would also require compliance with Federal and State environmental laws and regulations. These commitments would be monitored by Reclamation during construction and operation. In addition,

water-rights related issues would be monitored by the Colorado State Engineer. The lease of power privilege would provide for terminating the project for failure to adhere to environmental commitments. Under lease provisions, the Sponsors would have the opportunity to remedy the deficiency before termination could occur.

**COMMENT F-17:** Bald eagle survys should include the Black Canyon National Monument area as well as the area below the monument. The reduced flow area extends all the way to the confluence of the Uncompahgre and Gunnison Rivers and the entire impact area should be surveyed. There is no mention of cooperation with NPS should adverse icing conditions develop. We would request that a statement of cooperation be added.

**RESPONSE F-17:** The survey plans developed by the FWS called for surveying the river between the northern Monument boundary and the North Fork confluence. Survey reports would be prepared for the FWS and copies would be provided to the NPS and the Bureau of Land Management (BLM). According to the FWS,

If impacts to prey species or icing impacts are projected or are realized during the course of the study, appropriate measures should be designed through consultation with the Service to ameliorate adverse effects. Such measures may include water augmentation during periods of extreme cold to prevent icing conditions or degradation of habitat conditions for favored prey.

Reclamation would consult with the NPS as part of this process (see FEIS, chapter 3, endangered species section).

**COMMENT F-18:** Our previous memorandum (January 24, 1989) indicated our concern about lack of data within the monument that could verify many of the conclusions reached in the draft EIS. Those few follow-up studies proposed for Sponsor funding are all targeted for locations outside of the monument. Sponsor-funded studies should include Black Canyon of the Gunnison NM and be designed to identify any and all changes in the existing conditions below the Gunnison Tunnel. Methods of study should follow NPS policies and respect the wilderness values in the monument. These studies, some of which should be conducted before any permits are granted, should include:

Water quality: Although not proposed for follow-up study in the EIS, water quality studies should be conducted within the park to monitor effects; particularly in light of the claim that there will be no adverse effects. Also related to water quality will be the sediment load changes, evapotranspiration changes and the effect of river flows resulting from expected changes in plant composition along the



riparian zones, and water quality standards maintained at the level required for endangered species of fish possibly found in the Black Canyon.

Endangered species: Although no known endangered plant species have yet been found in the monument, many plant species (particularly in the riparian zone) are endemic to Black Canyon. Follow-up studies of these plants should be included. The competition effects the expected changes in riparian species will have on those endemic species should be reviewed.

Surveys for native and endangered fish species to establish the validity of some of the claims made in the impact analysis should be performed prior to project implementation.

Additional studies need to be performed on the effects of the project on the reintroduced river otter and any displacement of den sites that increased sustained flows of 300 ft<sup>3</sup>/s will have on the population.

**RESPONSE F-18:** Although the studies recommended by this comment would provide a more complete picture of the resources in the Monument and impacts of the proposed project, Reclamation believes that sufficient data exist to make informed evaluations of these potential impacts. (See FEIS for summary.)

Adverse impacts to water quality within the Monument would occur only if large amounts of sediment were introduced to the Gunnison River due to heavy rains when flows downstream from the Tunnel were lower than those under alternative A. One area where this most likely could occur is at Red Rock Canyon at the lower end of the Monument. These sediment loads may have significant, temporary adverse effects on the fishery but should not cause permanent change.

The FWS has provided Reclamation with the most up-to-date information on endangered species in the area (see the Biological Opinion in attachment F of the FEIS). The FWS did recommend a monitoring program of bald eagles on the Gunnison River and this is included in the project plan. To our knowledge, there are no plant species endemic to the riparian zone in the Monument.

Because there have been no studies on the reintroduced river otter population in the Gunnison River, it is impossible to even establish a baseline on the health of the population without extensive studies. Based on limited observations, we can assume that the present population is reproducing. The FEIS contains an analysis of the probable impacts of the various alternatives on the otters.

Reclamation has added a condition to alternative E that requires bypassing flushing flows when determined necessary by Reclamation, in coordination with the NPS and other agencies.

Annual meetings would be held with Sponsors, Reclamation, NPS, BLM, and CDOW to discuss these and other Gunnison River issues.

**COMMENT F-19:** Concerning bald eagle monitoring, are you requiring 14 work days in each year or 14 days over a 3-year period? Is it a large enough sample size to be statistically significant so as to provide confidence in the data supplied?

**RESPONSE F-19:** The "14 days" is in addition to the planned 3 years of winter surveys. According to the FWS,

No less than 14 mandays of observations by a qualified observer should be conducted over the months of January through March and should record all observations of eagle hunting activity and species of prey captured (whenever possible). Attempts should be made to locate day and night perches/roosts in order to collect and analyze eagle castings.

This is not a population survey; results that will show trends may not lend themselves to statistical interpretation. The NPS may assist in developing detailed research plans.

**COMMENT F-20:** With Alternative F, the project Sponsors would "bypass a minimum flow in the Gunnison River of 500 ft<sup>3</sup>/s when and if ice buildups occur to eliminate such buildups as may happen in the reaches downstream of the tunnel." This commitment to release "de-icing" flows needs further clarification. For example, how much ice buildup at which sites would be allowed before the de-icing flows would be released? Further, what is the basis for selecting specific amounts and sites? Specifics regarding how this commitment was modeled should also be provided.

**RESPONSE F-20:** The hydrologic aspects of this commitment were modeled by assuming that a minimum flow of 600 ft<sup>3</sup>/s would be bypassed during a 1-week period in January and a 1-week period in February in each year of the 32-year study period. Because the model study used monthly increments, these commitments were modeled by computing the weighted average minimum monthly flow. These computations resulted in monthly minimums of 368 ft<sup>3</sup>/s and 375 ft<sup>3</sup>/s for January and February, respectively.

Table 3.11 in the FEIS accurately reflects these assumptions, with one exception; it shows that for February 1977, only 300 ft<sup>3</sup>/s would enter the Black Canyon. This value is less than the 375-ft<sup>3</sup>/s value because the simulated flows released from Crystal Dam would only be 306 ft<sup>3</sup>/s. The 6-ft<sup>3</sup>/s difference was assumed to be diverted through the Tunnel for meeting Project 7 municipal and domestic needs at Fairview Reservoir.

The FEIS does not make specific commitments regarding the decision process needed to determine the definition of "ice buildups." Should alternative F be selected, representatives of Reclamation, BLM, NPS, and the CDOW would agree to a defined

program that would identify triggering mechanisms to reduce and/or eliminate such buildups. This program would become a condition of the lease of power privilege to construct and operate the facility.

**COMMENT F-21:** Page 2-40: This section describes the analysis of varying instream flows in the Gunnison River. The results are assessed only in terms of economic impact and average annual flow. This assessment should be expanded to include a discussion of the environmental benefits that can be attributed to the increased flows, especially during critical periods. Recreation factors should be included in the cost-benefit analysis. Also, if an increase in minimum flows would render the project economically infeasible, should not greater emphasis be placed on the possibility that quantification of the NPS reserved water rights could jeopardize the project?

**RESPONSE F-21:** Additional information has been added to this section of the FEIS, and environmental benefits of different flow levels are also discussed in chapter 3. The economics of each of these alternatives in chapter 2 of the DEIS were assessed to see if they would have a positive financial return. As these are private projects, alternatives without a positive financial return were not considered feasible. Chapter 2 of the FEIS summarizes the initial selection process of feasible alternatives. Alternatives F-3 through F-6 were not financially feasible. Recreation and other effects are included in chapter 3 from both the standpoint of environmental and economic effects.

The "cost-benefit" ratio does not include recreation, fish and wildlife, emission offsets, and other economic benefits and costs. It is a financial analysis to determine one aspect of an alternative's feasibility. Figuring a benefit-cost ratio is not required; however, in terms of displaying all of the impacts of the proposed development, analyzing impacts on each affected section is expected to present the full array of positive and negative impacts, which the FEIS has done.

As discussed in **RESPONSE** to **COMMENT F-1**, the reserved water right is senior to the hydropower right and thus could affect the AB Lateral Facility water supply and financial return. The Sponsors are willing to take this risk. If diversions to the hydropower facility were significantly reduced, the project would likely be infeasible.

**COMMENT F-22:** Paragraph 5, DEIS p. 2-42: While the statement is basically true that the flow is returned to the river, it is also true that the area of return is many miles downstream. This paragraph should include the information that the water is diverted at the Gunnison Tunnel above the monument boundary and returned to the Gunnison via the Uncompahgre River at a point downstream from where it was diverted.

Page 2-43: This section includes a discussion of Federal reserved water rights and the additional constraints these rights

could impose on project operations. It should be noted that Federal reserved water rights are not limited to instream flows as implied in the EIS. It is correct that the Federal reserved water rights claimed by NPS for Black Canyon of the Gunnison NM are presently unquantified. These reserved water rights would be senior to the hydropower rights and could, when quantified, impact the operations and economics of the project. The dates of the monument enactment (1933) and wilderness designation (1976) should also be shown in this section.

**RESPONSE F-22:** Chapter 2 of the FEIS has been revised to more clearly quantify the diversion reach and include Monument enactment and wilderness designation dates. See **RESPONSE** to **COMMENT F-1** concerning water rights.

**COMMENT F-23:** Page 2-44 -The rationale used "Because the development does not involve Federal expenditures, the analysis does not incorporate other benefits or costs..." is flawed. The proposed project will affect Federal lands, and that effect must be analyzed. Although these effects are not Sponsor costs, they are costs due to the project.

**RESPONSE F-23:** We concur that environmental costs and benefits are important; wherever possible, they have been quantified into dollar amounts and are presented in the analysis. However, this is a privately funded project, and financial returns to the Sponsors inevitably determines overall feasibility. The environmental and economic effects are presented in chapter 3 of the FEIS. Mitigation costs are also included for endangered species and wetland mitigation plans. No mitigation costs exist in the plan to mitigate for increased management costs if they occur; however, the potential for increased management costs are addressed. Wilderness and rafting considerations and economic effects are also presented in the FEIS; these factors are included in the decisionmaking process.

**COMMENT F-24:** Cost of measures to mitigate those effects are also important. The table shown should be expanded to include those aspects not quantified, such as impacts on wilderness and rafting.

**RESPONSE F-24:** Chapter 2 of the FEIS has been modified to provide additional cost breakdowns for each feasible alternative.

**COMMENT F-25:** We note that this chapter repeatedly refers to the low flow year of 1988. However, no flow data (simulated or otherwise) is available showing monthly ft<sup>3</sup>/s from 1984-1988.

**RESPONSE F-25:** The historic flows through September 1988 were presented in attachment B to the DEIS. The FEIS (attachment B) has been corrected and amended to include the hydrology up to 1989.

**COMMENT F-26:** The boundary shown for Black Canyon of the Gunnison National Monument is not accurate. The enclosed boundary map should be used in depicting the correct monument area for this figure.

**RESPONSE F-26:** Figure 3.2 is intended to provide a general location of the Monument. Figure 3.2 has been revised in the FEIS, using the map presented by the NPS in its comment.

**COMMENT F-27:** It is important to describe impacts on the entire fishery, including native species, and not just the sport fishery.

**RESPONSE F-27:** Additional impact analysis for the native fish species has been included in the FEIS. Information collected during the scoping process, including information from the public, indicated that the primary species of interest to the public (economically, aesthetically and recreationally) were the rainbow and brown trout representing the Gold Medal waters of the Gunnison. Thus, the majority of the effort in analyzing the fishery impacts concentrated on the Gold Medal trout fishery.

The native species such as the bluehead and the flannelmouth sucker, longnose dace, and mottled sculpin all tolerate a relatively broad range of environmental conditions such as temperature, dissolved oxygen, turbidity, and velocity. They thus would not be significantly affected by the small changes in these parameters caused by reduced flows under postproject conditions. Sucker habitat was modeled using the FWS incremental methodology (IFIM), and the results indicated habitat improvements for all life stages at reduced flows. The model results substantiate the observation that suckers and indeed most native fishes of the lower Gunnison generally reach maximum abundance in low-to-moderate gradient streams and rivers with slow to moderate velocities. Thus, the overall density of these fish should stay near their existing levels or should slightly increase under postproject conditions. The native roundtail chub population has been severely reduced in the Gunnison Gorge as the result of cold water releases from the Aspinall Unit. Even though postproject water would be slightly warmer in the lower end of the Gorge, the water temperature would continue to prevent the chub population from reestablishing itself above the North Fork confluence.

**COMMENT F-28:** Page 3.6 describes the computer model and input data that were used to simulate flows in the rivers and irrigation canals. This model and its underlying assumptions should be reviewed for completeness and accuracy. Attention should be given to the discussion of *daily* flow fluctuations that would occur. These fluctuations are important in assessing the impact from short-term events.

**RESPONSE F-28:** Hydrologic impacts were assessed using mean monthly flow data because daily variations are minor in the controlled system. Daily fluctuations could occur infrequently

under all alternatives (including no action) as discussed in the **RESPONSES** to **COMMENTS F-11** and **F-12**. The efforts of Reclamation to regulate the flows leaving Crystal Reservoir, combined with close coordination with the proposed development, would avoid any increase in fluctuations of daily flows. Because Tunnel diversions would be changed less frequently under development alternatives, actual fluctuations would be reduced.

**COMMENT F-29:** This section also refers to the input data for the model that was developed by Reclamation and the Uncompahgre Valley Water Users Association. These data were simulated using historical flow data and current and proposed operation plans for the Aspinall Unit reservoirs and Dallas Creek project.

Additional information regarding the rationale and procedures used to develop this input data should be provided. This information should include a discussion concerning how well the simulated "post-Aspinall" flows compare with the actual "post-Aspinall" flows. The simulated data supplied for this study begins after the last "no flow" in 1950 and ends in December of 1983; making it difficult to fully review data that has been referred to throughout the document. One benefit frequently mentioned for the project is the reduction of the historically devastating low flows of 100 ft<sup>3</sup>/s or less. Yet, the simulated records supplied for the study do not show any flows less than 300 ft<sup>3</sup>/s in the Gunnison River even prior to the development of the Aspinall Unit. Another benefit to be realized from the project involves the development of an improved fishery. The flow data most often quoted in that analysis is from 1986 through 1988, for which no flow data at all is supplied. These omissions should be rectified.

**RESPONSE F-29:** Flow data regarding the releases from Crystal Reservoir and the Dallas Creek Project were generated using monthly simulation models of the respective basins upstream from each structure. These models incorporated data on daily streamflow; downstream demands; capacity, tailwater, head loss, and capacity rule curves; turbine and generator characteristics; and forecasting equations.

Streamflow data were obtained from gauging station records, and missing data for streams with partial records were determined by regression analysis with streams that had similar characteristics. Flows of the Cimarron River before December 1970 were adjusted to reflect the effects of the Bostwick Park Project on Cimarron Creek. Ungauged monthly inflows to Blue Mesa Reservoir were computed by subtracting all known or computed inflows to the Aspinall Unit and change in storage from the flows of the Gunnison River above the Tunnel. Daily flows were determined assuming ungauged inflows were proportional to gauged inflows.

Downstream demands considered were the Tunnel demands, minimum flows through the Black Canyon, and downstream calls by senior water rights. Water releases were based partially on the forecasted inflows. The forecasting procedure used is not true

forecasting since it uses historic inflows, but it allows the simulation of actual forecasting by introducing a random amount of error in the forecast. Inflows during January through July were forecasted on the first of each month.

Forecasted inflows and the end-of-month rule curve for Blue Mesa Reservoir were used to determine releases from the Aspinall Unit. During January through July, a monthly rule curve is not used; the goal then is to release so that all releases are used for power generation and to have Blue Mesa Reservoir full at the end of July. An estimate of the total volume to be released through July is calculated on the first of each month using the current content of Blue Mesa, the forecasted inflow, and the assumption that the reservoir would be full at the end of July. During August through December, the reservoir is drawn down (using the rule curve) to prepare for next year's runoff. The exception to this occurs if the forecasted August-through-December inflow plus storage beyond the value of the December rule curve exceeds downstream demands--then August releases are made at the capacity of the Crystal powerplant. Minimum flow criteria and Tunnel diversions will override the release calculations in the model when the release is insufficient to meet downstream needs.

For Reclamation's Aspinall Unit model, Tunnel diversions were modeled assuming a maximum diversion of 1,000 ft<sup>3</sup>/s. Because historical Tunnel diversions have exceeded this amount, the model's results show frequent irrigation-related Monument flows below 300 ft<sup>3</sup>/s. Since Reclamation's intent is to provide a 300-ft<sup>3</sup>/s flow whenever possible, the Sponsors adjusted irrigation diversions to eliminate flows of less than 300 ft<sup>3</sup>/s. This assumed that Reclamation would provide the needed irrigation flows on demand, but Reclamation would withhold releases from Blue Mesa during subsequent months to compensate for the additional volume.

We agree that the model does not result in flows less than 300 ft<sup>3</sup>/s during the study period. Reclamation operates Aspinall to provide a minimum of 300-ft<sup>3</sup>/s flows in the river, providing that water is available in Blue Mesa. See **RESPONSE** to **COMMENT F-13** for additional information.

Please see **RESPONSE No. 20 (Montrose Public Hearing)** for discussions concerning how well the simulated "post-Aspinall" flows compare with the actual flows. See **RESPONSES** to **COMMENTS F-15** and **OR-91** regarding hydrology data.

**COMMENT F-30:** Without further clarification, this statement (about minimum flows) is misleading. Daily flows may be less than 300 ft<sup>3</sup>/s in low flow periods. A qualifier to this effect should be added.

**RESPONSE F-30:** Hydropower diversions would never reduce flows below 300 ft<sup>3</sup>/s. The EIS indicates that:

...in no instance would the daily flows entering the Black Canyon be reduced to values less than 300 ft<sup>3</sup>/s for purposes of power production. This would be a provision in the lease of power privilege.

Under the description of specific water supply considerations for alternative A (chapter 2 of the DEIS), it is further stated that "...it should be noted that irrigation demands and existing Aspinall Unit operation may occasionally reduce flows below 300 ft<sup>3</sup>/s during extremely dry periods, a potential that exists with or without development." This statement is repeated in the FEIS in chapter 3, under the derivation of flow values section. Irrigation demands would not be affected by the AB Lateral Hydropower Project.

**COMMENT F-31:** In the section describing existing conditions in the Gunnison River, the decision to use 300 ft<sup>3</sup>/s as the assumed minimum instream flow in the Gunnison River below the tunnel, for study purposes, is presented. Selection and use of this value is based on increased fishery habitat and water availability (i.e., "except during drought periods"). The section should include information regarding the type of agreement that currently exists for providing instream flows and the criteria that is used to determine "drought" conditions.

**RESPONSE F-31:** The discussion in the FEIS has been expanded. However, there is presently no formal agreement for the increase in the minimum flow from 200 to 300 ft<sup>3</sup>/s. See **RESPONSE** to **COMMENT F-11** for additional information on the background of minimum flows. The criteria to determine conditions when flows would drop below 300 ft<sup>3</sup>/s have not been formalized. During 1988 and 1989 (both dry years), flows were maintained at 300 ft<sup>3</sup>/s.

**COMMENT F-32:** Page 3-35, paragraph 1: The Uncompahgre River transports gravel and cobbles up to 6 inches in diameter, according to this document. On page 3-33 the document states river cobbles rarely move in the Gunnison. Is it possible that the Uncompahgre, a very flat slow moving river, has a greater capability to move material than the steeply graded Gunnison? This document is incomplete unless it includes a study of the Gunnison's ability to move materials at the present flow levels and how that ability will be altered (decreased) with a corresponding decrease in flow. This decrease should be listed as a negative impact.

**RESPONSE F-32:** The cobbles found along the bed of the Gunnison River (average size = about 5 to 6 inches) are larger than those in the Uncompahgre River (average size, 4 inches). Within the Monument, the slope of the Gunnison River is steeper than that of the Uncompahgre River. However, from the Monument to Delta, the



Gunnison River slope is flatter than the Uncompahgre. The Uncompahgre riverbed would not begin to move until flows reach 2,000 ft<sup>3</sup>/s or greater.

The major change agent in the Gunnison River was the closure of Blue Mesa Dam in 1965. Before then, the average annual flood in the river immediately downstream from the Gunnison Tunnel was 9,480 ft<sup>3</sup>/s; since 1965, the average annual flood has been only 4,250 ft<sup>3</sup>/s. The sediment transport coming into the Monument had been small before the construction of Blue Mesa. Reclamation planned for the storage of only 150 to 200 acre-feet of sediment per year. Downstream from Blue Mesa, the Morrow Point and Crystal Dams further reduce the supply of sediment to the Monument reach. Thus, since 1965, almost all the sediment in the Gunnison River through the Monument has been that supplied by the local tributaries and from rock falls from the canyon walls.

Implementation of any of the development alternatives would not significantly affect the average annual flood in the river downstream from the Gunnison Tunnel. The floods remove the smaller sizes and rearrange the cobbles and boulders. The large boulders must be worn and weathered before they are moved or removed. In the past, the water users have diverted their allotted water, or a large fraction thereof, through the Tunnel during the flood season. Those May through July diversions would be nearly the same with development. Thus, the flood passing through the Monument would be almost the same in the future even with the project. Consequently, the bed movement would also not be affected. Reduction of flow volume, particularly during the winter months, would reduce the river's ability to move silts and sediments that accumulate during the periods between floods.

See **RESPONSE** to **COMMENT F-50**. The FEIS has been supplemented with an environmental commitment that calls for the Sponsors to bypass flushing releases from the Aspinall Unit that may be planned in the future.

**COMMENT F-33:** The overall effect of the proposed development would be to "hasten the stability of the Gunnison River below the North Fork." What does stability mean in this context? Is it a positive or negative impact? How would this stability affect other components of the ecosystem?

**RESPONSE F-33:** The term "stability," as used in the EIS, relates to reduced potential for bank erosion on the Gunnison River below the North Fork and the tendency for the river to remain within its present course. This stability would result in improved water quality and reduced maintenance costs for existing and future irrigation diversions. The effects of this reduced erosion on other components of the ecosystem are explained in the EIS; vegetation would increase on exposed bars and banks for longer periods, further reducing the erosion potential at intermediate flows (1,500 to 3,000 ft<sup>3</sup>/s). The high spring flows that still occur occasionally would continue to be the primary controlling factor.

**COMMENT F-34:** This section (River Mechanics) discusses impacts to the morphology of the Gunnison River and concludes that there would be no change with the development alternative. This discussion and conclusion require greater substantiation. Specific issues that should be addressed more fully include: (1) the quantity and significance of sediment derived from the "local tributaries" on the Gunnison channel within the monument, (2) the effect of more frequent and longer periods of low and intermediate flows on riparian vegetation encroachment (including exotic species) and establishment, (3) the effect of less frequent and lower magnitude high flow events on sediment entrainment and transportation.

**RESPONSE F-34:** As described in **RESPONSE** to **COMMENT F-32**, the quantity of sediments entering the Monument would not change because the sources of these sediments are not affected by development. Downstream of Crystal Dam, sediments are produced by local tributaries, such as Red Rock Canyon (the largest contributor of fine sediments to the lower end of the Monument and Gunnison Gorge areas) and from rock falls from the Canyon walls. These sediments generally enter the river during the spring snowmelt period as well as during periodic flash thunderstorms. The geologic formations in most of the Monument provide much less sediment than the sedimentary formations more common in the Gunnison Gorge, with the exception of Red Rock Canyon, which enters the lower end of the Monument and drains an area of sedimentary rocks.

Downstream from the Tunnel, the transport of these sediments would be affected. The reduced volume of water in the river would cause these sediments to settle out of the flow quicker, rather than be transported to further downstream reaches. As a result, the fine sediments deposited from thunderstorms would not be removed from the river as quickly or as completely during the winter as they would be under the no-action alternative (alternative A). During periods of normal spring runoff, the impacts of this settlement would be washed away with the floods. However, during prolonged dry periods, as have been experienced from late 1987 through early 1990, sandbars would develop in the slower moving reaches of the channel. In the long term, impacts to the Gunnison channel would be controlled by flood discharges that would not be significantly changed by development alternatives.

The high sediment loads produced in river tributaries downstream from the Monument and from Red Rock Canyon at the lower end of the Monument during storm runoff can have an adverse impact on the fishery, as evidenced in the summer of 1989. Significant fish kills and channel sedimentation occurred following flash flooding from intermittent side drainages. Low flows then reduced the river's capability to dilute this inflow or to transport it out of the system. Heavy sediment loads are most likely to enter the river during the July through September thunderstorm season, and fish kills are most likely to occur during low flow periods in these months. These months coincide

with periods of heavy irrigation demands when the Tunnel would be operated at or near capacity. Only development of alternative C, which involves enlarging the Tunnel, would significantly aggravate this condition. The FEIS has been expanded as suggested.

Riparian vegetation growth would be increased, as stated in the DEIS (see p. 3-112 - 3-113); however, it would be limited because flow changes are least in the growing season. The effect of more frequent periods of low and intermediate flows are discussed in more detail in **RESPONSES to COMMENTS F-50, 52, and 55.**

The frequency and magnitude of high flow events along the Gunnison River would not be affected as a result of development. Intermediate flows would be reduced, thus reducing the erosion potential (banks) and transport distance.

**COMMENT F-35:** Page 3-50, paragraph 1: Alternative A indicates no change in temperatures of the Uncompahgre River. Why will there be no changes in water temperatures due to Ridgway Reservoir? Will the omission of this water temperature change effect the analysis of water temperatures under adoption of other alternatives? Reliable data cannot be obtained from a sample size of one.

**RESPONSE F-35:** Releases from Ridgway Reservoir are cooler in the summer and slightly warmer in the winter than historic flows of the Uncompahgre River. The Dallas Creek EIS projected improved fishery conditions in the river downstream to the Montrose and Delta Canal. This potential improvement would not be affected by the AB Lateral alternatives, and the text has been modified to clarify this information. The best available data were used in the EIS.

**COMMENT F-36:** The items listed for decreasing salt loading could, and should be done separate from the power production proposal. This work should not be listed as a beneficial impact resulting from this project. We did not see in this EIS an answer to the suggestion that the increased flow in the Uncompahgre River will expose the water to higher salt levels and add to the salt loading over the next few years. This negative effect should be addressed in the EIS.

**RESPONSE F-36:** Lining the AB Lateral may occur in the future under alternative A, and it would definitely be done under hydropower development alternatives. The salt reduction associated with the lining is therefore treated as an effect or impact of the project. Similarly, wetland losses associated with lining are attributed to the AB Lateral facility and not to a future project. Reduced flows through the unlined South Canal would also reduce salt loads.

Salt loading is generally attributable to percolation through salt-bearing rock formations such as Mancos Shale. It is believed that most of the salt in the Uncompahgre River channel

has been leached out by thousands of years of streamflows. As a result, increased flows in the Uncompahgre River are not expected to add to overall salt loading.

**COMMENT F-37:** There is no mention of the stocking of fish in the Gunnison River and that will be a continuing practice by the Colorado Division of Wildlife (CDOW) until 1990. Information on numbers of fish stocked, average lengths, and date of release should be provided, and these figures should be compared to the date of research data collected on fish densities. How much is the supportable fishing hours tied with continued stocking?

**RESPONSE F-37:** Trout have not been stocked in the Gunnison River below Crystal Dam since 1981 or at the North Fork confluence since 1988. The Gunnison River below the Tunnel is managed as a "wild" trout fishery (i.e., maintained by natural reproduction), and the CDOW has no plans for stocking in the immediate future. Research surveys by the CDOW consider the presence of fish resulting from stocking. Also, because the recruitment of trout from natural reproduction above the North Fork has greatly increased recently, the State has no immediate plans to stock below the North Fork confluence. Stocking is not considered necessary to support the fishery.

**COMMENT F-38:** Page 3-68. This section should mention that Fish and Wildlife has said that there are no endangered or threatened fish species, if that is indeed the case. We are concerned that there is no mention of surveys for native or endangered species. Lack of this data means that statements such as that made on page 3-85 "although trout species may become more important numerically than non-game species such as suckers, a decline in sucker numbers or biomass would not be anticipated" hard to accept. There have been no surveys to confirm extirpation of the endangered fish species that were once present at Black Canyon (Colorado squawfish, razorback sucker, and bonytail chub).

**RESPONSE F-38:** A discussion on threatened and endangered fish species in the Gunnison and Uncompahgre Rivers has been added to the EIS. Literature reviews suggest that the Colorado squawfish, humpback and bonytail chub, and razorback sucker may never have existed in the Monument; this literature includes actual fish surveys within the Monument (Wiltzius, 1978). There have been no surveys in the Gunnison Gorge specifically for endangered species; however, the Gorge has been surveyed twice a year by the CDOW at Ute Park and above the North Fork confluence. To date, no endangered species have been collected. The FWS Biological Opinion concluded that threatened or endangered fish species would not be affected. See also **RESPONSE** to **COMMENT F-27**.

**COMMENT F-39:** "The extremes of high spring flows and low summer and fall flows were believed to contribute significantly to poor salmonid reproduction and survival prior to Aspinall construction." The assumption being made in this statement is contradicted by the simulated flow data found in either

tables 3.1 or 3.6, where all of the lowest flows during the summer months have occurred since the development of the Aspinall Unit.

We realize these studies probably used the actual U.S. Geological Survey flow data in arriving at these conclusions. However, the simulated flow data supposedly is representative of actual flows. If not, then their use in support of this study is suspect.

**RESPONSE F-39:** Simulated flows are not representative of the actual flows in the Gunnison River before the Aspinall Unit was completed in 1977; rather, they are predictions of the flows that would have been in the river had the Aspinall Unit and its existing operation been in place during those water years. Therefore, tables 3.1 through 3.6 do not represent historic flows.

A review of the actual USGS flow data below the Tunnel indicates extremely wide annual flow variations. The following are the highs and lows (ft<sup>3</sup>/s) for a few select years: 1922 - 25 to 6,411; 1924 - 32 to 6,381; and 1937 - 8 to 5,766 (see attachment B in the FEIS). Therefore, it can be seen that lower summer flows were more of a problem before the Aspinall Unit.

Simulated flows were used for hydrologic analysis on this project because there was not a long enough post-Aspinall period of record for meaningful comparison. Simulated flows are necessary to both determine postproject flows and water availability for hydropower and to present an accurate prediction of impacts.

**COMMENT F-40:** It may be true for the exotic species of trout introduced in the Gunnison, but the native Colorado River cutthroat trout had evolved over time to compensate for these flow conditions. The statement should be modified to show that the nonnative species experienced this poor reproduction, not the native cutthroat. The negative effects on the native species should also be addressed in this document.

**RESPONSE F-40:** Historical accounts (Wiltzius, 1978) indicate that very few salmonids, including the Colorado River cutthroat, inhabited the Gunnison River below the Tunnel before Blue Mesa Reservoir was completed. This was due to low summer flow conditions and resulting high water temperatures. Evidently, the conditions were so poor or the extremes so great that even the native Colorado River cutthroat could not survive in any great numbers. (The Colorado River cutthroat was exterminated from the Gunnison River in the early 1900's.) The relatively stable, cold water flows from the Aspinall Unit might also produce adequate habitat conditions for the native cutthroat should the CDOW decide to reintroduce the species. However, they would probably hybridize with the more prolific rainbow trout.

**COMMENT F-41:** Page 3-72: "The abundance of species may be represented as...." A statement should be added somewhere in this paragraph that this would be more normal due to the influence of the North Fork flows and may not be representative of the portion of the Gunnison River that flows through Black Canyon.

**RESPONSE F-41:** The first sentence in this paragraph states that the species representation given is for the Gunnison River below the North Fork confluence. The last paragraph on page 3-32 in the draft explained the reason for the species composition differences on the Gunnison River above and below the North Fork confluence. Species composition in the Monument is discussed in chapter 3 of the FEIS.

**COMMENT F-42:** Page 3-83, Number 1: Substantial rainbow and brown trout habitat gains are made from 200 ft<sup>3</sup>/s level to the 300-ft<sup>3</sup>/s levels. Are there significant habitat gains between the 300-400 ft<sup>3</sup>/s and the 400-500 ft<sup>3</sup>/s levels? These gains should be quantified and compared in this EIS.

**RESPONSE F-42:** Significant increases in adult summer trout habitat do occur between 300 and 400 ft<sup>3</sup>/s and between 400 and 500 ft<sup>3</sup>/s. As illustrated in figures 3.11 and 3.12 in the EIS, optimum habitat conditions for adult rainbow trout occur around 500 ft<sup>3</sup>/s. The EIS compares development alternatives to a no-action alternative, not to the optimum conditions.

**COMMENT F-43:** Page 3-84, first paragraph: In respect to the poor fishery resource, is it considered a poor fishery because of the lack of game fish over the number of non-game fish or the lack of fish altogether? Since bald eagles and river otters use the Uncompahgre, how does the fishery rate out for them--is it good or poor?

**RESPONSE F-43:** The statement has been changed to "poor sport fishery resource." River otters have migrated from the Gunnison River to the Uncompahgre River drainage, and potential prey include nongame fish such as suckers. Waterfowl, carrion, and fish are all considered food for bald eagles along the Uncompahgre. It is not known whether fishery conditions are a limiting factor for otters or eagles along the Uncompahgre, although nongame fish are common in sections of the river with a permanent flow.

**COMMENT F-44:** Page 3.88: In this and other sections, conditions observed in 1977, 1981, and 1988 are used to approximate conditions that are expected to occur during similar dry periods following development. This comparison is questionable because it does not take into account the stress to the resources that would exist due to sustained dry periods as a result of development.

**RESPONSE F-44:** Signs of excessive stress were not observed during any of the critical water years. Surveys and analyses of

the Gunnison River fishery by the CDOW during the critical water years of 1977, 1981, and 1988 indicate that the resident trout populations were not seriously stressed under a flow regime of 200 to 400 ft<sup>3</sup>/s when fish numbers and condition factors were excellent. Thus, significant impact to the trout fishery or to the native species in the Gunnison River due to prolonged periods of 300 to 400 ft<sup>3</sup>/s would not be expected. Sustained low flows lead to build up of sediments in the river and to riparian vegetation encroaching. **RESPONSE to COMMENT F-34** discusses the negative effect of flash floods on fish during low flow periods. Negative effects were observed in 1989. Sustained dry periods do produce low flows over a period of years, and this situation would not change significantly under development alternatives during the irrigation season as the Tunnel is normally operated at capacity then, particularly during dry years.

**COMMENT F-45:** Page 3-92 paragraph 1: We suspect that a statistical analysis will show that there is no significant difference for alternative A. A statistical analysis with reasonable confidence levels should be done to compare the alternatives or the statement on the differences should be dropped from the EIS.

**RESPONSE F-45:** Figures 3.16 and 3.17 in the DEIS were developed to illustrate (postproject) physical habitat conditions for trout. The conclusion that physical habitat would not be degraded under any of the proposed development alternatives is supported. Although the habitat conditions for nearly all life stages during most months appear to be improved under the development alternatives compared to the no-action alternative, no statistical inference was implied. The discussion in chapter 3 was not meant to imply that implementing any of the development alternatives would result in improving the fishery; rather, the conclusion is only that the habitat would not be negatively affected.

**COMMENT F-46:** Page 3-95, paragraph 1: The statement that overcrowding may become important in regulating trout population in the Gunnison indicates that increased density may result in decreased biomass. Decreased biomass could be interpreted as a negative impact on the Gold Medal Water fishery and should be listed as such.

**RESPONSE F-46:** According to the CDOW, the potential for overcrowding and associated density-dependent mortality or stunting may develop in the Gunnison River with or without the project, although it may be increased by the improved reproductive conditions produced by the project's flow conditions.

However, the CDOW believes that the existing "slot" bag limit (fisherman can keep two fish under 12 inches and one more than 16 inches) for selectively harvesting the fishery will prevent the development of overcrowding and its associated impacts resulting from density-dependent mortality. If need be, this

management tool can be further adjusted to maintain the existing fishery at or near its present level. These management decisions will be made by the CDOW.

**COMMENT F-47:** Page 3-97, paragraph 2: The statement that more trout will reach the Uncompahgre River due to the greater diversion of water is listed as a benefit to the Uncompahgre. It may be positive for the Uncompahgre, but it also reduces the numbers of trout in the Gunnison. Since the project lists the many positive effects on the trout population, it should also list and evaluate this negative impact. How does the increase in numbers of this exotic species affect the Uncompahgre?

**RESPONSE F-47:** The impacts to the Gunnison River fishery as the result of year-round diversions through the Tunnel are discussed in the EIS. Should the loss of trout from the Gunnison River become excessive, the Sponsors would work with the CDOW to develop a mitigation plan.

The relatively slight increase in the trout population expected on the Uncompahgre River below the South Canal due to year-round diversions would have little or no impact on the native species inhabiting this reach of the river. Trout and the native species do not occupy the same ecological niches and thus would not directly compete with each other for food and space unless severe overcrowding occurs. Predation on the native species by the increased trout population will be minimal as trout in the Uncompahgre feed primarily on macroinvertebrates. Sucker fry and dace are not generally a significant portion of the forage base for trout in Western rivers and streams. Sculpin, on the other hand, are an important forage species for larger trout in Western rivers and streams. However, their reproductive capacity usually greatly exceeds their predation losses, producing a good predator-prey relationship where trout and sculpin populations overlap.

**COMMENT F-48:** The last sentence states that a high quality fishery may develop on the Uncompahgre River. It should also state that the general public will have no access to this resource because the banks of the river are privately owned and the adjacent landowners will control access. Contrastingly, the Gunnison River downstream from the tunnel runs through public land except for two small parcels near the confluence.

**RESPONSE F-48:** Access to the river downstream from the tailrace is largely controlled by private landowners, a condition that would exist with or without development. However, it does not necessarily prevent access; landowners commonly allow such access provided prior permission to use the resource has been obtained. The text of the EIS has been modified to reflect this situation. The Sponsors are cooperating with landowners and the CDOW to help establish public access should a sport fishery develop.

**COMMENT F-49:** Page 3-100, paragraph 1: A weed is a plant out of place such as an undesirable plant in a garden or lawn. Annual



weeds would be better defined as a specific listing of the common or scientific name in this paragraph and the fifth paragraph on page 3-101.

**RESPONSE F-49:** The text of the EIS has been modified to change the term "annual weeds" to "annual plants."

**COMMENT F-50:** Page 3-101: The discussion on this section describes the present and expected changes of vegetation with the implementation of the project. What should be included in these statements is that the low flows expected would change the present open canyon bottom and the occurrence of low growing plants will be replaced with taller woody species that will be crowded closer to the river bank. Competition and subsequent replacement of low growing endemic plants can be expected. With the increase of woody species, a change in the evapotranspiration rate and water demands by the plants can be expected to increase. As a result, water table and flow rates may be affected.

Page 3-103: This paragraph contradicts the contention held in the EIS that an increase in riparian vegetation as a result of decreased flows in the Gunnison will be scoured out with periodic flooding. This paragraph shows that even with occasional flooding, riparian vegetation is increasing along the Gunnison. The adoption of any alternative other than A will only compound the situation and further reduce the scouring effects of floods. Native plant species will decrease as exotic species increase.

**RESPONSE F-50:** Impacts of the development alternatives regarding successional changes in vegetation were discussed in the vegetation section of chapter 3 of the DEIS. This section stated that between periodic scouring floods within the Gunnison River, a general trend toward coyote willow and other riparian species developing is likely. These species would include both native and exotic species. High spring flows in the river would not change enough to affect scouring potentials, as can be seen in flow tables in the EIS. Summer flow changes are also minor from the standpoint of scouring potential, and close examination of summer flow changes between alternatives will confirm this. The primary flow changes occur in the winter when flows of 1,300 to 1,400 ft<sup>3</sup>/s under alternative A would be reduced, leaving more gravel bars exposed during the winter; however, winter represents a period of dormancy for plants. Extensive colonization during such seasons is unlikely.

The paragraph on page 3-103 indicated the influence of river regulation activities within the Gunnison River system beginning in the early 1900's. Riparian vegetation has apparently increased since regulation. Alternatives would not compound flood reductions.

The prediction of impacts to the riparian vegetation along the Gunnison River must be viewed within the context of ongoing changes in the riparian community, which began after upstream dams closed. Stanford and Ward (1983) provide descriptions of

the changes in the Gunnison River and, more broadly, the Colorado River because of flow regulation. The primary changes in the riparian plant community have been: (1) decreased establishment of juvenile cottonwoods (downstream from the North Fork) resulting from decreased floodplain disturbance; and (2) the introduction and establishment of salt cedar, a nonnative woody plant. Riparian vegetation is believed to have increased on river terraces less frequently scoured by high flows. Floodplain disturbance is in the form of periodic spring flooding.

Spring flooding acts to naturally create openings on the surface of the floodplain through the physical removal of greasewood and other vegetation, including cottonwood, willow, and herbs, and the deposition of sediment, conducive to seedling germination and soil disturbance. Disturbance within the floodplain tends to favor woody plants such as willow and cottonwood that are better able to quickly colonize disturbed areas and cope with inundation by water (Kozlowski, 1984; Walters et al., 1980). Salt cedar generally occurs in more xeric areas of the riparian zone. Flooding also tends to create a mosaic of different-sized soil particles on the floodplain surface.

Encroachment of vegetation along the bank of the Gunnison River is possible without the presence of periodic flooding or flushing flows, which are those flows capable of moving sediment aggraded in the river channel (Wesche, 1987; Reiser et al., 1989). Deposited sediment results in point bars and alluvium forming along the river, areas initially colonized by willow. Flushing flows remove deposited sediment and colonizing vegetation.

Flushing flows have been variously defined and generally consider the magnitude, timing and duration of the flow (Wesche, 1987). The Tennant Method considers flushing flows to be 200 percent of the average annual flow but does not consider timing or duration of the flow. Dominant or bankfull discharge is an alternative definition of flushing flow. Timing is generally according to the historic hydrograph, and duration varies from instantaneous to three days. As defined by the Tennant Method, a flushing flow for the Gunnison River entering the Black Canyon would be 2,200 ft<sup>3</sup>/s (or 200 percent of alternative A's average annual flow).

Using average monthly calculations, flow duration curves from the project hydrology show that flushing flows of this order would be reduced from a frequency of 6 percent under alternative A to 3 percent under alternative B. However, the duration curves indicate little about the timing of flows; the effect of flushing flows probably diminishes as they extend longer and longer. Assuming that the river has been "flushed" by a full month of 2,200-ft<sup>3</sup>/s flows, this would have occurred in 13 years for alternative A (out of the 37-year extended study period). Alternatives B, E, and F would have produced 9 such years, and alternative C would have produced 8 years.

The large peak flows of short duration, which are not effectively shown by the monthly simulation, are probably the most important flushing flows. Since Reclamation began operating the Aspinall Unit, the average annual instantaneous peak passing the USGS gauge downstream of the Gunnison Tunnel has been 4,250 ft<sup>3</sup>/s. The AB Lateral Project would reduce these peaks to an average of about 3,660 ft<sup>3</sup>/s for alternative E and 3,580 ft<sup>3</sup>/s for alternatives B and F.

Based on this analysis, vegetation encroachment along the Gunnison River with project implementation is likely to continue. Under existing conditions, this encroachment would include both native and exotic species, as both are present in the river corridor. Encroachment would also occur in areas of sediment deposition. The point where sediment deposition begins with project implementation is likely to move upstream, as less water would be available to transport incoming sediment loads from tributaries. Vegetation encroachment would be more evident progressing downstream and less evident within the Black Canyon where sedimentation would be less and canyon walls form an effective barrier to colonization. Principal project impacts on Gunnison River flows occur in the winter when vegetation is dormant and seeds are largely nonviable. Encroachment at this time is unlikely. However, periodic flushing flows would still result in removing sediment and encroaching vegetation. The frequency of removal would decline, and a more successional developed plant community is likely before the next flushing flow occurred. These predictions are consistent with case histories of vegetation encroachment in relation to stream regulation (Hadley et al., 1987). Should more extensive vegetation develop, evapotranspiration rates and water demands may be altered from present conditions. Changes in vegetation should not measurably affect river flow quantity. The FEIS has been supplemented with more information on Gunnison River vegetation.

**COMMENT F-51:** Page 3-104, figure 3.18: The boundary shown for Black Canyon of the Gunnison National Monument is incorrect. We also question the listing of the soil unit because the area shown (inner canyon) is basically Precambrian rock with little or no soil development.

**RESPONSE F-51:** See **RESPONSE** to **COMMENT F-26** concerning the boundary map. Soil information was taken directly from page II-54, figure 2.11, of the Final Environmental Statement, Gunnison Wild and Scenic River Study (Department of Interior, NPS, 1979). Source acknowledgment has been corrected in the EIS. Soils are shown for the inner canyon. Soils have developed in scattered alluvial fans and shorelines. They are limited overall, but in some areas are relatively deep; for example, beavers using them for dens.

**COMMENT F-52:** Page 3-112: We are also concerned with the invasion of exotic species especially tamarisk, which replace more typical riparian vegetation. The significance of this invasion appears to be down-played in the analysis of vegetation

impacts. *Tamarix* (tamarisk) is an exotic, non-native species. As such, it has the potential for threatening the perpetuation of natural ecological communities and processes. *Tamarix* is not an easily controlled species. The cost of control efforts would be an additional burden on park management.

The areas of the riverbed that will be left exposed after flow reduction are more susceptible to tamarisk invasion than to native species invasion if an adequate seed source is available. The seeds are easily windblown and are available in great quantities downstream. The potential for tamarisk invasion is much higher than indicated in this document. This is an issue that needs more detailed attention as indicated earlier.

**RESPONSE F-52:** As indicated in chapter 3 of the EIS, the first terrace is the area likely to be affected within the Gunnison River corridor as a result of implementing the AB Lateral Facility. Based on a survey by Mariah and Associates, the primary invader species is expected to be reed canary grass and coyote willow in more open areas. Tamarisk would also be an invader as discussed. Tamarisk is presently well established in the Gunnison Gorge, which may be due to the upstream reservoir controls of high scouring flows. This control would not be affected by the AB Lateral and is probably the controlling factor for riparian vegetation along the river. Principal project-related flow changes would occur in the winter when vegetation is largely dormant. Invasion during such seasons is unlikely.

Willow followed by cottonwood (downstream from the North Fork) are the woody species that initially colonize the riparian habitat along the Gunnison River. According to Kozlowski (1984), these species are capable of germinating while the seed is submerged, providing a competitive advantage for the colonization of gravel bars and alluvium.

Salt cedar, however, can become established on more xeric areas after streamflow is regulated. The most likely location is downstream from the Smith Fork confluence where the floodplain is more extensive. Please also see **RESPONSE** to **COMMENT F-50**. Other exotic species are established in the Gorge and Monument, but salt cedar is probably the most notorious, and control, as stated, is difficult.

**COMMENT F-53:** Along with the increased alluvium deposits, it would be expected that there would be a decline of water depth, and warming of the water would increase at a faster rate than present conditions. How will this affect the fishery?

**RESPONSE F-53:** The rate of temperature increase is a physical constant and would not be changed by development. However, the temperature profile from the surface to the bed would be changed by reduced flows. Because there is less water volume in the river for mixing, the water temperatures would increase. The effects of this increase are discussed in chapter 3 of the EIS. Alluvium deposits may decrease water depths in some areas, while

increasing depth in others. Where surface area was increased, the air temperature would have more effect on the river temperature, when the waters would warm or cool faster. Warmer waters would adversely affect cold water fish species in the lower reaches of the river and would benefit those upstream.

**COMMENT F-54:** The scouring potential of floods would not remain unchanged with reduced flows. The river would be emptier than before and thus able to carry more flood water before scouring would be the same as under present flows.

**RESPONSE F-54:** Base flows would be reduced in the river, and local scouring would also be reduced. However, peak discharges (annual floods) would not be significantly changed, and river velocities and water surface elevations reached during these events would not change significantly with development. This is due to the small amount of water capable of passing through the Tunnel relative to flood flows and due to the likelihood of simultaneous floods on the Uncompahgre, which would cause Gunnison River diversions to be curtailed. Therefore, the scouring potential of these flows would not significantly be changed.

**COMMENT F-55:** Page 3-113: The bed of the Gunnison River would not necessarily be covered with more grasses downstream from the portal. Tamarisk will be a major invader downstream near current seed sources. Its potential upstream is addressed above. Weedy forbs and woody species are as likely to colonize the riverbed as are grasses, at least during early successional stages. Seeding with native species would be a mitigating action, but would be costly.

"After each large flood, the river would appear the same as without the project...." What criteria were used to come to this conclusion? The statement may be untrue because the expected invading woody species are even less susceptible to removal during infrequent flooding. Also, it would be expected that there would be a decreased frequency of flooding occurring due to the project.

**RESPONSE F-55:** Forbs and woody species do colonize the shoreline; the EIS has been expanded to reflect this. Because these shorelines are and would be periodically scoured clean, seeding is not being considered. Historically, woody species have been removed due to the sandy soils and high flows.

Flushing flows are the dominant force in structuring the river channel and the riparian community. Various definitions of flushing flows have been used (see **RESPONSE** to **COMMENT F-50**). The project would not result in a significant decrease in flushing flows or peak flows; therefore, the woody plant community would probably attain greater successional maturity by project implementation. However, after each large flood (or flushing flow), the accumulated sediment and vegetation would be

physically moved by the flowing water. Therefore, the stream channels would appear essentially the same with or without implementation, immediately following a flood flow.

**COMMENT F-56:** Page 3-117, paragraph 2: A better source for the occurrence of the peregrine falcon within the Black Canyon is Mr. Jerry Craig, CDOW raptor biologist in Fort Collins. Surveys by CDOW have shown there are more than a single nesting pair as this document states. The canyon should be noted as foraging habitat as well as nesting habitat.

**RESPONSE F-56:** The DEIS and the FEIS acknowledge the occurrence of the falcon. Additional information has been added to the FEIS.

**COMMENT F-57:** Page 3-118, table 3.40: The area of the counts should be better defined than above and below the North Fork. How far upstream did the census go and how far downstream for each survey day listed? This is also true for the table of bald eagle counts on page 3-121. The bald eagle count table should also list the time or times for the surveys by date. This information should be added to the EIS.

**RESPONSE F-57:** The FEIS discussion has been clarified. In general, surveys are from the northern boundary of the Monument downstream to the North Fork confluence and also from the confluence to Delta.

**COMMENT F-58:** Page 3-124, paragraph 1: We feel that studies financially supported by the Sponsors should be conducted in the Black Canyon to insure no solid freezing of the water occurs and identify the effects, particularly displacement, on the river otter populations.

**RESPONSE F-58:** Icing predictions and observations in the DEIS and the FEIS show that at lower flows, ice begins to form within the Monument. Solid freezing of the river would not occur. During severe cold spells, such as observed in January 1989, ice bridging of the river can occur within the lower Monument. Before Aspinall Unit construction, the Gunnison River in this area froze over except in rapids; formation of ice in a river in this geographical location is an extremely natural occurrence.

River otters have evolved in natural situations that include varying degrees of ice cover. Literature reviews of habitat needs and observations of ice conditions in the Monument indicate that more than sufficient open water would be available in the Monument even under extreme conditions. As indicated in the FEIS, annual meetings would be held to discuss Gunnison River aspects of the project.

**COMMENT F-59:** Page 3-127, paragraph 1: This paragraph infers that cranes do not use the Gunnison River for feeding and resting. Our records show that cranes regularly stop on the

Gunnison in the canyon on their spring and fall migrations. The possible impacts of reduced flow on these stopovers should be evaluated.

**RESPONSE F-59:** The FEIS has been changed in chapter 3 (endangered wildlife section) to show the actual use of the Gunnison River by sandhill cranes in the Monument. The cranes pass through this area during spring and fall migrations, and these particular flocks are occasionally accompanied by whooping cranes. Migration periods are generally between March 15 and April 25 and between September 10 and October 15 in this area. As can be seen from tables in chapter 3, flow changes in the Gunnison River could be significant with the AB Lateral Facility in operation, particularly in March and April. The effect on cranes is unknown. Lower flows would mean more shorebird-type habitat, a possible benefit to cranes. However, if riparian vegetation increased significantly, the usable area would be reduced until scouring flows cleared the area.

**COMMENT F-60:** Page 3-133, paragraph 2: This paragraph states no construction will occur at the East Portal area, although the preferred alternative calls for increasing the size of the tunnel. This tunnel construction will impact the East Portal area because the material removed from the tunnel is usually dumped on the river bank near the tunnel mouth. It could also be hauled out, impacting the access road to the east portal area, a portion of the Black Canyon National Monument South Rim Drive, and State Highway 347 (primary Monument access) These impacts should be listed and evaluated. The project Sponsors should also commit to repairing these roads if they elect to haul the material.

**RESPONSE F-60:** We concur with this comment. The FEIS has been revised to include both a description of the impacts and a commitment to repair the affected roadways.

**COMMENT F-61:** Page 3-133, paragraph 4: Altered flows will increase all hike-in use, not just hike-in fishing. Page 3-134: Although we have now reviewed several versions of this section, we are still disappointed with the language stated in the document. It is apparent that the Bureau failed to understand the point that we were trying to make about increased use of the canyon bottom. The position of the sentence "Although stream fishing makes up a small portion of use in the Monument (less than 1 percent [NPS, 1979]), this use would be affected" leaves the impression that this is a minor effect. Use of the canyon bottom will not be just for stream fishing, and this sentence should be deleted. As written, the document downplays what we feel will be a significant change in visitor use patterns and subsequent impact on the wilderness character of the monument.

**RESPONSE F-61:** We agree that all hike-in use could be increased, not only fishing use; this section of the FEIS has been expanded. In addition, stage/discharge (depth of flow) information for five sites downstream of and one site within the Monument has been

added to the FEIS. Increased use is projected to occur. Pre- and postproject flow tables, as well as stage/discharge information, show that the potential for increased use (due to easier wading) would be relatively small during the primary recreation months of June through August because irrigation demands are already high then and the Tunnel is at or near capacity. For example, average water depth changes during July at six sites on the river are shown in the following table:

Average water depth changes during July  
(Gunnison River)

Site	Depth (feet)			
	Alt A	Alt B	Alt C	Alt E
Upper end of Monument	3.7	3.3	3.3	3.3
Chukar Draw	11.2	10.6	10.2	10.6
Bobcat Trail	8.4	7.9	7.7	7.9
Pitts Meadow	4.3	4.0	4.0	4.0
Duncan Trail	3.2	3.0	3.0	3.0
Ute Trail	4.2	4.0	3.9	4.0

The concern for increased use is legitimate, but concern exists to a large degree under alternative A, no action. Alternative C, with an increased Tunnel capacity, would have a greater impact on use.

The use would be expected to increase more in the spring and fall as flow changes are greater then. The river through the Monument contains many deep pools bordered by sheer cliffs. Access along the river still requires climbing, even under low flow conditions and can still be difficult and dangerous.

**COMMENT F-62:** The statement referring to an "improved" fishery in the monument should be identified as a sport fishery. As previously discussed, we do not feel that the EIS has adequately described impacts on native fish species, and therefore this conclusion is not corroborated by impact analysis.

Page 3-140: "The CDOW feels that in an unusually dry year (200-300 ft<sup>3</sup>/s from April to September) 100,000 fishermen hours can be expected between the Gunnison Tunnel and the North Fork confluence." No mention was made as to the number of hours of fishing that could be expected between the 300 and 700 ft<sup>3</sup>/s levels. This raises questions regarding the 100,000 fishermen hours conclusion. How were the fishing hours determined? Is the 100,000 hours a *limit of hours that can be expected* due to resource carrying capacity or is it a result of fisherman behavior? How many fishing hours can the fish population support without detriment to the population? What is the carrying capacity, in fishing hours, at 300 to 700 ft<sup>3</sup>/s flow rates?



**RESPONSE F-62:** Please see **RESPONSE** to **COMMENT F-27**. The term "improved fishery" has been changed to "improved sport fishery." The angler use estimate was based on the fact that at flows around 300 ft<sup>3</sup>/s, more of the river is wadeable and thus fishable. As stated in the previous paragraph in the DEIS, the river is still wadeable in select places at 600 ft<sup>3</sup>/s. This level still allows the angler use of much of the river that would be sufficient to attract large numbers of anglers. Probably no significant difference would occur in angler use between 300 and 500 ft<sup>3</sup>/s.

Fishing hours are determined by direct creel census surveys, car counts at access points, and post card questionnaires. A report entitled "Fisherman Use and Catch Evaluation of the Black Canyon of the Gunnison River and Sport Fish Population Analysis for 1988 from the East Portal Access Area Below Crystal Dam to the North Fork confluence" was written by the CDOW (Nehring, 1988). It has been provided to the NPS.

The estimate by the CDOW for a potential of 100,000 fisherman hours at the 300-ft<sup>3</sup>/s flow level was only based on observed angler behavior. No reference was made to or adjustments made for the resource-carrying capacity of the Gunnison River. As the DEIS indicated, the fishery can sustain this use, but the document did not indicate that other resources can also sustain this use. Should this level be attained, responsible resource agencies may need to make management changes.

In 1988, the Gunnison Gorge supported 50,000 to 60,000 angler hours of use with no apparent adverse impacts to the trout population. In comparison, the much smaller Frying Pan River from Ruedi Reservoir to the town of Basalt received approximately 65,000 fisherman hours in 1986 with no apparent adverse impact to the trout fishery. Thus, the CDOW feels that a river the size of the Gunnison could sustain this amount of fisherman use without adverse impacts to the trout population.

**COMMENT F-63:** Page 3-142 states "...the lower water conditions and the accompanying publicity led to an increase in private boat trips by people who thought the fishing would be much improved in the gorge." Are these people figured as fishermen or boaters when calculating economic return? To best evaluate their economic contribution, they should be broken into a separate category listed in tables 3.50 through 3.52. Do fishers/boaters have a different behavior than hike-in fishermen in both activity hours and economic influence?

**RESPONSE F-63:** Some boaters float the Gunnison River solely for fishing, while others may float the river purely for the floating experience. However, the data collected by BLM do not separate anglers, boaters, and anglers/boaters. Visitors using the river either through commercial or private rafts were counted as boaters, and their expenditures were computed accordingly. These visitors would also be considered anglers as they would have been sampled in the creel census.

By counting these visitors as boaters, a higher economic value is placed upon their use, causing the development alternatives to show greater economic impacts. To avoid the possible entanglements of double-counting visitor use, the measurements of the economic impacts of development alternatives to boating use were not based upon historic use of the resource but instead were based upon projected management guidelines proposed by the BLM.

**COMMENT F-64:** Page 3-142: "In 1987 a major change occurred with whitewater rafting at higher flow periods early in the year to fishing-oriented rafting at lower flows later in the season... these low flows resulted in reduced day and overnight trips for both private and commercial floaters. The number of private boaters during the 1988 season decreased by 58 percent from 1987 levels and commercial boaters decreased by 27 percent...." If the fisher/boater is counted as a fishing activity, that would accelerate the decline in "boaters" shown. "These decreases indicate that when flows drop below 600 ft<sup>3</sup>/s, floating the Gunnison Gorge becomes more technically demanding, and both private and commercial rafters reduce the number of rafting trips." Yet, as was quoted above, private boating for fishing use went up. If boating becomes more technically demanding, why are fisher/boaters not affected? Some explanation to reconcile this apparent discrepancy is needed.

**RESPONSE F-64:** As stated in **RESPONSE** to **COMMENT F-63**, the data available do not permit distinguishing between the boater and the fisher/boater. When **COMMENTS F-63** and **F-64** are taken in total context with the narrative, no discrepancy occurs. The DEIS states that an increase in private boaters occurred in late 1987; however, this increase refers to earlier months of 1987. From table 3.45 it is seen that the number of private, overnight boaters increased from 113 in July 1987 to 156 in August. During early July of 1987, flows entering the Gorge were approximately 1,600 ft<sup>3</sup>/s. However, by mid-August, these flows had been reduced to approximately 600 ft<sup>3</sup>/s. According to BLM staff, this reduction in flows encouraged private individuals to raft the river because they "thought the fishing would be much improved...." The DEIS also states that there was an increase in boating accidents during this period, with 90 percent of the accidents occurring with private boaters.

Page 3-142 continues to say that, due to lower flows during June through August of 1988, private rafting use of the Gunnison River was reduced by 58 percent, and commercial rafting use was reduced by 27 percent from 1987 levels. (This statement is supported by BLM data presented in table 3.45.) In 1987, private use of the river accounted for an estimated 718 boaters, a figure that was reduced to 305 boaters in 1988 or a 58 percent reduction in use. Similar values for commercial use show 1,337 users in 1987 versus 975 users in 1988 for a 27 percent reduction in use.

**COMMENT F-65:** The year dollars should be identified for tables 3.49 to 3.52.

**RESPONSE F-65:** Tables have been renumbered in the FEIS. Table 3.49 was in 1992 dollars, and tables 3.50 through 3.52 are 1988 dollars, information that has been added to the EIS. Table 3.49 is now 3.52, and tables 3.50 through 3.52 are 3.54 through 3.56.

**COMMENT F-66:** If boaters/fishermen are calculated into the fisher days and their use declines on the river, an increase in hike-in fishermen may be heavily influenced by those boaters/fishermen who are no longer using their boats. A net increase in hike-in fishermen may not represent a net increase in fishermen. This may affect projected economic return.

**RESPONSE F-66:** Boaters/anglers were counted in the boater category. Hike-in anglers were counted as such. We concur that this may reduce the net increase in anglers. However, a net change in the type and amount of use could still occur. An individual who contracts with a commercial rafting guide would spend approximately \$106 per day of use, which may include periods of fishing, sightseeing, and relaxation. Regardless of the type or types of uses that the individual enjoys while on the river, the expenditure is still counted as \$106 per day. If because of low flows an individual shifted from fishing using a raft to fishing from a bank, the expenditure would be reduced from \$106 per day to \$25 per day. Thus, the net impact would be a loss of \$81 per day in the expenditures of that individual.

The reduced flows would have an impact on rafting because they make the river more difficult to raft and reduce the attractiveness of the experience in the view of some boaters, especially those interested in whitewater experiences. This conclusion is supported by comparing total boater use in 1987 to that of 1988. Results from the 1989 season show this less clearly. Despite low flows, use was high, as is discussed in the FEIS. However, the reduced flows would make the option of hike-in fishing more attractive. While the experiences are not the same and cannot be substituted, the net economic impact of these changes is that rafting losses occur simultaneously as fishing gains because the reduced flows expand the opportunities for fishing by individuals who may not otherwise use the river. The financial feasibility ratio does not include angling and boating economic effects, although they are addressed in the FEIS.

**COMMENT F-67:** Page 3-156: The preferred alternative calls for expanding the size of the Gunnison Tunnel, which is a federally owned national historic site. Detailed impacts on this historic resource have not been provided. We can find no mention in this EIS of how requirements of the National Historic Preservation Act will be met when this historic facility is altered. The impacts on the national historic sites should be evaluated and the costs of doing the required Section 106 compliance should be added to the cost-benefit ratio of Alternative C. The final EIS must show evidence of consultation with the Colorado State Historic Preservation Officer and the Advisory Council on Historic Preservation.

**RESPONSE F-67:** The Tunnel has been placed on the National Register of Historic Places following nomination by Reclamation. The FEIS has been expanded to discuss impacts on this designation, as well as describing consultation requirements. The Tunnel has been maintained and upgraded over the years and still maintains its National Register integrity. Alternative C, which affects the Tunnel, is not Reclamation's recommended plan; if it were, consultation would be required.

**COMMENT F-68:** Page 4-8: The concern/response section should be expanded to show how you dealt with the NPS concerns on the effect on reserved water rights associated with the Black Canyon of the Gunnison National Monument and the existing wilderness area.

**RESPONSE F-68:** This section has been expanded to reflect this comment. The FEIS text in chapter 2 has been revised to more fully discuss hydropower versus reserved water rights.

**COMMENT F-69:** Page 6-1: Please add the following reference to the bibliography: U.S. Department of the Interior, National Park Service. 1973 *Final Environmental Statement, Proposed Wilderness Area, Black Canyon of the Gunnison National Monument*, Rocky Mountain Office, Denver CO.

Page D-3, figure D.2: We cannot distinguish between alternatives on this chart. Is Alternative B missing?

**RESPONSE F-69:** This reference has been added in the FEIS. Alternative B coincides with alternative F on figure D-2. Please refer to flow tables in chapter 3 of the FEIS for more complete information.

**COMMENT F-70:** Little is known about how diverting approximately 70 percent of the total flow of the Gunnison upstream of the monument boundary will impact the resources of the monument. Because of the magnitude of this diversion there should be a commitment from the project Sponsors to increase the flows below the tunnel to correct any future identified adverse impacts to Black Canyon resources below the tunnel. The National Park Service is concerned about the effects of this project on Black Canyon of the Gunnison National Monument, and this EIS does not adequately address all of those concerns. We cannot support the preferred alternative identified until further data collection and analysis is performed that would verify and further clarify statements made in the draft EIS. These questions should be answered before permits are issued for the project.

**RESPONSE F-70:** Reclamation believes that the resources described, as well as impacts to the Monument, have been adequately reviewed in the FEIS. The Sponsors have agreed to environmental commitments to mitigate impacts; these commitments and other liabilities of the project would be factors considered when project financing is obtained. Additional environmental commitments beyond those identified in the FEIS may be possible

during project operation. The Sponsors are willing to accept additional environmental commitments, within the constraints of project financing and non-interruption of irrigation diversions. This capability would be substantially increased after debt repayment is complete (within the first 15 years). Reclamation will seek to incorporate sufficient flexibility into the lease of power privilege to accommodate future changes that would not materially harm the Sponsors.

## ENVIRONMENTAL PROTECTION AGENCY

**COMMENT F-71:** We are pleased to find that the DEIS presents a commendable discussion of the existing situation and probable impacts associated with the project development alternatives. Information provided in Chapter 3 on development related sediment loading and water temperature fluctuations is most helpful. We suggest additional clarification be included in the EIS. For example, on page 3-61 and again on page 3-67, the statement is made that the Uncompahgre River has increased selenium concentration in that segment between Colona and Delta. We were unable to find an explanation of what causes this increase. How will reduced flows in the Uncompahgre River above the confluence with the tailrace affect water quality in the segment from Ridgway Reservoir to the tailrace?

**RESPONSE F-71:** Based on available data, the increase in selenium seems to occur between Colona and Delta and is believed to be the result of irrigation and other drainage from soils derived from the Mancos Shale Formation. The FEIS text has been expanded for baseline and alternative discussion to discuss this increase. Ongoing studies show the highest concentrations of selenium presently occur in the winter near Delta; the AB Lateral Facility would greatly reduce this concentration.

Diversion of water from the Gunnison River under alternative A annually provides approximately 59 percent of the flow in the Uncompahgre River upstream from Montrose. Implementing the AB Lateral Facility would reduce this to 35 percent annually. Therefore, Gunnison River water annually would provide approximately a 35 percent reduction in trace metal concentrations immediately below the South Canal by implementing the AB Lateral Project. This is a net reduction in dilution, however, and water quality would decline.

This situation assumes no beneficial effect regarding trace metal reduction associated with Ridgway Reservoir. In effect, Ridgway Reservoir will function as a large detention basin. Detention basins are capable of removing 40 to 80 percent of trace metals present in incoming water (Walker, 1987). The effectiveness of Ridgway Reservoir should be considerably better because of the larger size and greater water retention time compared to wet detention basins typical of urban areas. Because considerable

inflow occurs between Ridgway Reservoir and the South Canal, Ridgway Reservoir is not acting as a detention basin for the entire watershed upstream of the South Canal.

Regarding trace metals other than selenium, tables 1 and 2 in attachment F of the EIS indicate that the annual concentrations remain approximately the same or decline between Ridgway and Delta, suggesting ameliorating effects from introducing water from the Gunnison River. This phenomenon would continue by implementing the AB Lateral Project. Violations of water quality standards or maximum contaminant levels for safe drinking water would not occur because of the AB Lateral Facility.

**COMMENT F-72:** Discussion on page 3-66, 3-67, and elsewhere, reveals the probability of increased sedimentation from bank erosion and/or streambed downcutting from increased flows downstream from the confluence of the tailrace and the Uncompahgre River. We note that Attachment A, Environmental Commitments, lists suggested lease commitments to mitigate for bank erosion. We recommend the discussion in Chapter 3 be expanded to refer to Attachment A, proposed mitigation measures.

**RESPONSE F-72:** The text discussion has been expanded in the FEIS. More information on the bank stabilization plan has also been included.

**COMMENT F-73:** Information on page S-11 tells the reviewer that the project Sponsor's preferred plan is Alternative C. (On page 2-20 we find a brief discussion of specific features, necessary under Alternative C, to modify the existing Gunnison Tunnel to increase the Tunnel's capacity from 1,135 ft<sup>3</sup>/s to 1,300 ft<sup>3</sup>/s.) We were unable to find a discussion elsewhere in the DEIS of the construction impacts related to this proposed capacity modification.

**RESPONSE F-73:** Please see **RESPONSES** to **COMMENTS F-60** and **F-67**.

**COMMENT F-74:** The DEIS does not present a strong need for the increased 165 ft<sup>3</sup>/s diversion. Discussion in Chapter 3 shows that at certain times of the year this 165 ft<sup>3</sup>/s could provide the margin to reduce fishery impacts in the Gunnison River below the Tunnel and above the North Fork. With this increased diversion there appears to be a potential for increased negative fishery impacts at certain times of the year. The EIS also needs to reconcile the apparent controversy between increased fishing activity and river rafting.

**RESPONSE F-74:** The increased 165-ft<sup>3</sup>/s diversion would occur with alternative C, which proposes to expand Tunnel capacity; the increased diversion would not occur for hydropower development with the remaining alternatives. Based upon the habitat curves presented in figures 3.16 and 3.17, the weighted usable area (WUA) for alternative C is greater than other alternatives, including the no-action alternative, for four of the five life stages of brown and rainbow trout. For adult rainbow trout,

alternative C reduces the WUA by about 5 to 7 percent during September and October. For adult brown trout, the WUA is reduced by less than 5 percent during August and September. Reclamation is recommending alternative E.

In the DEIS, Reclamation did not intend to create any controversy between fishing and rafting. However, while both are considered appropriate uses of the river, fishing and rafting are somewhat opposite in their demand for water. Lower flows are more attractive to anglers but less desirable for boaters; higher flows provide a better rafting/boating experience but would diminish the angling use because of the associated higher velocities and depths. This opposition occurs under the no-action as well as the various development alternatives.

**COMMENT F-75:** In our comments on the draft EA we expressed concern with the lack of discussion of wetlands impacts and subsequent mitigation. The DEIS provides the reviewer with a detailed disclosure of the location and type of existing wetland that will be impacted, as well as proposed mitigation location and potential replacement. EPA will have the opportunity to review and comment on any Section 404 Permit issued by the U.S. Army Corps of Engineers related to this project.

**RESPONSE F-75:** The FEIS includes an expanded discussion of the types of wetlands that occur along the river between the tailrace and Delta in the Uncompahgre River. Additional information is also presented regarding wetland mitigation.

## FISH AND WILDLIFE SERVICE

**COMMENT F-76:** The DEIS briefly outlines the proposed wetlands mitigation on page 3-114-115. The document should explain in more detail how 12 acres of wetland would be created. The Service finds that to accomplish "in-kind" replacement of wetlands lost, vegetation should be planted and not simply "left to grow naturally." The Service has also found that past wetland creation has not been 100 percent successful; therefore, the project proponents should plan on creating more than 12 acres to insure that there is no net loss of wetlands.

**RESPONSE F-76:** Additional information regarding wetlands mitigation is presented in the FEIS in response to this comment. We concur that some planting may be necessary; however, in many wetlands along the river, natural revegetation occurs very quickly. The Sponsors are required to monitor the constructed wetland and respond to any corrections that may be needed. In addition to the wetlands mitigation plan, the project includes 28,000 linear feet of vegetative plantings along the Uncompahgre River to assist in erosion control and in the overall habitat mitigation. As explained in the FEIS, the 12-acre wetland is designed to mitigate the direct loss of 11 acres.

**COMMENT F-77:** The Service is concerned with the proposed bank stabilization on the Uncompahgre River and its impacts on wetland and riparian areas. The Service cannot support proposed channel straightening as discussed on pages 2-16 and 3-39. (Shortening of the stream channel could cause subsequent erosion problems both upstream and downstream of straightening.) Impacts to wetlands and riparian areas from the tailrace to Delta have not been adequately quantified in the DEIS. Bank stabilization of 24 percent of the streambanks between Montrose and Delta could cause significant impacts to fish and wildlife habitat.

**RESPONSE F-77:** The text of the FEIS includes more detailed discussion of the proposed bank stabilization measures. Channel straightening is no longer considered a viable alternative for stabilization, due to both costs and environmental impacts. Stabilization measures are limited to riprap revetments and streambank vegetation. The impacts of these measures to vegetation and habitat are discussed in the FEIS; however, reducing the potential for erosion would have significant positive impacts to fish and wildlife along an unstable river like the Uncompahgre. If erosion measures did not work, riparian habitat and other lands would be lost.

Impacts on habitat would occur with the project from the direct placement of riprap material, the revegetation of banks for stabilization, the seasonal flooding of wetland areas, and the creation of new wetlands by increased water surface elevation. More information is provided in chapter 3 of the FEIS.

**COMMENT F-78:** Based on extensive studies conducted by the Colorado Division of Wildlife (Division), the Service supports the proposed minimum flow of 300 ft<sup>3</sup>/s on the Gunnison River from the Gunnison Tunnel to the North Fork. However, minimum flow recommendations are not necessarily safe levels for constant low flows on a long-term basis. They are short-term flow recommendations that will adequately protect trout populations through various critical life stages. We recommend that coordination between the Division, the Bureau of Reclamation, and the project proponent be established so that any future measures necessary to protect the trout populations in the Gunnison Gorge could be incorporated into the AB Lateral Project.

**RESPONSE F-78:** Please see **RESPONSE** to **COMMENT F-70**.

**COMMENT F-79:** The Service is concerned with the reduced project flows from the Loutzenhizer Canal to the tailrace. The Service supports a minimum flow of 60 to 80 ft<sup>3</sup>/s from July 1 through September 30, as recommended by the Division.

If any changes in penstock alignment are proposed, the Bureau should reinitiate consultation for the clay-loving wild buckwheat.

**RESPONSE F-79:** A minimum flow of 60 to 80 ft<sup>3</sup>/s in the Uncompahgre River could be used to sustain a future put-and-take



fishery in the river as it runs through Montrose. There has been recent discussion by the CDOW about establishing such a fishery, should funding be available and planting be successful. Initial results from fishery surveys in the fall of 1989 indicate that such a fishery may develop. According to the Sponsors, providing these minimum flows would cost the project approximately \$100,000 (60 ft<sup>3</sup>/s) to \$170,000 (80 ft<sup>3</sup>/s) annually in lost power revenues; thus, they have not included this provision in their preferred plan.

The Sponsors would not use any Uncompahgre water for the hydropower facility. Existing late season flows in the Uncompahgre are largely due to the UVWUA's import of Gunnison water for irrigation. Particularly in the late summer, the project's primary impact would be to change where Gunnison water is introduced to the Uncompahgre. The Sponsors believe it is inappropriate to require upstream supplements to Uncompahgre flows when they are diverting no Uncompahgre water.

Further environmental and legal complications exist associated with providing a minimum flow to the Uncompahgre. An environmental impact would occur on the Gunnison River. If flows are not running through the project turbines, they would then be diverted from the Gunnison solely to provide instream flows in the Uncompahgre. Thus, it is not clear which represents the higher or more important use of water, the Gunnison or the Uncompahgre rivers.

Various legal obstacles would also exist to provide a minimum flow to the Uncompahgre. Water rights belonging to the Sponsors allow them to divert only those flows put to "beneficial use" (e.g., generating electricity or irrigation). Diverting flows for instream purposes is not considered such a beneficial use. Thus, the Sponsors do not feel they are legally able to make such diversions.

Under Colorado water law, only the Colorado Water Conservation Board (CWCB) may hold an instream flow right for environmental purposes. The possible exception to this is a Federal reserved right. It is questionable whether the CWCB would be willing to accept an instream flow right where such a right requires a transbasin diversion to supplement the receiving river.

Additional hydrological analysis has been conducted to more fully account for irrigation return and small tributary inflows. Results show more water available to the Uncompahgre as it flows through Montrose than was originally predicted in the DEIS. Please see **RESPONSES** to **COMMENTS S-1 and OR-21** for additional discussion on the hydrology.

For the above-mentioned reasons, the proposed minimum flow of the Uncompahgre through Montrose is not included in the FEIS alternatives. Alternative E includes provisions to supplement flows in this reach; this would reduce but not eliminate impacts.

If changes in penstock location would occur, consultation with the FWS will have to be reinitiated.

## BUREAU OF LAND MANAGEMENT

**COMMENT F-80:** The Council on Environmental Quality (CEQ) 1986 regulations for implementing the National Environmental Policy Act section 1502.16(c) requires that environmental impact statements include discussions of "Possible conflicts between the proposed action and the objectives of Federal land use plans, policies, and controls for the area." The subject EIS should recognize that the proposed project is in conflict with the Gunnison Gorge Recreation Area Management Plan (RAMP) (1985, 1988) and the Uncompahgre Basin Resource Management Plan (RMP) (1988). Both of these documents were a result of extensive agency effort and public review. Should the project be implemented, the RAMP would have to be revised to accommodate shifts in use levels and types of uses.

Our January 1989 comments to the Bureau of Reclamation state that the Gunnison Gorge SRMA is presently being managed to provide outstanding opportunities for solitude, and primitive and unconfined recreation. Management emphasis is on unique river values, pristine recreation opportunities, and maintenance of natural processes where the impacts of man are substantially noticeable. These objectives are based on the Gorge's Wilderness Study Area and recommended Wild and Scenic River status.

While the implementation of the development alternatives might not change the BLM's recommendation for wilderness or wild and scenic designation, resulting impacts would impair biological, aesthetic, and primitive recreational values for which the Gunnison Gorge is being managed. The AB Lateral project would increase walk-in use in both total user days and in length of season.

Associated impacts would include increased human sanitation waste, trash, vegetation trampling, and wildlife harassment. Outstanding opportunities for solitude would be decreased and the carrying capacity and limits of acceptable change established in the RAMP for the Gunnison Gorge SRMA would be exceeded. Not only does this conflict with the BLM's non-impairment standard for wilderness study area management, but it changes the scope and objectives of the Gorges's management plan in terms of use levels and types of uses. Necessary RAMP revisions would reduce primitive and unconfined recreational opportunities currently available in the Gunnison Gorge and result in an inflated financial cost to the federal government.

**RESPONSE F-80:** See **RESPONSE** to **COMMENT F-61** for additional information on recreation use. The BLM management plans and how they are affected by AB Lateral alternatives are discussed in greater detail in the FEIS in the recreation section of chapter 3.

Many of the potential problems cited in the comment are now occurring and will occur under no-action and development alternatives. This is because of the publicity given the Gunnison River and because flows during the recreation season do not change significantly with the project alternatives, as discussed in **RESPONSE to COMMENT F-61** and in more detail in **PUBLIC HEARING COMMENT 29**. The DEIS and the FEIS do emphasize that increased hike-in use would occur because high flows confine users to certain areas; rafting use would decline; larger rafts and large parties would be affected the most. Changes would be most apparent in the late spring and early fall and could result in revisions to BLM's RMP and RAMP.

**COMMENT F-81:** The analysis of impacts to fisheries still concentrates on game fishes and only gives cursory treatment to non-game fishes. We have consistently pointed out that the non-game fishes are critical components of the aquatic ecosystem and a linkage to the terrestrial system. They serve as the primary food source for the river otter (a candidate species for federal listing as an endangered species) and possibly an important food source to the endangered bald eagle. Although there are data and research available for the discussion of non-game fishes, the EIS has not utilized this information.

**RESPONSE F-81:** See **RESPONSE to COMMENT F-27** for additional information. The nongame fish are indeed important components of the ecosystem as indicated in the comment.

**COMMENT F-82:** The analysis of impacts to trout and the aquatic ecosystem does not incorporate short term peaks and valleys in water flows in the Gunnison River. Rather, it assumes more steady flows around the maximum and minimum averages. Based on other cases of hydropower projects, it is likely that extreme fluctuations would occur during short time periods. The EIS does not address how such fluctuations might affect trout or non-game fishes reproductive success and fry survival or benthic organisms and invertebrates critical to fisheries productivity. In the BLM's January 1989 comments on the preliminary draft EIS, we suggested that these flow fluctuations be addressed. The present document remains essentially unchanged.

**RESPONSE F-82:** Crystal Reservoir serves as a reregulating system for the two upstream peaking power dams of the Aspinall Unit. The standard operating procedure at Crystal is to release a relatively steady flow into the Gunnison River. With a few exceptions, generally caused by technical problems in Crystal powerplant, the flow records in the past 10 years show a steady flow. Thus, average monthly flows in this case provide a reliable standard for alternative analysis and impact prediction.

As indicated in the DEIS, flows from Crystal can fluctuate weekly or monthly depending on the inflow to and power demand at Blue Mesa Dam upstream. When significant release changes are needed at Crystal, they are made incrementally to give the river ecosystem and its biological communities time to adjust between

increments. Changes in diversions through the Tunnel also can cause changes in river flows. If the AB Lateral Facility were constructed, Tunnel diversions would be more stable; therefore, daily fluctuations would be even less than presently.

**COMMENT F-83:** The DEIS recognizes that impacts on the non-game fisheries, invertebrates, bald eagles, river otters and riparian environment could occur, but they are not completely analyzed or quantified. The document attempts to resolve this inadequacy by deferring to after project implementation to monitor, assess and mitigate impacts. We question whether this is an acceptable approach under NEPA. Would it not be more appropriate to provide analysis of impacts and mitigation measures prior to project implementation?

This is particularly true in the cases of the endangered bald eagles and their prey base, the river otter (a candidate species), and channel morphology of the Gunnison and Uncompahgre Rivers. The EIS indicates that bald eagles and their prey will be monitored and mitigation measures implemented if any adverse effect is detected. Not only is the same approach taken in the cases of the Gunnison and Uncompahgre Rivers, the impact assessment is based completely on simulated riverbed cross sections rather than site specific data.

**RESPONSE F-83:** The FEIS states that flow changes would not be expected to significantly affect bald eagles except during periods of extreme cold when ice conditions would develop. Therefore, specific mitigation measures are not currently presented. The program is intended to monitor these conditions to determine if impacts would occur. The monitoring program was requested by FWS. Although monitoring results could lead to changes in project operation, extensive changes in operation would probably not occur.

Reclamation would require the Sponsors to participate in annual interagency monitoring discussions concerning the Gunnison River morphology, which would include possible corrective measures should unanticipated problems develop. In addition, monitoring bank stability has been proposed for the Uncompahgre River to evaluate the effectiveness of the bank stabilization measures that would be installed as part of development. This program is an expansion of existing programs now in use by the UVWUA. See **RESPONSE to COMMENT F-77** for further information. Actual riverbed cross sections were taken for both the Gunnison and Uncompahgre rivers and have been used in the FEIS analysis.

**COMMENT F-84:** The preferred alternative should be clearly identified throughout the document. According to Section 1502.14(e) of the CEQ regulations for implementing NEPA, agencies are required to "Identify the agency's preferred alternative or alternatives." This aids in reviewing the document and presents the public and decisionmaker with a better understanding of the EIS' focus.

**RESPONSE F-84:** Alternative C was identified in the DEIS as the Sponsor's recommended plan. The CEQ regulations do not require that an agency's preferred alternative be identified in the draft EIS, but rather, say to identify the agency's preferred alternative "...if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference...."

Reclamation did not have a preferred alternative when the DEIS was prepared. However, the FEIS has now identified alternative E as the agency's preferred alternative.

**COMMENT F-85:** There are four terrestrial species and three fish species on the federal endangered species list which could potentially be affected by this project. Only one brief reference is made of the Section 7 consultation conducted on this project with the Fish and Wildlife Service. Since this agency provides the expertise on the listed species, we suggest that specific reference to the Section 7 consultation and biological opinion be provided both in the discussion of impacts to endangered fishes and wildlife and in the appendix.

**RESPONSE F-85:** The EIS has additional coverage on this subject. Section 7 consultation under the Endangered Species Act has been completed and the FWS has prepared a Biological Opinion (see attachment F).

**COMMENT F-86:** Discussion of all of these are required under NEPA Section 102(2)(3). Such a discussion provides for the public and the decision maker a summary and broader perspective on the costs and benefits of actions being evaluated in an EIS. Cumulative impacts are given only cursory treatment in this document on page 3-163.

We think that the discussion does not adequately evaluate the impacts on the wilderness and wild and scenic values in the Gunnison Gorge. The shifts in management practices cited in this section are important, but more significant in the context of cumulative impacts is the impairment of wilderness and river values and loss of solitude and primitive recreational opportunities presently being managed for in the Gunnison Gorge. The long term implications for the aquatic and riparian ecosystems of the Uncompahgre and Gunnison Rivers are complex. These are only briefly and incompletely discussed. This section does not include any discussion of long term socio-economic impacts or costs and benefits. Such a discussion is necessary to place this in regional context.

**RESPONSE F-86:** The discussion has been expanded in chapter 3 of the FEIS.

**COMMENT F-87:** The last paragraph fails to recognize that this particular wild trout fishery essentially replaces that displaced by Blue Mesa Reservoir.

**RESPONSE F-87:** Blue Mesa Reservoir did inundate an excellent fishery, although it was not strictly a wild trout fishery since stocking was necessary to maintain it, either due to more liberal fishing regulations or due to habitat conditions.

**COMMENT F-88:** As mentioned in our previous comments, working maps in the document appear to indicate that more than one acre of public land would be involved in the project. The BLM suggests that the proponents include one map in the document of sufficient size to adequately show land status and other geographic features.

**RESPONSE F-88:** Surveys taken by the Sponsors for land acquisition indicate that approximately 1.7 acres of BLM land would be permanently involved, and an additional 1.7 acres would be needed during the construction period. The FEIS has been revised accordingly. Detailed maps are available at the UVWUA office, and landowners affected by the project have been contacted.

**COMMENT F-89:** Could irrigation demands reduce flows below the 300 ft<sup>3</sup>/s minimum, particularly during drought years? If it is possible that such flows would occur (Figure 3.3 suggests they would) what might the frequency be? While irrigation demands are discrete from this project, they would contribute to impacts. Such low flows are not incorporated into the fisheries and aquatic system analysis, but could result in significantly different impacts than the EIS analysis concludes.

**RESPONSE F-89:** Regarding the frequency and probability of flows of less than 300 ft<sup>3</sup>/s, please see the **RESPONSES to COMMENTS F-13 and F-29**. Since their occurrence is so infrequent, they would not increase under any alternatives, and the frequency and probability of flows are reflected in baseline conditions, additional analysis would not yield results that are significantly different.

**COMMENT F-90:** We suggest that wilderness be included as a separate category within recreation on this summary table, as recreation and wilderness are two separate resources. Since this is ultimately a Congressional designation for long-term management and the proposed development alternative would impair wilderness values, this should be included as a separate resource value.

**RESPONSE F-90:** The summary in the FEIS has been modified to include wilderness as a separate category.

**COMMENT F-91:** Pages 2-31, 2-33, 2-46; Monitoring and Mitigation: The EIS indicates that the Sponsors will conduct monitoring of the Uncompahgre River (page 2-31) as well as prey base and bald eagle populations (2-33). At what point will mitigation measures be implemented to assure resource integrity? Are all monitoring and mitigation costs incorporated into the estimate of project costs and the cost-benefit analysis? The cost estimates on

page 2-46 should be broken down into more detailed categories to including monitoring and mitigation. This provides a clearer picture of the costs and benefits of the project.

**RESPONSE F-91:** The recommended monitoring and mitigation plan for eagles is intended to be flexible. Changes in eagle use could result from a wide variety of causes. The proposed mitigation plan, which leaves room for negotiation and adjustments depending upon the observed impact, was adopted per the recommendation of the FWS.

The Sponsors would monitor erosion along the Uncompahgre River through aerial photography at least once per year (twice per year for the first 3 years). The Sponsors would not be considered responsible for flood-related damage that would occur whether or not the project is built. Aerial photographs before and after floods would be important to determine bank erosion causes. The Sponsors would work with landowners to correct project-induced erosion, with particular attention focused on areas where economic damage (e.g., cropped fields or residences) is likely. See additional text in the FEIS in chapter 2.

All mitigation development costs are included in the financial analysis. Costs of Uncompahgre River erosion and Gunnison River eagle monitoring are included in the operation and maintenance expense of table 2.11. Eagle observations are anticipated to cost \$10,000 annually, with a like amount budgeted for Uncompahgre bank monitoring.

**COMMENT F-92:** Figure 3.3 appears to have some discrepancies. What happens to the flows under alternatives A and C at the upper end of the curve? Also, the curve for alternative C indicates that the flow will remain at or above 300 ft<sup>3</sup>/s for 50 percent of the time. This seems to be a discrepancy with the curve representing present flows. It seems more realistic that flows would still drop below 300 ft<sup>3</sup>/s due to demands beyond the AB Lateral. If the flow does drop below 300 ft<sup>3</sup>/s, the fisheries analysis breaks down, as it assumes 300 ft<sup>3</sup>/s as the minimum flow.

**RESPONSE F-92:** At the upper end of the curve, the flows for all alternatives are essentially identical. For information about flows of less than 300 ft<sup>3</sup>/s, please see **RESPONSES to COMMENTS F-13, F-29, and F-89**. Flows would drop below 300 ft<sup>3</sup>/s for all alternatives.

**COMMENT F-93:** Since sediment deposits are in low velocity areas and it takes more energy to reinitiate movement of sediment, there could be an increase in bank cutting and lateral movement in reaches where alluvial material is present (e.g., downstream of Smith Fork and in the Ute Park area).

Since flood peaks are predicted to remain the same, it would appear that the channel's tendency to downsize during prolonged low flows would reduce its ability to handle flood flows without increased bank instability, flooding, and property damage.

**RESPONSE F-93:** We concur that sediment transport capability in the Gunnison River under development conditions would be less than if no action were taken. The material would be deposited as gravel and silt bars within the channel and along the banks. As flows increase, this material would be moved downstream. Sediment is primarily deposited in the river during the thunderstorm period of July through September when flow changes with the project, particularly during low flow years, are the least. Therefore, deposition would not be significantly changed.

The high spring flows that represent flushing flows would not be significantly reduced; however, winter flows that do move some fine sediment would be reduced.

The potential for bank cutting and/or lateral movement would not be increased with development; in fact, it may be decreased. Reduced flows may somewhat encourage vegetation encroachment, which would tend to armor the banks against erosion at low and moderate flows, thus enhancing overall bank and channel course stability. Conversely, this encroachment, should it occur, would tend to increase water surface elevations during intermediate flows. However, during high flows, channel velocities would be such that this vegetation would be scoured away, subjecting the banks to erosion. Additional text has been added to the river mechanics and vegetation sections of chapter 3 of the FEIS. See also **RESPONSE to COMMENT F-34.**

**COMMENT F-94:** Page 3-72: This may be an indication that good spawning success isn't the whole story. At low flows, as indicated, there may not be adequate habitat to support older age class fish. The last paragraph may be accurate about trout tolerance of occasional siltation and high temperatures; however, it is still questionable whether the system can sustain this condition for prolonged periods and retain healthy, robust fish.

**RESPONSE F-94:** Generally, high spawning success and fry habitat availability do not always translate into high recruitment to the river system. However, fishery surveys and statistical analysis by the CDOW indicate a strong positive correlation between good fry habitat conditions and an eventual strong year class in the Gunnison Gorge. The flow regime of 300 to 400 ft<sup>3</sup>/s that produces excellent fry habits also produces adult trout habitat that is 80 to 90 percent of optimum seen at 500 to 600 ft<sup>3</sup>/s. Spawning success is more important in the Gunnison River than in many other rivers in Colorado because stocking does not take place; the river is managed as a wild trout fishery.

**COMMENT F-95:** Page 3-74: Stanford indicates that macroinvertebrates have been able to colonize the entire channel bottom under current flow conditions where flows fill the channel most of the time. At 300 ft<sup>3</sup>/s, more of the channel will be dry for longer periods. This would result in some decrease of forage production for fish.

**RESPONSE F-95:** Please see the **RESPONSE to COMMENT OR-63.**



**COMMENT F-96:** Page 3-75: As previously discussed, the deficiency in swim-up fry habitat has not posed a major problem for this river's trout population. As Stanford points out, adult population structures do not necessarily follow the success of fry recruitment in the populations. This is especially true since adult habitat conditions are optimum at higher flows. It seems ineffective to manage habitat to benefit one age class (fry) when current recruitment appears adequate and other age classes are optimized at higher flows.

**RESPONSE F-96:** Also see **RESPONSE to COMMENT F-94**. Historically, high water years and years when the Aspinall Unit spilled in June and July have had severe impacts on swim-up fry survival and the ultimate recruitment of adults to the system. Entire year classes have been lost due to high flows in June and July. However, a fishery analysis by the CDOW of the spill in 1987 indicates that the impact of sudden high flows can be reduced by incrementally increasing releases as the spill stage is reached and conversely incrementally decreasing releases as the spill subsides. This incremental approach produced a fair year class from 1987 as opposed to a probable loss of the entire year class. Historically, this happened under the more traditional spill pattern of sudden massive increases and decreases in response to the hydrograph.

Figure 3-15 in the DEIS indicated that the amount of swim-up fry habitat is approximately equal for flow conditions between 300 and 500 ft<sup>3</sup>/s. Thus, no significant difference would occur between fry survival at the slightly more optimum adult condition of 500 ft<sup>3</sup>/s than at the flows of 300 to 400 ft<sup>3</sup>/s. In conclusion, the 300- to 400-ft<sup>3</sup>/s flow regime does not optimize one life stage to the detriment of another.

**COMMENT F-97:** Page 3-85: The discussion in the second paragraph seems illogical. How can total habitat be reduced, trout numbers increase, and non-game biomass stay the same?

**RESPONSE F-97:** The DEIS did not indicate a reduction in total habitat. Total flows, not habitat, would decrease. Total habitat is not directly proportional to flow.

**COMMENT F-98:** Page 3-103: There is no evidence that cottonwoods have been present in the Gunnison Gorge at any time in the recent history. There are no relic stands or snags. Regeneration below the North Fork appears to be occurring normally.

Page 3-105: In table 3.38, only the first alluvial terrace is riparian vegetation. The other terraces would not be classified as such.

**RESPONSE F-98:** Cottonwoods occur infrequently in the Gorge and the Monument. The effects on cottonwood regeneration occur downstream from the North Fork confluence where the Gunnison River Valley expands. The FEIS text has been revised in the section where vegetation on different terraces is discussed.

**COMMENT F-99:** Page 3-112: What is the evidence for stating that increasing human use under the no-action alternative would trample riparian vegetation? Significant streambank travel is not possible most of the time under present conditions. The exception occurs during low water years. The BLM expects trampling impacts to be a much greater problem if the project is constructed.

**RESPONSE F-99:** The reputation of the Gunnison River's fishery as well as other factors has led to an increased use of the river corridor, which has caused a problem recently and which would continue under alternative A. The use would also increase, however, under development alternatives. Flow tables for alternative A show that even without the AB Lateral Facility, low flow conditions will occur frequently during the peak recreation months. Important recreation months coincide with the irrigation season; thus, the amount of additional water that can be diverted from the Gunnison River through the Tunnel would be limited. However, alternative C, with an increased Tunnel capacity, could divert more water during the irrigation season. The main effect of the AB Lateral Facility on recreation would be seen in the spring and the fall. The FEIS has been revised to include additional discussion related to impacts to water surface elevations and hence opportunity for additional foot traffic. See **RESPONSE** to **COMMENT F-61** for further information.

**COMMENT F-100:** Page 3-113: The description of the riparian system within the Gunnison Gorge and its response to the project induced flows seems simplistic and speculative. Data should be available from other river systems where similar flow modifications have occurred. This would help substantiate the analysis of expected vegetation changes. It is questionable whether riparian vegetation removal and post-flood appearance would remain the same under the development alternatives. The current flow regimes result in a stream channel and riparian community that will not react or look like the post project system. Under post-project conditions with lower base flows, portions of the stream channel will no longer be covered with water.

**RESPONSE F-100:** Please see **RESPONSES** to **COMMENTS F-50, F-52 and F-55.**

**COMMENT F-101:** It is possible that sediment contributed to the system by storm run-off will no longer be moved through the system as rapidly. These sediments result in the formation of point bars and instream gravel bars, especially downstream of large boulders. This could reduce fishery habitat quality by increasing the width-depth ratio in the active channel. This aggradation could increase lateral instability in segments of the river where stable alluvium currently exists. It appears that this project, which will not reduce peak run-off events but will reduce average annual flows, would shift this system back toward the type of flow disparities that existed prior to the upstream regulation. Available data suggest that the Gunnison Gorge

system was far less stable and productive at that time. The extensive sediment entry into the river in the summer of 1989 created many negative impacts. However, the overriding question is, "How would the AB Lateral affect these occurrences?"

**RESPONSE F-101:** The development alternatives, which would reduce average annual flows, would not significantly reduce peak flows. The spring flushing flows would still remain the key in moving sediment through the system; however, the winter flow reduction would lessen sediment transport then. See **RESPONSES** to **COMMENTS F-50, F-52, and F-55.**

**COMMENT F-102:** We seriously question the analysis of salt cedar establishment and its removal by periodic flooding. A citation should be provided for the statement that this species inhabits less disturbed sites than coyote willow.

Observation and monitoring in Canyonlands National Park along the Colorado and Green River corridors suggests that salt cedar is as competitive as coyote willow, if not more so, in sandbars and along terraces which are scoured annually by high water flows (personal communication with Tim Graham, PhD.). Furthermore, studies in Glen Canyon National Recreation Area and Grand Canyon National Park show that salt cedar can withstand being completely submerged for over two weeks (personal communication with Larry Stevens, PhD.).

Salt cedar is a highly invasive undesirable non-native species which has significantly altered riparian environments throughout the southwestern U.S. The discussion of the potential for its invasion along the Gunnison and Uncompahgre Rivers is questionable and frequent disturbance and fluctuating flows may favor the establishment of this species.

**RESPONSE F-102:** Please see **RESPONSE to COMMENT F-52.** We concur that, to a certain extent, salt cedar may invade. However, Reclamation does not believe that the encroachment would be as pervasive as the comment may suggest. Careful review of the hydrology (see figure 3.21 or attachment D) shows that flow and river elevation changes to the principal growing season would be small. Thus, only a limited opportunity for new encroachment would occur. Tamarisk invasion has not been reported in substantial amounts from 1988 to 1990, despite extended low flows, suggesting that there may be other natural mechanisms limiting encroachment. Normal project-related flows would be significantly greater than those experienced in the past few years. Lastly, salt cedar is generally found at a higher elevation than willow and is subject to less frequent flooding. The project would have little effect on the peak floods through the Gunnison.

The citation in the EIS is from Mariah and Associates (1987a).

**COMMENT F-103:** Page 3-122-123: The river otter is now a candidate for listing under the Endangered Species Act, and the

project has the potential to adversely impact populations in the Gunnison Gorge. Baseline studies should have been initiated on this protected species, at least in the Gunnison Gorge where they are known to occur. This would provide data to determine the effects of the alternatives on this species. Studies should use the best available procedures rather than waiting for new procedures to be perfected. Increased bank travel by humans and the use of larger number of campsites could create new conflicts with otter habitat.

**RESPONSE F-103:** The FEIS has been clarified to show that the subspecies of otter in the Gunnison River is not the one considered as a candidate species. During the DEIS scoping process, studies on the river otter were discussed with the CDOW. Recommendations were to review literature on otter habitat to determine possible impacts (see FEIS for citations). Increased bank travel would probably be a negative impact in the spring and the fall. Winter bank travel by anglers would decrease (in low water periods when floating ice reduced fishing), and disturbance to otters would likewise decrease.

**COMMENT F-104:** Under 1000 ft<sup>3</sup>/s and especially under 600 ft<sup>3</sup>/s, there is a marked downward trend in the quality of float boating. Float fishing quality decreases significantly under 600 ft<sup>3</sup>/s.

**RESPONSE F-104:** Personal preferences in angling vary widely. In calculating impacts to boating, commercial use was decreased from 100 percent to 75 percent between flows of 450 and 599 ft<sup>3</sup>/s and was further reduced to 50 percent for flows between 300 and 449 ft<sup>3</sup>/s. Using the same flow ranges, values for private boating were 66 percent and 33 percent, respectively. If the 75 percent cutoff is raised to 1,000 ft<sup>3</sup>/s, then projected impacts would be less than are shown in the FEIS analysis.

Applying the analysis to actual flows in 1988 and 1989 produces use levels that were well below actual use recorded, indicating that the analysis is conservative.

**COMMENT F-105:** Page 3-151: Table 3.50 shows that the higher flows are associated with lower boater use. It should be reversed to indicate that higher flows correspond to higher boater use.

**RESPONSE F-105:** This has been clarified in the FEIS. Higher flows, unless at flood level, would result in higher rafting use.

The intent of table 3.50 was to show the sensitivity of various flow assumptions below which boating use would be reduced. For example, when the minimum "full-boating" flow is assumed to be 600 ft<sup>3</sup>/s, 1,985 user days would occur along the river. This value was calculated by assuming that if the mean monthly flow was 600 ft<sup>3</sup>/s or greater, 100 percent of the potential use (under current BLM management guidelines) would be realized. However, if the mean monthly flow were between 450 and 599 ft<sup>3</sup>/s, it was assumed that only 75 percent of the maximum potential commercial

use would be realized (and 66 percent for private). If the flow were between 300 and 449 ft<sup>3</sup>/s, it was assumed that only 50 percent of the potential commercial use would be realized (and 33 percent for private).

In conducting the sensitivity analysis to determine the effect of flow levels on rafting, the lower two flow intervals (300 and 450 ft<sup>3</sup>/s) were held constant. However, the upper limit was raised to the values shown in table 3.50 (800, 900, etc.). Thus, if the mean monthly flow were 750 ft<sup>3</sup>/s, the river would support only 75 percent of the maximum potential.

The scale used for this sensitivity evaluation is based on observations, although BLM data tend to support the figures used. However, the intent of the analysis was twofold. First, the 600-ft<sup>3</sup>/s value was used as the lower limit, based upon conversations with commercial rafters during DEIS preparation. Second, it was desired to show that the 600-ft<sup>3</sup>/s value produced the greatest number of potential trips, based upon the flows expected under no-action conditions. By maximizing the numbers of trips under alternative A conditions, the DEIS could then show "worst case" impacts of the development alternatives.

**COMMENT F-106:** On page 2-33, the EIS indicates that a prey base and bald eagle monitoring program will be conducted to evaluate impacts of the project on the endangered species. At least the specific reference to page 2-23 should be included in this section.

**RESPONSE F-106:** The text of the FEIS has been modified.

## U.S. ARMY CORPS OF ENGINEERS

The following comments represent Sacramento District, COE response to the DEIS (**COMMENTS 1-8** are specific to our regulatory concerns and **COMMENTS 9-12** were provided by Sacramento District, Planning Division):

**COMMENT F-107:** (1) Page 2-12, last paragraph: Lateral erosion is expected to occur therefore, and critical areas will be riprapped. Considering the additional water introduced to the Uncompahgre River is clean and sediment "hungry," vertical degradation of the channel can be expected. If vertical degradation were to develop, a number of physical and environmental changes would ensue. More discussion on why vertical degradation will not occur would strengthen the EIS.

**RESPONSE F-107:** Additional information supporting the conclusions on vertical degradation has been added to the FEIS; however, an increase in vertical degradation is not expected to occur.

**COMMENT F-108:** (2) Page 2-16, second complete paragraph: We note that you did not include a figure illustrating the

canalization proposal. Figure 2-7 does not illustrate canalization even though a reference is made to it. Generally, we do not favor channelization, or as termed in the EIS, canalization. We presume the terms are synonymous. Channelization, which essentially results in shortening the stream length, increases the stream gradient, flow velocity and erosive forces and generally degrades instream and wetland habitats. Assuming that channelized stream banks would be riprapped, the concerns about vertical degradation (noted in a previous comment above) in any channelized stream bottom would be even more applicable.

**RESPONSE F-108:** Channelization has been eliminated as a viable alternative for bank stabilization.

**COMMENT F-109:** (3) Page 2-32, fifth paragraph: The final wetland replacement plan will also require COE approval before construction of project features, and the development of replacement wetlands would have to be accomplished concurrent with project construction. The replacement plan referenced in Chapter 3 is insufficient in describing what will physically occur at the site to develop wetlands.

**RESPONSE F-109:** Additional narrative, supported by figure 3.20 and describing the wetland plan, has been provided in chapter 3 of the FEIS.

**COMMENT F-110:** (4) Page 3-39, fourth paragraph: We need elaboration on locations of the various stabilization techniques. All of the areas requiring stabilization should be identified with an intensive mapping effort to provide a prediction of impact and alternative methods that would minimize impact. The wetland mitigation plan should be developed in advance of the EIS publishing date and should be incorporated in or appended to the EIS. The adequacy of mitigation is key to obtaining a Department of the Army permit and the preponderance of coordination should occur in advance of our receipt of a permit application. We do not see any avenue for predicting impacts to wetlands or for any minimizing impacts without the aforementioned mapping effort.

**RESPONSE F-110:** The FEIS includes only a large scale (1" = 2 miles) map showing the location of stabilization measures. Detailed maps (1" = 1,000 feet ) have been provided to the U.S. Corps of Engineers (COE) and will be included with the Section 404 Permit application. Additional details on the wetland plan are contained in chapter 3 of the EIS. The wetland area would be monitored to determine if the goals of the plan were met, and a commitment has also been made to monitor wetland impacts.

**COMMENT F-111:** (5) Page 3-108 - Wetlands: Your definition of wetlands does not accurately reflect the information in the reference. We define wetlands as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal

circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Essentially, three parameters (vegetation, soils, and hydrology) are used to define wetlands. Saturated soil conditions are not the only determining factor in wetland delineation. We suspect that much of the wetlands currently identified in the EIS are not considered jurisdictional by the COE. We have previously provided guidance to the proponent and the Bureau of Reclamation on wetlands subject to our jurisdiction. This delineation also needs to include any wetlands adjacent to the Uncompahgre and Gunnison Rivers which may be affected by the project.

**RESPONSE F-111:** As the Department of Interior agency serving as the lead agency in preparing this FEIS, Reclamation supports the wetlands definition now used by the FWS that requires the presence of only one of the three parameters (hydrology, soils and vegetation). Although we concur that some of the wetlands along the rivers and all of those along the AB Lateral may not be under the jurisdiction of the Clean Water Act in terms of the COE definition, the FWS and Reclamation will require mitigation of any affected wetland, regardless of its source of water (natural or manmade). Consequently, we have requested the Sponsors to mitigate all wetland impacts disregarding the source of water that has created the wetland.

**COMMENT F-112:** (6) Page 3-110, second paragraph: Because of the stated instability of the Uncompahgre River and proposed stabilization necessary to accommodate higher flows, the need for wetland mapping is again recognized at this juncture. The wetland acreage identified by Rector, et al, 1979 could be significantly different due to extremely high flows experienced in the early 1980's. Is there any specificity in Rector's findings; i.e., locations, types, or functions of the approximately 5,000 acres.

(7) Page 3-114: The wetland mitigation plan should be discussed in greater detail. Appropriate figures and illustrations should be included in the EIS to reflect the location and display the proposed mitigation wetlands. You should also address the numbers and species of plants to be used. The schedule of implementation should be given in the description. You should also give the proposed monitoring and reporting program for assessing the success of the mitigation and describe what methods will be used to safeguard the mitigation area from future adverse impact.

**RESPONSE F-112:** See **RESPONSE** to **COMMENT F-109**.

**COMMENT F-113:** (8) Page 3-137, fourth complete paragraph: If vertical degradation of the channel occurs, then wetlands may not be enhanced. Again, the concern regarding vertical degradation needs more discussion.

**RESPONSE F-113:** See **RESPONSE** to **COMMENT F-107**. Vertical degradation is not projected to increase.

**COMMENT F-114:** (9) The specific sites for erosion protection along the Uncompahgre River are insufficiently addressed in the report. Identified sites should be listed. Sites to be monitored but not immediately protected should also be listed.

**RESPONSE F-114:** A total of 66 sites along the river would be protected with development. The location of these sites is shown in figures 2.8a and 2.8b added to the FEIS. Post-development monitoring would include the entire river, not just a set of specific sites; the FEIS describes the monitoring plan.

**COMMENT F-115:** (10) A more durable material than sandstone should be used for bank protection. Some sandstone used in fast flowing streams on the western slope have evidenced rapid deterioration.

**RESPONSE F-115:** Locally available materials would be used for the bank protection program. These materials have been used by the UVWUA for the past 50 years and have not demonstrated significant deterioration.

**COMMENT F-116:** (11) The report should show how monitoring flows in Colona for diversion adjustment during high flows in river will be a valid prediction of flows to be expected in Delta, almost 40 miles distant.

**RESPONSE F-116:** Flows at Colona would serve as a warning indicator of flows in Delta, rather than a predictor. The Sponsors have assumed that if flows reach flood proportions in Colona, similar proportions (though not necessarily of the same magnitude) would be reached in Delta. Additionally, the Colona and Delta checkpoints would be mutually exclusive; i.e., if flows are high at either of the stations, power diversions would be curtailed. Monitoring irrigation headgates would serve as intermediate checkpoints.

**COMMENT F-117:** (12) Monitoring sites for sediment deposition should be listed. The mitigation planned for dealing with excessive deposition (if found) should be described. The confluence of the Gunnison and Uncompahgre Rivers should be one site of concern.

**RESPONSE F-117:** We concur with this comment. Aerial photography will be done to monitor for excessive deposition in addition to erosion. Additional narrative is included in chapter 2 of the FEIS.

## BUREAU OF MINES

**COMMENT F-118:** Although the report notes (page 3-139) that operating sand and gravel pits occur near the proposed powerhouse, it is doubtful these operations would be adversely affected by powerhouse construction. Sand and gravel resources, however, probably occur in the entire floodplain near Montrose,



and on the property selected for the powerhouse site. Therefore, the report should note that these resources would become irretrievable if the powerhouse is constructed on the floodplain. A short visit to the area by Bureau personnel confirmed that no active sand and gravel operations occur in the proposed powerhouse area and no other mineral resources occur along the proposed penstock route.

We recommend that the final version of the EIS incorporate the above mineral resource information. If any mineral resources would be affected by the selection of the penstock or transmission line routes, the final document should detail the mineral resource impacts and any planned mitigation procedures. In particular, if the proposed penstock would cross the natural gas pipeline, the final EIS should include a discussion of the measures to be undertaken to protect or relocate the pipeline.

**RESPONSE F-118:** The FEIS has been revised to include the suggested information. Construction of the powerhouse would prevent using the area for future gravel extraction. Some of the gravel resources at the site would be excavated to use in project construction and in developing the wetlands mitigation area.

## SOIL CONSERVATION SERVICE

**COMMENT F-119:** Soil Erosion - Erosion should be minimized if proposed action items are truly followed as described in the draft environmental impact statement. All disturbed areas such as laterals, facilities, etc., are planned for critical area planting. If performed, soil erosion should be short term.

Streambank erosion due to increased stream flows downstream may be another matter. The proposal is to use bank revetments, jetties, and realignments of the river channel to control this erosion. Definitely this needs to be done if alternatives other than "A" is performed.

Everyone needs to thoroughly understand that the intent to protect the streambank is good, but actually accomplishing this task may be hard to do. Past track records on doing this type of work by others have often been less than successful. Accounting for all aspects of the increased flow as well as the increased water velocity is very complex. Patching here and there often creates water quality problems and soil erosion farther downstream. This should be a major area of concern.

**RESPONSE F-119:** We agree that the problem of mitigating soil erosion is complex. Past experiences have not always been favorable; one major reason has been the failure to recognize that erosion is a dynamic problem. In many cases, failure has occurred because protective materials were installed but not monitored or maintained. The proposed bank stabilization program includes commitments to monitor river erosion after stabilization materials are installed and to make corrections as needed.

**COMMENT F-120:** Water Quality - There should be minimal effect here. The areas of concern would be sediment loading from streambank erosion, if proposed stabilization along the river fails. There could be a slight increase in salt loading, pesticide contamination, and nutrient loading of surface or ground water, especially if both new ground and existing cropland receive more water and mismanaged. Also, if streambank erosion is controlled, increased downstream channel erosion might occur. If this reaches shale layers, there is a possibility of increased salt loading.

**RESPONSE F-120:** We agree that minimal adverse impact would occur to water quality in the Uncompahgre River. Development of the facility would not, however, lead to irrigation of new lands. Consequently, we do not believe that additional impacts could or would occur resulting from increased irrigation.

Increased downstream soil erosion is a possible impact of the construction of proposed stabilization measures. Such erosion would, however, be limited to banks, and not the channel bed (please see **RESPONSE** to **COMMENT F-108**). The Sponsors have agreed to monitor this potential impact and to mitigate where necessary. Therefore, any impacts to water quality resulting from construction would be short term.

**COMMENT F-121:** Water Quantity - Minimum stream flows are proposed. If followed, adjacent vegetation and fisheries should not be affected to a great extent, but close monitoring is suggested, especially if Alternative C is chosen.

One other aspect of this resource item is the possible increase of ice buildup along specific areas of the river. This could be a concern in respect to property damage and accelerated streambank erosion. (At this time no definite conclusion can be made to its potential vegetative extent.)

Prime and Unique Farmland - No adverse effect on loss is expected.

Existing Soil and Water Conservation Management Systems - Only moderate changes should be expected. Some will be positive, others negative if increased management is not applied along with possible changes in cropping systems due to the increase in available water.

Irrigation water management will be the key element in most resource management system changes.

**RESPONSE F-121:** Both Gunnison and Uncompahgre River flows would be monitored. Ice would form more frequently in the Gunnison River with development alternatives and less frequently along the Uncompahgre River. Property damage due to ice on the Gunnison River is not expected to be significant; ice buildup on the river occurs naturally, and ice-free winters have only occurred since the Aspinall Unit has been operating.

## STATE AGENCIES

### COLORADO DIVISION OF WILDLIFE

**COMMENT S-1:** Alternative E, with a modification to provide minimum instream flows (60 to 80 ft<sup>3</sup>/s), on the Uncompahgre River between the Loutzenhizer Canal and the Gunnison River confluence, is the Division's recommended alternative. This alternative allows greater flexibility for fine tuning the area's water system, while providing good benefit/cost ratio for the project proponents. The Lower Gunnison Salinity Project may have dramatic impacts on the hydraulic functions of wetlands, springs, and surface water flows in the Uncompahgre River. Flexibility to manage the AB Lateral Project in concert with the Dallas, Uncompahgre, Aspinall and Lower Gunnison Salinity Projects is an invaluable tool.

Development of a 950 ft<sup>3</sup>/s penstock would leave an additional 185 ft<sup>3</sup>/s, from the preferred action, which can be used to maintain minimum flows on the Uncompahgre River or enhance recreational uses on the Gunnison River during the peak summer use months. These additional water flows might also be used to maintain a fisheries in the South Canal, mitigate wetland losses associated with the lower Gunnison Salinity Project, or supplement agricultural or domestic uses as the Uncompahgre Valley continues to develop. The flexibility and cooperation of the Bureau of Reclamation and Uncompahgre Valley Water Users over the past decade is an excellent example of how the Division would like to see water management in the area continue.

**RESPONSE S-1:** Flows in the Uncompahgre River between the Loutzenhizer Diversion Dam and the tailrace would be reduced below those recommended flows. Alternative E would improve this situation during the irrigation season by providing 1,000 acre-feet of additional flow, which would help but not completely resolve the situation. Additional flow data have been developed to account for irrigation return and inflows from small tributaries downstream of Colona, and the result has increased estimates of flows through Montrose. Text discussions in chapters 2 and 3 have been modified to show this.

Please also see **RESPONSE** to **COMMENT OR-21** for return flow calculations. While these flows would be averages and not minimums, they may somewhat alleviate your concerns. The minimums would not be met, however, and this would prevent or reduce the opportunity for a fishery in this area. See **RESPONSE** to **COMMENT F-79** regarding minimum guaranteed flows.

**COMMENT S-2:** The Division continues to be concerned about fish losses through the Gunnison Tunnel. Further discussion is necessary on what measures will be taken during the winter months to prevent fish losses when the South Canal is shut down. A sustained public beneficial use of trout passing through the Gunnison Tunnel is desirable. The Division also suggests further discussion on establishing safe, public fishing along designated areas on the South Canal to expand recreational areas and economical opportunities in the area. We will continue to work with BOR and UVWUA on these issues.

**RESPONSE S-2:** The text (Chapter 3, fisheries) has been modified to discuss winter operation for fish losses. Public fishing on the South Canal is not included as part of this project due to land ownership patterns and safety and liability concerns. This does not prevent development of this fishing sometime in the future.

**COMMENT S-3:** The project has potential to enhance fisheries, waterfowl, and other riverine related wildlife values below the tailrace. Further discussion of how the potential might be developed and managed are necessary. For example, if a good trout fisheries becomes established in the Uncompahgre River between Montrose and Delta, what steps will be taken within the confines of the project to maintain this fishery during the down time month when water won't be diverted through the tunnel?

**RESPONSE S-3:** Discussions would continue and the potential for "fine-tuning" operations exist. For example, powerplant downtimes can be coordinated with Ridgway Reservoir releases or Crystal Powerplant maintenance. In addition, an environmental commitment has been added to the development alternatives to provide a basis for resolving future problems.

**COMMENT S-4:** River morphology below the tailrace needs further discussion. Project impacts on wetlands, riparian systems, overflow channels, and streambank stability are important issues. We recommend the river channel be maintained as natural as possible, emphasizing stream bank stability by maximizing management techniques which enhance riparian vegetation, overflow channels, and wetlands. Riprapping should occur only in sensitive agricultural areas and developed areas. This project provides an excellent opportunity to cooperate with landowners in the development of river management tools which will enhance wildlife habitat and land values.

**RESPONSE S-4:** Information has been added to the FEIS that provides more detailed explanation of the river morphology and bank stabilization program. River channelization has been eliminated from the bank protection plan; rather, bank protection as described in chapter 2 would consist of riprap or vegetation planting. A more detailed analysis of wetland impacts due to bank stabilization and water flow changes is included in chapter 3.

## COLORADO DEPARTMENT OF HIGHWAYS

**COMMENT S-5:** We request that the project continue to be coordinated with the Department of Highways office in Grand Junction, Colorado, and that when plans for crossings of State highways in the area are developed we be given the opportunity to review those plans prior to our actually permitting the crossing areas.

**RESPONSE S-5:** Reclamation and the Sponsors would continue to coordinate project activities with the Colorado Department of Highways. Plans for State highway crossings would be submitted before requests for permits.

## STATE SOIL CONSERVATION BOARD

**COMMENT S-6:** Thank you for the opportunity to comment on the AB Lateral Hydropower Draft EIS.

We view this project as having--and feel it will have--a serious detrimental impact on the soil and water resources in the area for which we have been given partial responsibility to protect by the State Legislature. This project poses to be much more environmentally damaging than hydropower generation when done without using transtributary diversions.

Streambank erosion is a serious problem that development alternatives will certainly perpetuate. Much of the Uncompahgre River channel consists of sand and gravel deposits which are very erosive when subjected to continuous flows that this report cites will take place. These alluvial materials will be deposited at bridges, irrigation facilities, or in the channel, causing further migration of the channel. These conditions will cause higher maintenance costs to land owners along the river, as well as higher costs to the public in added maintenance costs to public facilities along the river.

**RESPONSE S-6:** Streambank erosion is recognized as a significant concern through adding additional flows to the Uncompahgre River. Under present conditions, additional water (approximately 700 to 800 ft<sup>3</sup>/s) is added to the river south of Montrose, an operation that has been ongoing for more than 50 years. The AB Lateral Facility would greatly increase flows north of Montrose in the winter (as much as 950 ft<sup>3</sup>/s with alternative E and as much as 1,135 ft<sup>3</sup>/s with alternative C), causing lateral erosion that would require streambank stabilization. Additional information on this program is contained in chapter 2 of the FEIS. Also please refer to the **RESPONSES** to **COMMENTS F-107** through **F-118** for additional information.

**COMMENT S-7:** A marine formation known as Mancos shale underlies much of the Uncompahgre River. This formation is very high in salt and is a leading contributor to high salt levels in the Colorado River. In areas where lateral movement of the river is eliminated and water velocities are increased by pinching the channel with riprap, the streambed will degrade. As this occurs, water quality will also degrade from salt as well as from sediment. Deepening of the channel will impact riparian areas by lowering water tables, which, in turn, will reduce vegetation. As this riparian vegetation is reduced, the soil will become more subject to erosion. Wildlife habitat will be reduced, and the general health of the riparian area will be degraded as the water table is lowered through channel degradation.

**RESPONSE S-7:** Chapter 2 and the soils and vegetation section of chapter 3 of the FEIS have been expanded on this issue. Studies show that degradation of the channel would not occur because of the development alternatives. Channelization has been eliminated from the plan so that "pinching of the channel" should not occur. Riprap would be primarily used on the outside eroding bends of the river. The FEIS also contains additional information on the effects on wildlife habitat.

**COMMENT S-8:** We are also concerned that sustained lower flows in the Gunnison River will not maintain an adequate channel. Vegetation will encroach into the channel causing excessive scouring when high flows do occur.

The increases in salt and silt loading from high flows in the Uncompahgre and the impact they will have downstream are our main concern. Channel stability needs to be more adequately addressed before the project proceeds.

**RESPONSE S-8:** Flows would decrease in the Gunnison River. The decrease is the least in the growing season (because the Gunnison Tunnel is already diverting water for irrigation), and this may prevent significant increases in riparian vegetation. The EIS does predict an increase in vegetation and also predicts that the spring runoffs, largely unaltered by the project, would continue as presently to scour vegetation from gravel bars and control the morphology of the river. However, the EIS does not predict an increase in salt loading, because conveyance facilities would be lined and the stabilization program on the Uncompahgre River would largely control lateral erosion.

# LOCAL AGENCIES AND ORGANIZATIONS

## WESTERN COLORADO CONGRESS

**COMMENT OR-1:** It is clear that the DEIS was prepared in great haste, leaving much important information poorly covered, undocumented, unstudied, unattributed, or just plain missing. No worst case analysis has been done for any part of the DEIS, despite large chunks of missing information. Numerous statements of opinion appear throughout the document, without any mention of their source or documentation. Any such statement must be disregarded, since the authors of the DEIS have much to gain from approval of the project and, therefore, cannot be regarded as impartial researchers.

### PURPOSE AND NEED

The DEIS claims the purpose of the project is to produce electricity, develop a renewable resource, improve the UVWUA irrigation system, and pay off UVWUA debts.

To document need for electricity, the DEIS cites a 15-year contract with Public Service Company to buy the power, beginning in 1992, and also cites figures and studies detailing Public Service Company projected needs for the next 10 years.

The DEIS, however, does not mention the fact that regionally there is a glut of surplus power which could be used to meet Public Service Company's needs, and that the need for AB Lateral power reflected in the contract with Public Service Company is artificially created by the Public Utilities Regulatory Policies Act (PURPA) of 1978. PURPA guarantees the sale of power from cogeneration projects such as the AB Lateral at rates equal to the cost a utility avoids by not having to build a new, large powerplant.

After receiving the AB Lateral application for power sales under PURPA, Public Service Company asked the Colorado Public Utilities Commission (PUC) for a moratorium on PURPA contracts, stating that it did not want and couldn't afford all these new projects. Public Service Company specifically requested that the PUC not require Public Service Company to purchase power from the AB Lateral project and four others. That moratorium was granted for large projects. Mitex was originally included in this moratorium, but petitioned to be excluded and eventually was. A new system to regulate PURPA projects is now in place, but because Public Service Company had already received the AB Lateral proposal, it was forced (by the PUC) to continue negotiations in good faith, resulting in the cited 15-year contract.

**RESPONSE OR-1:** A need for electricity in the region has been identified in the EIS and **RESPONSE** to **COMMENT F-6**. Additional information is provided in **RESPONSES** to **COMMENTS OR-3** and **OR-4**. Among other things, PURPA mandates that utilities are required to buy power from cogenerators and small power producers at rates that:

... shall be just and reasonable to the electric consumers of the electric utility and in the public interest, and ... shall not discriminate against cogenerators of qualifying small power producers. No such rule ... shall provide for a rate which exceeds the incremental cost to the electric utility of alternative electric energy (PURPA, Section 210(b)).

The price at which power from the facility would be sold in 1990 is approximately 4.1 cents per kilowatt-hour, escalating thereafter at about one-half the general inflation rate. Colorado-Ute currently sells wholesale power to its distribution members for about 4.2 cents per kilowatt-hour and is currently seeking rate increases. By comparison, AB Lateral rates of 4.1 cents per kilowatt-hour are thus reasonable.

The CPUC direction to Public Service Company and the Sponsors to negotiate a power sales contract was contingent upon the project not contributing to an over-capacity situation. Public Service Company and the Sponsors jointly presented the completed contract to the CPUC, and the contract was subsequently approved in June 1988. It is unlikely that the CPUC would have granted approval if the rates would cause significant negative impact to Colorado consumers. Avoided costs, which were set by the CPUC and guide contract rates, are in accordance with PURPA, Colorado State Law, and CPUC regulations.

Laws such as PURPA were enacted by Congress. By statute, they are implemented by other governmental agencies (the FERC and the State public utility commissions). It is beyond the scope of this FEIS to discuss the merits of these laws. We note nonetheless that a need for power exists independent of PURPA; Reclamation has relied on the predictions of the WSCC and the Public Service Company and the actions of utility regulators in verifying this need.

**COMMENT OR-2:**

A. The need for electricity cited in the DEIS is artificial and taken out of context. A broader look at the situation would show that the ability to meet all regional needs for electricity in the next 15 years already exists.

B. Furthermore, the Bureau's narrow analysis of need ignores the impacts the project would have on local electric utilities, power costs to the consumer, or conservation. While such an analysis is not required to be tied to each alternative (Bureau NEPA Handbook Section 4-8), it is required as an analysis of project impacts in section 4-10.F, "Energy requirements, conservation potential and effects on natural or depletable resources should be a part of the impact analysis."

1. Production of the 48 to 38 megawatts of power from the AB Lateral, with its guaranteed sale in a glutted market, would displace the same amount of power from elsewhere on the



grid. That amounts to unfair competition with existing utilities. One of those, Colorado-Ute Electric Association, headquartered in Montrose, has substantial surplus capacity which it is offering for sale at discount rates.

Colorado-Ute's manager of electrical engineering, Raymond Keith, stated in the Grand Junction Daily Sentinel of May 29, 1989, that the 45 to 50 megawatts of power produced by the AB Lateral and sold to Public Service Company would displace about half of Colorado-Ute's present 10-year sales contract with Public Service Company. That contract expires when the AB Lateral is scheduled to go on line.

In the meantime, Colorado-Ute's surplus capacity and poor management have recently forced the utility into Chapter 11 bankruptcy. This is a substantial and significant impact to the region. While rejecting the AB Lateral project would not prevent the bankruptcy, it may aid in returning Colorado-Ute to solvency.

**RESPONSE OR-2:** Please see **RESPONSE** to **COMMENT F-6**.

**COMMENT OR-3:**

2. Another potential source of new power is conservation. Forced purchase of new capacity by Public Service Company or any utility delays the moment when the utility can economically institute reforms or measures aimed at conserving energy, or encourage its customers to build disincentives to conservation into the system, resulting in increased consumption of natural, nonrenewable resources.

Relief we request:

1. A revised DEIS purpose and need section that discusses the need for electricity based on a larger regional context, present regional surplus capacity, and the need to keep utilities solvent.

2. A revised DEIS that includes in the impact analysis a section on how selling AB Lateral at high prices to a guaranteed market will impact other regional power suppliers, the future of regional utilities and the costs to consumers of this power.

3. If Public Service Company purchases Colorado-Ute its needs for power in the future will change significantly. That change must be reflected in a revised DEIS section on purpose and need.

**RESPONSE OR-3:** As stated in **RESPONSE** to **COMMENT OR-1**, Public Service Company signed a contract in 1988 with the Sponsors to purchase project power. Any subsequent offers by Public Service Company to purchase additional generating assets would include considering existing contractual obligations to the Sponsors.

The Sponsors have confirmed that Public Service Company included project deliveries in their base forecasts. Please see **RESPONSES** to **COMMENTS F-6** and **OR-1** for additional information.

**COMMENT OR-4:**

4. A revised DEIS must take into account the project's impacts on conservation and depletion of natural resources.

**RESPONSE OR-4:** The conservation potential of Public Service Company, as well as other regional utilities, would remain intact after the AB Lateral is completed. Construction of the project would not eliminate any conservation options, nor make them more expensive. For example, a conservation measure used by Public Service Company is its demand management program that, through demand diversification, is expected to continue to help offset the need for additional construction. Anticipated load savings from this program were included in their base forecasts and projections of additional power needs.

In addressing impacts on the depletion of natural resources, it is assumed (based on the comment letter) that the reference is to natural resources such as coal and oil. The primary natural resource involved in this project is water, which is considered renewable. The facility would lessen the need for energy produced from nonrenewable resources such as coal and oil. Approximately 450,000 barrels of oil per year (or 140,000 tons of coal per year) would be needed to equal the energy that would be produced under alternative C; therefore, conserving these natural resources as a result of this project should occur. Additional text has been added to chapter 3 of the FEIS. See **RESPONSE** to **COMMENT OR-128** for additional information on the decision not to reissue the DEIS.

**COMMENT OR-5:**

SELECTION AND RANGE OF ALTERNATIVES

The Bureau of Reclamation (Bureau) National Environmental Policy Act (NEPA) Handbook and the Council on Environmental Quality (CEQ) NEPA regulations describe the alternatives chapter of an EIS as "the heart of the environmental impact statement."

CEQ regulations (1502.14) require federal agencies to rigorously and objectively evaluate all reasonable alternatives, including those not within the jurisdiction of the lead agency, in order "to provide a clear basis for choice among options by the decisionmaker and the public."

However, with the exception of the No Action Alternative (A), the AB Lateral DEIS includes only alternatives (B, C, E, F) that are clustered on the high end of the scale of proposed actions. All divert large amounts of water year-round, generate substantial income for the project's sponsors, and have similar, significant negative environmental, economic and social impacts to the

surrounding region. Reasonable alternatives that divert less water and subsequently generate less income but have fewer and less significant environmental, social, and economic impacts are either not included in the DEIS or were dropped from study (F-3 through F-8, G, and H).

Only one alternative (F) proposes to mitigate some of the environmental impacts. However, its mitigation measures were vaguely and incompletely presented, and no studies were made of the effectiveness or viability of those measures. Meaningful analysis of this alternative in the DEIS is thus impossible.

The similarity of alternatives described in the DEIS and the lack of small scale project alternatives violates CEQ regulations requiring all reasonable alternatives be considered (1502.14). It further violates the Bureau's NEPA Handbook, Section 4-9B, which states: "Each alternative should be a distinctly different approach, and may emphasize the achievement of some objectives at the expense of others."

The current solution of alternatives doesn't allow for adequate analysis of the project by the reviewing public, which is being asked to comment on the diversion of a public resource for private gain.

In fact, the skewed range of alternatives prejudices the DEIS and consequently the public and federal decision makers in favor of a large project, with substantial and widespread impacts, even if the least damaging alternative is selected.

**RESPONSE OR-5:** The DEIS and the FEIS explain the alternative selection process. A range and variety of alternatives are discussed; only reasonable alternatives are analyzed in detail. One criteria for determining if an alternative is reasonable is whether it is financially feasible. In the case of a private project such as the AB Lateral Facility, the project must be financially feasible to be reasonable.

It would not be appropriate to present alternatives that are not financially feasible. This would only mislead decisionmakers and the public into believing that certain alternatives are legitimate when in fact they could not be implemented. Additional text regarding alternatives has been added to chapter 2 of the FEIS.

Mitigation measures were a part of all alternatives examined in detail in the DEIS (alternatives B, C, E, and F) and included minimum flows and mitigation for endangered species, wetlands, and bank erosion.

**COMMENT OR-6:**

B. Alternatives dismissed from further study were eliminated, based on secret economic data and an arbitrary and undisclosed determination of what amount of profit is acceptable to project sponsors.

1. The method of determining economic feasibility was presented in the DEIS as a benefit-cost ratio. Any alternative rating 1.00 or higher was considered feasible and retained. Those below 1.00 were considered infeasible and eliminated.

However, with a benefit-cost ratio of only 1.056 for the sponsor's preferred alternative (C), it seems obvious that there is a hidden margin of profit embedded in the numbers. No prudent investor would sink \$63 million in a project that only returned five cents on the dollar - you can get a better return at the bank. The sponsors admitted in private communication with representatives of Western Colorado Congress that there is indeed an undisclosed figure in the benefit-cost ratio on the cost side that represents the acceptable rate of return on the sponsor's investment.

Thus, the DEIS benefit-cost ratio does not represent a true benefit-cost ratio or even the actual economic feasibility of any alternative. Instead, it represents the amount of guaranteed profit the sponsors desire before building any alternative.

2. Nowhere in the DEIS is this fact disclosed, even though the benefit-cost ratio used is described in summary on page S-11, and in extensive detail on pages 2.40 and 2.44. Instead, as on page 2.40, the benefit-cost ratio is represented as a strict comparison of the costs of building the project versus benefits to the sponsors: "The benefit/cost ratio for each of the alternatives (F-3 through F-6) is less than 1.0, implying that the costs of development incurred by the Sponsors are greater than the benefits."

The actual numbers remain unknown, as does the Sponsor's acceptable rate of return.

3. Because the benefit-cost ratio was used to determine which alternatives were included in the DEIS; because it was used to eliminate alternatives with lesser negative impacts from consideration as uneconomical; and because it can be further construed to mean all smaller scale projects are uneconomical and therefore infeasible; the omission of a description of the "acceptable rate of return" component of the benefit-cost ratio in the DEIS significantly influences the public, elected officials, and federal agencies' ability to review the project adequately.

**RESPONSE OR-6:** In the FEIS, costs and financing and summary comparison of alternatives sections in chapter 2 have been clarified regarding financing plans. The Sponsors plan to

finance the project with a combination of equity and debt, each carrying a cost with it. To raise debt, the Sponsors must agree to pay a certain interest rate. For equity, they must show a projected "return on equity" to the investor. Typically, returns on equity must be higher than debt interest rates since a great deal more risk exists that projected equity returns will not be met.

For a particular alternative to be financeable, financial projections must show that the project is able to repay both equity and debt at market rates. Current estimates for such rates are approximately 10 to 12 percent for debt interest and 18 to 25 percent for equity returns. Combining equity and debt costs results in an overall "cost of capital" to the project, estimated to be 13 percent for calculations performed for the financial feasibility ratio.

The Sponsors may or may not provide the equity for the project themselves, depending upon the market at the time of financing. As the Sponsors may not supply the equity and since equity returns are such a function of the changing private capital markets, equity rates have been considered for this EIS as a cost of financing rather than profit. The actual profit for the Sponsors would more accurately be represented by the amount by which the financial feasibility ratio exceeds 1.0; that is, the amount of money remaining after expenses and financing requirements have been met.

Equity and debt returns are in no way guaranteed; they are only projected. However, should projected revenues be insufficient to meet expenses and capital costs, including market debt and equity interest rates and returns, the Sponsors feel they would be unable to finance the project.

**COMMENT OR-7:** This omission (of the acceptable rate of return) violates the Bureau's NEPA Handbook section 4-12: "The NEPA is not interpreted as requiring the release of proprietary information; however it is a full disclosure law and Federal agencies are expected to have and report sufficient information on the project to allow informed public review, and be able to make a responsible decision."

Instead, as presented in the DEIS, the benefit-cost ratio smacks of disinformation tactics. Moreover, the use of the word "implying" on page 2-40 is unusual in describing a factual statistic, and indicates that the Bureau, as author of the DEIS, knowingly covered up the true nature of the benefit-cost ratio.

**RESPONSE OR-7:** See **RESPONSE** to **COMMENT OR-6**.

**COMMENT OR-8:** The alternatives selected in the DEIS ignore proposals by outside entities to develop a profitable hydroelectric project on the UVWUA system. The alternatives also ignore the Bureau's own studies which have determined that a

small scale project on the UVWUA South Canal is economically viable and attractive. This is a blatant violation of NEPA and CEQ NEPA regulation 1502.14.

**RESPONSE OR-8:** Other alternatives were considered, including alternatives using the South Canal, which were determined to be financially infeasible under existing conditions. Therefore, these alternatives have not been presented in detail. This does not violate National Environmental Policy Act of 1969 (NEPA) nor CEQ regulations. See also **RESPONSE** to **COMMENT OR-9**.

**COMMENT OR-9:**

1. The town of Norwood's current proposal to build a 900 ft<sup>3</sup>/s project on the Uncompahgre Valley Project's South Canal was not considered. This proposal is smaller than the smallest alternative included in the DEIS (alternative E, a 950 ft<sup>3</sup>/s project on the AB Lateral), and is proof that small projects are economically feasible and should be included within the range of reasonable alternatives.

We ask that the DEIS be revised to remedy current inadequacies. Specifically, we request:

1. Inclusion in the selection of alternatives examples of small scale projects that balance electricity and revenue generated against lesser environmental, social, and economic impacts.

2. Inclusion in the selection of alternatives existing proposals from outside entities, or:

3. Exclusion of those alternatives in a revised DEIS, but inclusion of a comparison of the Sponsor's proposed alternatives with those proposed by other entities, detailing power and revenue generated, and environmental, social, and economic impacts.

4. Use of benefit-cost ratios where 1.0 represents break even, or where the investor's acceptable rate of return and the difference that represents from break even is explicitly mentioned.

**RESPONSE OR-9:** The FEIS includes several projects smaller than the one preferred by the Sponsors (alternative C). Alternatives B and F are approximately 5 percent smaller, and alternative E is 20 percent smaller. In addition, several other alternatives were also analyzed, including alternative H (29 percent smaller) and alternative G (70 percent smaller); these two were not feasible. Alternative G is similar to the Norwood proposal as described in the comment.

Reclamation published a Notice of Intent to contract for hydropower development on the Uncompahgre Valley Reclamation Project (UVRP) in the December 9, 1985, issue of the Federal

Register (50 FR 50238). Reclamation received one proposal in response to the notice, the proposal submitted by the Sponsors. Proposals from other entities were not received and, therefore, were not evaluated. The EIS was subsequently prepared in response to the proposal submitted by the Sponsors.

The financial feasibility ratio used in the FEIS includes the financing cost to the Sponsors, a reasonable way to examine whether alternatives are feasible or not. See **RESPONSE to COMMENT OR-6**.

**COMMENT OR-10:**

IMPACT ON IRRIGATION SYSTEMS

In a discussion of the impact of construction alternatives on irrigation systems, the DEIS states on page 3-31, "the source of flows [referring to proportions of Gunnison and Uncompahgre water] would affect water quality considerations."

Since this statement is made in the context of irrigation systems which are specifically intended to serve cropland, the impact of these water quality considerations on cropland should be addressed. Yet nowhere - not in this section, nor in the section on soils and vegetation - is this done.

An adequate analysis of environmental impacts would at a minimum address the questions: Are the growth and yields of any of the usual or probable agricultural crops affected by these water quality deteriorations? Is the edibility or toxicity of any of these crops affected - in the short term or in the long run? The toxicity of Uncompahgre River water has been reduced by the Ridgway Reservoir, but the dependence of the UVWUA irrigators on Ridgway water will increase with the project. What is the net effect of the shift on irrigation and fisheries in the Uncompahgre River?

**RESPONSE OR-10:** Development of the project would not affect the water quantity now delivered for irrigation. However, development would increase the amount of Uncompahgre River water delivered to the Loutzenhizer and Montrose and Delta Canal systems. Land irrigated by these two canals contains about 30 percent of the UVRP, which was addressed in chapter 3 of the EIS.

On an mean annual basis, the average flows in the Uncompahgre River below the South Canal would be 540 ft<sup>3</sup>/s for alternative A conditions, with about 319 ft<sup>3</sup>/s of this flow diverted from the Gunnison River. Using the average annual specific conductance at the Colona and East Portal stations (605 and 189 µmhos, respectively), the weighted annual specific conductance under no- action conditions would be 359 µmhos. In terms of total dissolved solids (TDS), this value would approximately equal a TDS concentration of 233 milligrams per liter (mg/l).

During the irrigation season (April through October), the average flow in the Uncompahgre River just below the South Canal would be approximately 841 ft<sup>3</sup>/s. Diversions from the Gunnison River comprise about 63 percent of this flow, or 529 ft<sup>3</sup>/s. Using the (mean monthly) specific conductance values for the East Portal and Colona gauging stations, the weighted specific conductance of this flow would be 294 µmhos; for TDS, the weighted concentration would be approximately 191 mg/l.

Under development conditions, Gunnison River flow contributions through the South Canal would be substantially reduced. During the irrigation season, flows in the river below the South Canal would be approximately 518 ft<sup>3</sup>/s, of which 206 ft<sup>3</sup>/s would come from the Gunnison. The weighted specific conductance and TDS concentrations would be 362 µmhos and 235 mg/l, respectively. Using average annual post-development flows, these values would be 457 µmhos and 275 mg/l, respectively.

Therefore, the impact of development would be to increase the concentration of TDS during the irrigation season for canals diverting south of Montrose from 191 to 235 mg/l, or approximately 23 percent. The U.S. Environmental Protection Agency (EPA) guidelines suggest that detrimental effects to agricultural practices would not usually be noticed until concentrations reached 500 mg/l (1976). Thus, even though development would increase the concentration of TDS, secondary impacts to irrigators using this water would not occur. Canals diverting north of Montrose would receive water with lower TDS than they do under the no-action alternative.

For many years, several canals have and continue to divert pure Uncompahgre flows upstream of the South Canal terminus. While these canals receive no Gunnison River water dilution, no reported problems exist with water quality affecting crops. In addition, the UVWUA has frequently cut back on Gunnison water diversions during the spring runoff, primarily using Uncompahgre flows to supply the majority of irrigation water, without any reported adverse effects. Winter livestock diversions throughout the valley also occur when no Gunnison River water is imported.

The **RESPONSE** to **COMMENT F-71** indicates that exceeding State water quality standards for trace metals would not occur by implementing the project. State water quality standards are designed to protect the designated uses of water, one of which is irrigation; therefore, no impact would occur on the use of the Uncompahgre River water for irrigation or to irrigated crops.

**COMMENT OR-11:** Pages 3-98 to 3-101 of the DEIS include description of the soils in the penstock area, but there is no mention of soils in either the Gunnison or Uncompahgre corridors. We assume that some soil does exist in these areas. Later reference in the soil section of the DEIS on vegetation is inadequate. These are important areas of concern, deserving serious attention. What soils are found in these riparian areas? What depth are they, and what underlies them? How many acres of



each type? At what slope angles? At what elevations from the riverbed? What are the potentials for erosion under changed flow conditions? What changes may occur in soils productivity as a result of changes in water tables and river flows? What salts, minerals and heavy metals do these soils contain? What is the potential for leaching? Answers to these questions are critical to understanding impacts to the rivers' ecosystems. Since these questions were not studied, any conclusions drawn about the impacts may be erroneous. These questions must be studied and documented by qualified scientists.

**RESPONSE OR-11:** Soils in the Gunnison River corridor were described in figure 3.18, page 3-104 of the DEIS. Uncompahgre River corridor soils were described on page 3-106 of the DEIS. Riparian vegetation along the Gunnison and Uncompahgre Rivers were described in pages 3-101 through 3-106. In addition, more information has been provided to chapter 3 in the FEIS.

The potential for erosion to occur under increased flow conditions has been studied and is documented in the DEIS (see pages 3-33 through 3-39). Further studies regarding erosion and bank stabilization done by the Sponsors at Reclamation's request have resulted in data included in the FEIS in chapter 2 and in the soils and vegetation section of chapter 3. Changes in water tables would not affect soil productivity.

Agricultural lands currently existing along the river are generally well above (5+ feet) the river elevation. The increased flows would increase water surface elevations about 2 feet under maximum flow conditions during the winter. This elevation change would not be expected to significantly increase ground-water elevations. For lands used for other purposes, the increased water surface elevations would not affect vegetation species that now exist in these areas. However, the elevation change could result in a change of the dominant species in certain areas.

The potential for chemical leaching (harmful or not), exists under all alternatives, including the no-action alternative. This impact would be mitigated with development alternatives by introducing additional water from the Gunnison River. Reclamation has estimated that no increased salt loading would occur resulting from development.

**COMMENT OR-12:**

**VEGETATION, WETLANDS, AND RIPARIAN HABITAT**

**A. Gunnison River**

The DEIS's analysis of Gunnison River vegetation is completely inadequate. A simple list of species is not considered a scientific study. What amounts of what species are found, in what areas, in what ages, in what state of health, at

what levels from the river, etc? What is the importance of these plant communities to mammals, birds, insect life, and endangered species?

The "inventory" of vegetation in the Black Canyon discussed on page 3-113 should not be confused with a true study, and cannot project impacts.

Page 3-113 mentions that "occasional high water would flood out certain areas." How often? How many acres? What changes would this cause in vegetation?

On the same page, it is stated that "reduced flows will not impact vegetation on the second terrace." However, according to Dick Guadagno, an engineer hired by Western Slope Energy Research Center to study the effects of the AB Lateral on riparian habitat, reseeding will be impacted. (His study is attached to this document). Guadagno states that as the riparian water table drops, "the greatest effect will be the inability of the vegetation to regenerate" (Guadagno, page 3). Some trees may adjust, but not all. Seedlings will never start. Changes in vegetation will then affect the area wildlife.

Data on the Gunnison below the North Fork is inadequate. ONE SENTENCE of the DEIS is devoted to discussion of vegetation in the lower Gunnison area! Again, what amounts? What species? What importance to wildlife? How will low flows affect the vegetation? What effect will a higher concentration of sediments and pollutants have? What effect will concentrated irrigation return flow have?

Assessment is also needed of the problem of winter kill (see Guadagno, page 3).

It is painfully obvious that no study of wetlands was done for the Gunnison, either above or below the confluence of the North Fork, since it is not even mentioned. We have the same questions about wetlands as we do about vegetation - how many acres, how important to wildlife, etc.

**RESPONSE OR-12:** We appreciate your concern about the suitability of data regarding vegetation and the appropriateness of the scientific study. However, we feel that suitable data are available for predicting the impacts of the project upon riparian vegetation along the Gunnison River. These impacts are based on predicted flow changes and the professional judgment of qualified biologists after an area field survey. Revisions have been made in the FEIS where appropriate. Please see **RESPONSES to COMMENTS F-50, F-52, and F-55, and OR-34** for additional information.

**COMMENT OR-13:**

B. Uncompahgre River

Wetlands in the Uncompahgre River corridor are described in two sentences on page 3-110. To state the problem in the understated style employed in the DEIS, more study is needed. Again, any conclusions about impacts drawn from such inadequate information cannot be considered reliable.

The National Environmental Policy Act (NEPA) requires full study of all impacts of all alternatives in the DEIS, in order to allow the public, local governments, and state and federal agencies to fully evaluate the proposed project. The AB Lateral DEIS was released, however; with only preliminary study of impacts to the Uncompahgre River corridor, and before in-depth studies on erosion, wetlands, and mitigation were completed. This is a clear violation of NEPA and Section 4-12 of the Bureau's NEPA Handbook: "Bureau policy is not to move ahead on proposals where relevant information is lacking so as to preclude the meaningful analysis of alternatives, impacts, or the means to mitigate impacts."

Overall, the Uncompahgre River is inadequately studied. Of course there are cottonwoods! But what else? How many acres? How close to the river, what elevation above the riverbed, for what percent of the river's course, in what areas, continuous or discontinuous, and of what importance to wildlife? A botanist should have been hired to study these issues.

On page 3-114, the description of impacts on the Uncompahgre lacks documentation and quantification. How many acres? How much erosion? Losses must be quantified. What species will be affected? Estimates cannot be reliable if based on inadequate studies. The information included in this portion of the DEIS is simply a set of opinions, not ascribed to any source.

1. Above the tailrace: On the same page, the discussion of the Uncompahgre River corridor lacks proper documentation and fails to mention drastic changes in wetlands from the South Canal to the powerhouse. How will it affect riparian vegetation? What subsequent changes in wildlife use will occur? In waterfowl?

2. Below the tailrace: Western Slope Energy Research Center (WSERC), a community group of the Western Colorado Congress, hired engineer Dick Guadagno to study the effects of the AB Lateral project on the riparian habitat along the Gunnison and Uncompahgre Rivers. His analysis is enclosed, as part of WCC's official comments. The DEIS failed to cover the issues Guadagno explored.

**RESPONSE OR-13:** More information is presented in the FEIS in the soils and vegetation section of chapter 3. Also, see table of contents to the responses. Additional studies on the design of

channel protection along the Uncompahgre River generally confirm conclusions in the DEIS. The impact analysis and mitigation plan have been refined in the FEIS (see chapters 2 and 3).

**COMMENT OR-14:** 3. Tailrace to Delta: The DEIS identified erosion along the Uncompahgre River corridor below the tailrace as a significant problem, while at the same time it also says only preliminary studies have been made.

Preliminary studies conducted by the Sponsors indicated that about 25 percent of the river banks between the tailrace and Delta (26 miles) may require treatment." (underlining and parenthesis added; page 2-16).

Bureau and DOW officials have said in private communication with members of WCC that contractors are currently in the field quantifying baseline conditions, wetlands, problem areas for erosion, bank stabilization methods, potential loss of wetlands from bank stabilization work, and mitigation. Information will be released in a report this summer.

The DEIS contains proposed bank stabilization measures, as well as a monitoring and future stabilization work program. The adequacy of these measures is suspect, but impossible to assess without information from ongoing studies. That information is also necessary to assess potential impacts to private lands, irrigation systems, public roads, bridges and parks, wetlands, riparian habitat and wildlife, mitigation for all of the above, project costs, and the benefit-cost ratios for each alternative.

**RESPONSE OR-14:** Additional information has been added to chapters 2 and 3 (vegetation and soils) in the FEIS. The bank stabilization report has been provided to the Western Colorado Congress.

**COMMENT OR-15:** No information is included regarding potential loss of wetlands due to canalization, concrete and rock riprap, the cutting off of meanders, revetments, etc. While the DEIS estimates that there are 5,000 acres of wetlands along the Uncompahgre corridor between the tailrace and Delta, no estimates of impacts or proposed mitigation for loss of all or part of these wetlands is included. Because the Clean Water Act 404 regulations require replacement of wetlands acre-for-acre, this is a substantial omission, affecting both the scale of negative impacts created by this project, estimated project costs and the benefit-cost ratio of each alternative.

**RESPONSE OR-15:** See **RESPONSES** to **COMMENTS F-75** through **F-77**.

**COMMENT OR-16:** The DEIS also contains no mention of contracts for rights of way agreements for bank stabilization work on private property. Because such work will entail extensive construction and alternation of these private lands, this is a substantial omission which could affect the costs of each alternative.

No analysis was made in the DEIS of impacts to private and public lands, wetlands, riparian habitat and wildlife resulting from the construction phase of bank stabilization work. This work will require bulldozers, trucks, backhoes and other large equipment, which means temporary road construction and large work crews. If more work is required in the future, this could be an ongoing impact. Failing to address these impacts is a violation of the Clean Water Act 404 regulations governing impacts to wetlands and of NEPA. It could also substantially impact estimated project costs and the benefit-cost ratio for each alternative.

**RESPONSE OR-16:** Easement costs needed to implement the bank stabilization measures were included in the cost estimates presented in the DEIS. Construction-related impacts are included in the FEIS (chapter 3) under water quality and soils and vegetation. All activities would be conducted in coordination with and under permission from landowners. Additional information has been added to the FEIS in chapters 2 and 3. New figures 2.8a and 2.8b in the FEIS show proposed locations along the Uncompahgre River between Delta and Montrose.

**COMMENT OR-17:** No details were included in the DEIS regarding a proposed sinking fund, which would cover the costs of continued monitoring and stabilization work on the Uncompahgre. It is likely such work would be extremely expensive. The cost of bank stabilization was listed in the DEIS as one of the reasons for eliminating alternatives G and H from the DEIS as uneconomical. Moreover, considering the cost of such work from past floods in 1983 and 1984, it is important for the community to know how large the sinking fund would be, how long it would last, and who would be liable for damage and lawsuits from damage to property in the event the fund was depleted.

Guadagno suggests that the only way the AB Lateral could be constructed without destroying the Uncompahgre would be to build a concrete canal from the tailrace to Delta, to carry all excess flows in the Uncompahgre (Guadagno, page 6).

Relief we seek:

The above list of concerns on the Uncompahgre and Gunnison River's vegetation represents a massive body of information missing from the DEIS that is critical to public perceptions and ability to adequately evaluate the project. Moreover, the DEIS overlooks potential negative environmental impacts to wetlands, and threatened and endangered species habitat - both impacts that must be quantified and mitigated according to Congressional policy and federal laws. It is unconscionable and also illegal to omit such information from the DEIS.

Further studies may result in significant changes in the proposed alternatives. Attempting to release the above information in a final EIS or independent report without allowing public comment would also be illegal. A revised DEIS is necessary.

**RESPONSE OR-17:** The initial level of funding would be established after pre-project bank stabilization work is finished, through consultation with the Sponsors and Reclamation (DEIS, page 3-37). The annual deposit would be approximately \$60,000, to be modified as experience is gained. The concrete canal suggested is unwarranted and would lead to significant, adverse environmental impacts. The Sponsors would be responsible for damages due to their operations.

Additional information on wetlands along the rivers is presented in the FEIS, along with the Biological Opinion prepared by the FWS (see attachment F of Volume I). Significant enough changes do not exist in the project alternatives or impact analysis to warrant reissuing the DEIS.

**COMMENT OR-18:** The assessment of wildlife (page 3-177) should include documentation of how many of each species are found in each area. Waterfowl on the Uncompahgre and lower Gunnison are not even mentioned. However, they do exist and will be impacted by the project.

More study is needed of the river otter (page 3-123). Quantification is lacking. According to the law, a "worst case scenario" must be studied.

The impacts of development alternatives (pages 3-124 to 3-128) on wildlife is not documented. The loss of wetlands estimate is an opinion based on inadequate study and therefore inadequate. Documentation is needed. Inadequate study of wetlands leaves us wondering what the impacts on wildlife will be.

For all endangered species, plans should be developed to mitigate impacts. No worst case analysis has been done for any wildlife, even though information on impacts is sketchy guesswork at best.

**RESPONSE OR-18:** The potential for impacts to wildlife and more importantly to wildlife habitat are presented in the DEIS and the FEIS. Habitat impacts would be the primary way the project could affect individual species; thus, there are more extensive discussions on habitat impacts. Where direct impacts to species are expected, they are presented. Mitigation measures are also included.

**COMMENT OR-19:** Bald Eagles.-Page 3-121 does not mention how many eagles inhabit the river ecosystem below the North Fork. How many are on the Uncompahgre? More study is required by both NEPA and the Threatened and Endangered Species Act. The DEIS points out on page 3-49 the potential for ice development and formation exists with flows below 500 ft<sup>3</sup>/s. On page 3-48, it states that ice bridging and anchor ice will begin to form as far upstream as the Black Canyon National Monument (Monument).

Last winter, the Gunnison River below the North Fork confluence froze from bank to bank, severely restricting the amount of open water available for wintering bald eagles and waterfowl. Bald

eagles primarily prey upon fish and waterfowl. With ice bridging the river bank to bank, the hunting and foraging area for bald eagles became extremely limited.

On page 3-12, the proponents suggest that below the tailrace of the AB hydro facility, the discharge of water from the hydroplant will keep the Uncompahgre River free of ice, providing potential habitat for waterfowl and eagles. But page 3-98 states the velocity of the discharges from the power facility will be too fast to support fish.

Also, ducks common to the area don't like fast water. If the water velocity below the tailrace won't support fish, it stands to reason that duck usage will be minimal.

What is it that the project proponents suggest the eagles eat? With the Gunnison River frozen and no forage available in the Uncompahgre River, substantial negative impacts on the eagle seem assured.

On pages 3-120 and 3-121, the DEIS states that the Gunnison River is a high use wintering habitat for eagles, and that preservation of habitat is the key to the preservation of the bald eagle. To maintain the habitat, we need to maintain the flows of the regulated Gunnison River. The DEIS 3-121 states that little is known of the bald eagles' wintering habitat along the Gunnison River.

On page 2-33, the project Sponsors propose to study the bald eagle after the AB Lateral project is built. Isn't this somewhat backwards? Shouldn't eagles and eagle habitat and usage be studied prior to the development of the project?

Also, the Sponsors wouldn't study beyond the North Fork confluence. Last winter, 10 eagles wintered below the North Fork. Six bald eagles wintered near Austin and four more eagles wintered near Delta in the area of the Camel Switch Bridge. Any study must include these areas.

What will be done if the project Sponsor's surveys of the bald eagle show population decline? What studies are planned for other species, such as otters?

**RESPONSE OR-19:** While icing would increase, extensive bank-to-bank icing is not predicted, nor was it observed during the low flow winters of 1988 and 1989. Ice bridges did form during extreme temperatures in 1988 but were not observed to cover more than 20 percent of the Gunnison below the Monument. The potential impacts to bald eagles are discussed in chapter 3 and have been expanded in the FEIS. In accordance with the Biological Opinion issued by the FWS (the Federal agency responsible for protecting endangered species), the Sponsors have agreed to implement standardized aircraft and river surveys. Additional information on waterfowl is also contained in chapter 3 of the FEIS.

**COMMENT OR-20:** Impacts on the Uncompahgre River.-Although on page 3-67 the DEIS considers the improvement in water quality resulting from the Ridgway Reservoir when discussing the impacts of development alternatives, it does not consider these improvements when discussing either Alternative A or existing conditions as they are evolving. As a consequence, the DEIS underestimates the impacts of development and underestimates the potential for a fishery in the Uncompahgre River above Montrose.

**RESPONSE OR-20:** Pages 3-65 of the DEIS states "...if no development occurred, water quality in the Uncompahgre River would be changed by the operation of Ridgway Reservoir..." This impact is not described under "Existing Conditions" because, as noted in the comment, the actual change is still evolving. However, the impacts of the development alternatives have not been underestimated; in fact, these impacts have been based upon existing conditions. Data for these conditions are heavily weighted by water-quality information before Ridgway Reservoir was built. This fact would cause the predictions of water-quality factors after development to show higher concentrations than may occur, if one assumes that Ridgway Reservoir will settle out pollutants.

**COMMENT OR-21:** The average annual flows of the Uncompahgre River will be reduced to 65 ft<sup>3</sup>/s from 263 ft<sup>3</sup>/s under all the development alternatives. Average monthly flows will be reduced to as low as 24 ft<sup>3</sup>/s. This has a negative economic and aesthetic impact on the Uncompahgre River through Riverbottom Park in Montrose. None of the development alternatives alleviates this problem. We find this to be unacceptable.

**RESPONSE OR-21:** The hydrologic analysis presented in the DEIS was intended to present "worst-case" conditions along the Uncompahgre River. The analysis was based upon modeled flows in the river at Colona and those entering the river from the South Canal, flows gauged by the U.S. Geological Survey (USGS) or the UUVUA. In addition, the DEIS analysis included flows from Horsefly Creek, based on data from the Colorado Water Resources and Power Development Authority (HDR, 1988). Other ungauged flows, such as those entering the river from tributary streams or by springs and seeps occurring along the river, were included in the modeling analysis by adding varying monthly amounts during the irrigation season. These amounts were assumed to be constant throughout the study period (1952 through 1983). The total return flow contribution was estimated to be 20 ft<sup>3</sup>/s between the South Canal outflow and Montrose.

Subsequent analysis of USGS gauge data and historical irrigation diversions for the study period was done to determine the flows entering the river from ungauged sources, such as Horsefly and Dry Cedar creeks, and other downstream tributaries. The results of this analysis indicate that, on an average annual basis, approximately 261 ft<sup>3</sup>/s enter the river from ungauged sources upstream from the Garnet Canal headgates. According to the UUVUA General Manager, about 20 percent of these flows (52 ft<sup>3</sup>/s) enter



the river from sources upstream of the Selig Canal but downstream from the Colona gauge, showing that the DEIS assumptions were conservative.

These return flows are part of the river and would be diverted at any of the downstream canals. To determine the river flows that would occur with the calculated return flows, the river was divided into 4 reaches and the return flows were distributed as follows:

- Reach 1. South Canal to Montrose and Delta Canal (11.2%)
- Reach 2. Montrose and Delta Canal to Loutzenhizer Canal (48.3%)
- Reach 3. Loutzenhizer Canal to River Bottom Park (20.2%)
- Reach 4. River Bottom Park to Cedar Creek (20.3%)

The following table shows the monthly distribution of return flows (ft<sup>3</sup>/s) in the above reaches.

Monthly distribution of return flows  
for four reaches of Uncompahgre River (in ft<sup>3</sup>/s)\*

Month	Reach 1	Reach 2	Reach 3	Reach 4	Total reaches
January	3	11	5	5	24
February	2	11	4	4	21
March	1	5	2	2	10
April	4	17	7	7	35
May	9	39	16	16	80
June	11	46	19	19	95
July	9	39	16	16	80
August	9	41	17	17	84
September	9	37	16	16	78
October	7	29	12	12	60
November	3	13	6	6	28
December	3	13	5	5	26

\* For study period 1952 through 1983.

While these are average and not minimum values, they do verify that figures in the DEIS were conservative. Additional text has been added to the FEIS (chapter 3, streamflow section). However, the adjusted flows are still less than the minimum of 60 to 80 ft<sup>3</sup>/s (recommended by the Colorado Division of Wildlife (CDOW) and the FWS), and this river segment would be adversely affected. Alternatives E and F provide additional flow to the Uncompahgre River.

**COMMENT OR-22:** The Gunnison River is recommended for Wild River designation. All of the development alternatives have a negative impact on the two major criteria that make the Gunnison eligible for this designation. WCC has been advocating Wild River

designation for 8 years, and we feel that this project presents an unacceptable hurdle to that process.

Statistics.-The Bureau's model estimating flows in the Gunnison River downstream of the point of diversion for the AB Lateral may have numerous errors. It has resulted in significantly different numbers for flows in the case of the no action alternative A, when compared to the historical numbers as read in the actual USGS measurements. The effect of this is to make impacts of the project appear significantly less when compared to the no action alternative A than when compared to the real numbers in the USGS records.

Considering this difference - which is important to the perceptions and ability of the public, local governments, and state and federal agencies to evaluate the project - the Bureau must list the model's assumptions and methodology in the appendix of a revised DEIS as required by the Bureau's NEPA Handbook, section 4-4.

**RESPONSE OR-22:** Alternative A flows are a simulation of future flows based on historical hydrology and estimates of future operating criteria of the Aspinall Unit. Alternative A flows are expected to differ from historical flows (as shown in attachment B). Much of the record in attachment B occurs before Aspinall Unit regulation during the filling of the Aspinall Unit reservoirs and when operations were adjusted to aid powerplant uprating.

The effect of using alternative A flows is not to make impacts appear significantly less but rather to give the public and others an accurate prediction of impacts. Additional information on the model is included in the FEIS (streamflow section of chapter 3) and in **RESPONSES to COMMENTS OR-91 and F-29.**

**COMMENT OR-23:** Effect of fishery in the Gunnison River.-The existing fishery in the Gunnison River is of extremely high quality. Of particular concern to us is the effect the project would have on the Gunnison River from the Smith Fork to Delta because it is the most accessible stretch of river and will be most affected.

It has been well documented that rainbow trout become stressed above 70 degrees Fahrenheit. Below the North Fork, temperatures exceeding 70 degrees will be reached regularly, as a result of low flows caused by the AB Lateral diversion.

For the trout, trouble starts somewhere between 68 and 75 degrees, depending on the species of trout, how active it is, and how turbulent the water is (that is, how many white water bubbles there are). The frothier the water, the more oxygen is getting into it.

As the temperature climbs, two things happen: the amount of oxygen the water can hold decreases, and the trout's metabolism

increases at a furious rate. He's burning up that precious oxygen that gets scarcer as the sun gets higher. If the temperature gets too high, he'll suffocate. Trout react to this danger first by decreasing their activity levels. You'll most often see this in the dog days of summer when daytime temperatures climb into the 70's - the fish will sulk on the bottom, and nothing will induce them to feed.

It is suggested on page 3-49 of the DEIS that minimum flow periods of 300 ft<sup>3</sup>/s would increase with the project and temperatures could increase to approximately 68 degrees at the North Fork. At this temperature, growth potential begins to decline. The summer of 1988, a 69 to 70 degree temperature was reached at the North Fork confluence, though the highest monthly average at the confluence was 64 to 65. The highest daily temperature at Austin was 77 degrees. The highest monthly average was 68 to 70 at the Austin bridge. These figures are based on information obtained from the Colorado Division of Wildlife (DOW).

On July 31, 1988, the river had reached 72 degrees. The river remained in a temperature range of 68 to 72 (at Austin) throughout the month of August.

**RESPONSE OR-23:** As stated in the DEIS, fishery surveys by the CDOW in the critical years of 1977, 1981, and 1988 (where flows were in the range of 200- to 400-ft<sup>3</sup>/sec, and water temperatures were 68 to 70 degrees Fahrenheit [°F]) found healthy, robust fish with no signs of excessive stress. Evidently, these short-term periods (2 to 4 hours daily) of temperatures in the low 70's have very little impact on the health of the fishery resource. As stated in the comment, trout learn to adapt to these temporarily harsh conditions by seeking cover or deep water or simply by conserving energy. This is undoubtedly the main reason why mid-afternoon angling success may be lower than at dawn and dusk.

The AB Lateral Facility would have only minor effects on flows during the particular period of concern. Temperatures are highest in the river under present conditions from mid-June through mid-August when the Gunnison Tunnel is often at capacity, especially in low water years. Thus, temperatures are least likely to increase during these times.

**COMMENT OR-24:** Carp have been referred to as being detrimental to many game species. They are capable of living in warmer and less oxygenated water than can be tolerated by game species. They require less oxygen than bass and trout, and with other rough fish, they may be able to crowd the water and consume much of the remaining oxygen. Will these creatures browse in the North Fork to Austin section of the Gunnison River contentedly, while the trout die of suffocation? Are we upsetting the checks and balances of the river--sufficient predators and competition among species, fewer consumers of oxygen, appropriate water temperature, flow rate and nutrients that now exist in the Gunnison?

**RESPONSE OR-24:** Carp are well established in the Gunnison River, even upstream from the North Fork confluence. They are better adapted to warmer and less oxygenated water than trout. As discussed in **RESPONSE** to **COMMENT OR-23**, summer temperature changes due to the AB Lateral are not expected to be significant.

Temperatures would increase in the summer during low flow years under all alternatives, including the no-action alternative. These conditions would favor species such as carp.

**COMMENT OR-25:** Rocky Mountain Streamside, a publication by Colorado Trout Unlimited, featured an article by Bob Behnke called, "Hooking Mortality: Thoughts on the Barbless Hook." Dr. Behnke comments, "Factors that increase mortality of released fish include water temperature. When water temperatures warm to 60 degrees and above, mortality of released fish can be expected to significantly increase."

Low flows will stress these fish.

The trout fishery in the Gunnison Gorge and the North Fork sections have good to excellent wild trout populations. There are now 600 fish per mile, 16 inches or better, in the Gold Medal waters of the Gunnison Gorge. Below the confluence of the North Fork and Gunnison Rivers, the trout population has 10 times the number of 16-inch trout as there were in 1981. In this 9-mile section of stream, the wild trout population has dramatically increased. In 1982, there were 5,000 trout. In 1986, there were 5,493 trout. In 1987, there were 11,700 trout.

In 1988, the Colorado Division of Wildlife sampled the trout population in the Gunnison from the confluence down to Austin, as they have done since 1981. This information is being compiled by Barry Nehring of the DOW.

In this analysis, the DOW states the total trout population for the North Fork to Austin section of the Gunnison River is at an all-time high. They estimate it to be as high as 14,600 fish. That's an increase of 2,000 fish in 1988.

The average size and age data for Rainbows and Browns indicate the average size of Rainbow and Brown trout in this section of river are larger on average at every age in 1988 than their counterparts upstream in the Gold Medal waters. This indicates that these trout downstream are growing faster than the trout in the Gold Medal waters.

In a story in the Denver Post (Thursday, August 20, 1987) by Charlie Meyers, Mr. Meyers interviewed Barry Nehring of the DOW. The article states that the DOW expects the Gunnison to keep improving, particularly if the Bureau cooperates in regulating flows from the three reservoirs upstream. Improved hatches of Rainbows in 1986 and an excellent reproduction in the spring of 1987 were viewed as a portent of grand things to come.

Nehring adds, "The Bureau of Reclamation's attitudes are changing with the realization that in the years ahead, outdoor recreation will be a bigger factor in the economy of the Western Slope than agriculture. We're making great strides in flow management."

In correspondence with the Bureau of Reclamation in 1988, Nehring stated, "Since 1986, the United States Bureau of Reclamation has minimized flow fluctuations during the emergence period. As a result, the Gunnison River presently has the three strongest successive year classes of trout (1986, 1987, and 1988 observed since 1981)." These years had high and fluctuating flows.

Again, these strong classes of trout in 1986, 1987 occurred in flows above 300 ft<sup>3</sup>/s - so it is clear that successful recruitment class can occur above 300 ft<sup>3</sup>/s with minimized flow fluctuations.

**RESPONSE OR-25:** The CDOW feels that the existing hooking mortality on the Gunnison River is well within acceptable levels. Fishery surveys during these critical low flow years did not indicate that hooking mortality was excessive. In fact, the CDOW feels that as a result of good natural reproduction, the present bag limit of 2 fish under 12 inches will remain a necessary management tool for maintaining the existing number of trophy-sized fish in the Gunnison River under post-project conditions. As indicated in the **RESPONSE** to **COMMENT O-23**, temperature increases due to the AB Lateral are least likely to occur during the critical months of June through August in low water years. The comment is correct concerning the value of stable flows for trout reproduction.

**COMMENT OR-26:** However, as evidenced in the discussion above, numerous stress factors are created by 300 ft<sup>3</sup>/s flows. Western Colorado Congress questions the overall long-term impacts to the Gunnison Gold Medal fishery--especially the section below the Smith Fork--from the project.

It just doesn't make sense to base flow levels for the entire population of trout on the physical analysis for fry. It is clear in the environmental assessment released last Spring that optimum adult habitat occurs at around 600 ft<sup>3</sup>/s (figures 11 and 12, chapter III, pages 14 and 15), based on models weighted usable area. Page 16, chapter III of the environmental assessment (figure 13) demonstrates habitat availability at various flows on the Gunnison River near the North Fork is optimum at 500 ft<sup>3</sup>/s.

**RESPONSE OR-26:** See the **RESPONSE** to **COMMENTS F-94** and **F-96**.

**COMMENT OR-27:** Gunnison Toxics.-A flash flood somewhere in the drainage could transport some toxic substance into the drainage and there will not be enough water to dilute the toxicity of the substance. There was once such an incident in the Chukar Trail section of the river. A tremendous flash flood which had occurred in a side drainage entered the river at the Chukar Trail, depositing logs and debris 6 feet above the trail in the

draw entering the river. As a result, there was a great number of dead fish along the banks of the Gunnison above the Ute trail. To this day, you'll see the evidence of this flow out at the Chukar Trail where the earth has been washed into the streambed, narrowing the river channel and creating a rapid at the base of the Chukar Trail. All kinds of heavy metals can be carried into the river in these washouts. And we won't have adequate stream flow at 300 ft<sup>3</sup>/s to dilute these toxins.

**RESPONSE OR-27:** Flash floods along the Gunnison River's intermittent tributaries are not uncommon. Observations from people along the river during such events indicate that fish kills occur. For example, very serious flash floods occurred in July and August 1989. The floods carry large concentrations of suspended sediment and can suffocate fish. As the sediment settles out of the river or is diluted, the damage decreases. In the long-term, these events are probably not significant to the fish populations, although they are very noticeable when they occur and can have serious, short-term effects. If certain age groups are seriously harmed, the effects can be felt for as much as 5 years.

Aquatic insect production may also be affected by siltation of habitat, and flushing flows are required to clean many areas. Several such events occurred in the summer of 1989 when fish losses occurred. These floods occur during the thunderstorm season--roughly from July 1 to September 15. During this period, flow changes from the AB Lateral would be the least, because the Tunnel is normally being used at or near capacity then. The large reduction in winter flows would reduce the river's ability to remove sediment. See **RESPONSE** to **COMMENT F-34** for additional information.

**COMMENT OR-28:**

ECONOMIC IMPACTS

Recreational use of the Gunnison is on the upswing. Jerry Mallett, Executive Director of the Western River Guides Association, has said of the Gunnison Gorge, "I watched river traffic double every year for more than a decade."

The Gunnison River is so popular that in the Spring of 1988, the Bureau of Land Management announced a moratorium on commercial outfitter use in the Gunnison Gorge. The moratorium is the result of what the Gunnison Gorge Advisory Group (made up of outfitters, conservationists, environmentalists, and recreational users of the Gunnison) saw as overuse of the area.

The AB Lateral poses long term economic disaster. The long term economic costs associated with the AB Lateral have not been adequately addressed by its proponents. Further, most of the economic costs which are outlined in the DEIS are underestimated and unsubstantiated. Costs which have not been addressed include: (1) The intrinsic costs embedded in water diversion

from the Gunnison and the resulting deterioration of the river which cannot necessarily be addressed through direct dollar outlays. (2) Travel cost methods (TCM) can be implemented to more accurately assess the costs associated with the deterioration of the recreation area. (3) The importance of recreation to Montrose and Delta relative to the large scale tourism losses associated with the water diversion from the Gunnison are inadequately addressed. Tourism in Montrose County is expected to generate \$21.343 million and \$22.497 million in 1989 and 1990, respectively. Delta County is expected to enjoy revenues of \$10.394 million and \$10.956 million in 1989 and 1990, respectively (Colorado Tourism Board). Clearly, a significant portion of these revenues are due to fishing and rafting activities on the Gunnison. (4) Costs to Montrose and Delta in terms of the effect of a deteriorated Uncompahgre River on economic development are not assessed. When new businesses contemplate moving to an area, they often look at the overall environmental appeal of the community. The severely reduced flows in the Uncompahgre through Montrose (at best, 25 percent of present flows) and much higher flows below Montrose near Delta (350 percent increase) will serve as more of a deterrence than an attraction for prospective new businesses. We need to implement economic development strategies that will sustain long term economic development.

The long term potential costs could be much more severe than the EIS indicates. If the Gunnison's resources are further taxed, the scarcity of water 10 or more years down the road could lead to economic hardship for the region; (5) the costs of business losses from those that are located in the area designated for construction have not been addressed. Also, homeowners who have to endure the unattractiveness of the construction have not been mentioned. Will there be compensation?

**RESPONSE OR-28:** The purpose of the DEIS and the FEIS has been to assess the impacts that would occur as a result of development. Benefits, other than those resulting from power production, have not been included in the financial feasibility ratio. Where possible and significant, other impacts have been economically quantified (for example, emissions offset, construction-operation revenues to the economy, and taxes). The contingent value and travel cost methods described in this comment are methods of assessing benefits and costs.

Fishing and rafting were specifically assessed due in great part to comments received during the DEIS scoping process. Actual days of recreation are relatively small, and the economic impacts on rafting and fishing tend to offset each other, at least from the regional perspective (rafting use decreases, fishing use increases). In actual numbers, recreation visitor days to the Gunnison River are very minor compared to other outdoor recreational use in Delta and Montrose counties. The benefits and losses do not enter into determining the project's financial feasibility. In the FEIS, economic effects on recreation are presented as they were in the DEIS.

The relative importance of rafting to the overall tourism resource may be less than stated. Despite extremely low flows in the Gunnison and Uncompahgre Rivers for the past 2 years, hotel and motel occupancy in Montrose is at an all-time high. As measured by hotel excise tax receipts, 1988 values increased 3.87 percent over 1987. Figures compiled from January through July 1989 show an 18.6 percent increase over the same period in 1987. (Similar figures are not available for Delta.)

Reclamation does not concur that the Uncompahgre would become a "deteriorated" river since flows would be increased substantially in the 27.3 miles downstream from the tailrace. Because the irrigation demands would not change, the increased flows would contribute to wildlife, vegetation and other environmental uses such as improved water quality and the creation of wetlands. This flow increase would have a positive aesthetic impact in Olathe and Delta; however, in Montrose (upstream from the tailrace), the reduced flows would have a negative aesthetic impact. These impacts are acknowledged in the FEIS.

The penstock, intake and powerplant features would not require relocating existing businesses in the area, nor cause more than minimal disruption. The powerplant and intake would be on lands that are presently used for grazing, and this use would be lost. Property owners would be compensated for their inconvenience and any economic losses, and these costs have been included in the overall cost estimates for the facility.

**COMMENT OR-29:** The costs which the DEIS does address comprise the products of expenditure days and user days of anglers and rafters. Most of this data is underestimated and was not generated through scientifically designed samples. For example, boater day totals were obtained from registration and observation. Unfortunately, most private rafters do not register and observation is not accepted as a method of obtaining a statistically significant sample. Without confidence levels and error estimations, the numbers are meaningless since there is no way to ascertain their accuracy. For another example, the expenditure data for lodging, transportation, and food was supplied by the Public Information Corp. When asked for statistics and sampling methodology for their seemingly low numbers, they responded that the files from that survey (which was statewide and not site specific) were closed and they did not know where they were. Also, the survey was conducted 3 years ago and the numbers were inflated to 1988 values using the GNP Implicit Price Deflator. However, given the Fed's sensitivity to inflation, national price increases have been moderate. Therefore, given the increased popularity of the Gunnison, it is possible that local prices for lodging, transportation, and food have increased faster than the national rate of inflation. More research is needed here to ascertain at what rate prices have increased locally.

Low numbers included the angler day estimate, lodging, transportation, and commercial rafting. The footnote associated



with the angler days suggests the data is from 1988, but it is really from 1982-83 and the actual estimate is 14 percent higher (it is 13,055 obtained by dividing 52,219 angler hours by 4 rather than 11,286).

The mean lodging costs for Delta and Montrose, one person, one bed, is \$30. The average is only around \$19 (EIS estimate) if two people are sharing the same room. The question is to what extent do tourists share rooms or prefer their own rooms? Transportation expenditures are thought to be \$2 in the EIS. Since approximately 50 percent of the Gunnison's users are nonlocals, we can assert with great confidence that this estimate is low. Sixty-nine dollars for commercial rafting is low. According to Jon Sering of the BLM, commercial fishing trips cost \$150-\$200 per person per day, and average 2 to 3 days. The average cost of a 1-day whitewater trip is \$90. These figures do not include the cost of shuttle drivers, takeout fees, etc., that both private and commercial rafters must pay.

In addition, because of the distance most users of the Gunnison travel, these rafters stay in the area longer than just the time they spend on the river. For instance, a rafter probably spends at least one night in the area before and after the trip. Extra time involved should have been included in the economic survey.

Another problem with the economic data presented on rafting in the DEIS is its assumption that boater days will remain at the 1987 level under the No Action Alternative. 1987 was a truncated season, as the river was cut to about 600 ft<sup>3</sup>/s in August of that year. Even if the season had not been cut short, it is not appropriate to assume that rafting is a no growth industry. Rather, we should assume that rafting will increase as years pass, so that the 1987 boater days will be lower than those of future years.

**RESPONSE OR-29:** Estimates of boater days for the baseline (alternative A) and all other alternatives are not estimates based on any sampling or observation procedure. Boater-day estimates for the baseline are the maximum number of boating days possible under current Bureau of Land Management (BLM) management regulations for the Gunnison Gorge Recreation Area. The management plan restricts boating to two commercial launches per day and four private launches per day (DEIS, p.3-149). These management restrictions were then used, combined with the mean monthly flows for each of the alternatives (see tables 3.7 through 3.11 in FEIS, Volume I) and a scale of estimated use, which follows:

Gunnison Gorge boater-day estimate compared  
to mean monthly flows for each alternative  
(AB Lateral Project)

Mean monthly flow	Percent of maximum allowable launches taken by	
	(Commercial)	(Private)
If flow is greater than 600 ft <sup>3</sup> /s	100	100
If flow is between 450 and 600 ft <sup>3</sup> /s	75	67
If flow is between 300 and 450 ft <sup>3</sup> /s	50	33
If flow is less than 300 ft <sup>3</sup> /s	0	0

For example, assume the mean monthly flow is 750 ft<sup>3</sup>/s under alternative A and 350 under alternative C. The number of commercial launches per day during this month would be 2, the maximum allowed under current restriction, and 4 private launches per day. Under flow conditions for alternative C, these values would be reduced to 1 and 1.33 for commercial and private launches, respectively. By using this method, the actual impact of development on the number of launches and consequently the number of boater days can be determined for each month of each year of the study period. The boater-day values quoted in table 3.51 are annual average boater days computed for the study period.

No reliable secondary data source exists for measuring the annual rate of inflation for small rural communities such as Montrose. Although rates of inflation in the Gunnison Gorge area may differ somewhat from the national rate, it is highly unlikely that any such difference would be large enough to affect the outcome of the analysis.

The prices used (Public Information Corporation, 1986) for lodging, transportation, and food in the DEIS (p. 3-145) are reasonably accurate estimates of the average per-person expenditures. For example, assuming an average size of 2.5 people, the motel cost would be \$47.50 (2.5 times \$19), and rooms for this price for a party of three are abundant in the area.

The actual per-person fee for commercial float trips is hard to determine for the Gunnison Gorge because the number of floaters is small, and operators have been varying their charges to meet their annual quota of trips to keep permits and for other reasons. The costs of shuttle drivers, take-out fees, etc., are paid by the outfitters from the per-person fees they charge. But even if commercial fees of \$175 per person per day (the highest rate that could be confirmed) for fishing float trips and \$90 per person per day for whitewater trips are used in the estimates, the ultimate effect on the local economy is extremely small. The

following calculations were made assuming these expenditure figures to recalculate direct and total regional sales expenditures, table 3.51 in the DEIS (p. 3-153).

Assuming one-third of all boater days are fishing and two-thirds are whitewater floating, the weighted average for boater fees would be \$118. When combined with personal expenditures (lodging, meals, etc.), the average per-day expenditure would be \$155. Applying this value to the estimate of user days for alternatives A and C would result in an additional direct expenditure loss of \$30,000, leading to an additional loss of \$82,317 in regional sales. Because the increase in fishing days adds \$155,000 to regional sales, the net loss to regional sales assuming these higher rafting fees would be \$48,000 (see table 3.51). This is an insignificant portion of local regional sales, which simply reinforces the fact that because fishing days and boater days vary inversely under all alternatives, any reasonable estimates of boating expenditures do not result in significant changes to the local economy.

**COMMENT OR-30:** Additional questions surround the RIMS II multiplier used in the EIS, 1.6284, to generate total regional sales estimates from total expenditures. Is the data in RIMS II disaggregated by type of tourist? I don't know, but the question came to mind, since it has been estimated that angling expenditures produce a multiplier effect which ranges from 1.7 to 2.6 (HDR Engineering).

At any rate, the economic analysis presented in the DEIS is sloppy and incomplete. We need to assess all the costs in a coherent and meaningful fashion in order to evaluate the AB Lateral's legitimacy. Moreover, we must carefully guard Montrose and Delta's primary assets, the Gunnison and Uncompahgre, if we wish to support and maintain long term, stabilized economic growth.

**RESPONSE OR-30:** The RIMS II multiplier was totaled by industry sector, i.e., transportation and services. The multiplier for each expenditure category was both boater and angler days in the DEIS.

**COMMENT OR-31:**

#### FINANCIAL INFORMATION

The financial information necessary for the public, local governments, and state and federal agencies to adequately evaluate the proposed AB Lateral project and its various alternatives was not released in the DEIS and has been kept confidential despite repeated requests from citizens and public interest groups.

Such information includes portions of contractual agreements between Mitex and UVWUA, project costs (design/construction, land

acquisition, environmental mitigation, financing, legal fees and administrative costs), economic liability, and division of profits.

Without this data, it is impossible to fully analyze the adequacy of the Sponsor's proposal or comparable alternatives, as well as to evaluate the potential for cost overruns, the adequacy of proposed environmental mitigation, economic liability and the value of this project to the local and regional economy. As mentioned previously, the need for this information is addressed in section 4-12 of the Bureau's NEPA Handbook.

Lack of this information has triggered FOIA requests and a Congressional inquiry from Representative George Miller (D-CA), Chair of the Subcommittee on Water and Power Resources of the House Committee on Interior and Insular Affairs.

A. The contract between Mitex and UVWUA:

The sponsors and Bureau have refused written requests by public interest groups as well as members of UVWUA to review this contract.

While the AB Lateral project is being touted as a major economic benefit to the local community which entails no liability for the local water users, the Sponsors have refused to release the one document that details the method and ability of Sponsors to fund the project; how much revenue will be generated; who gets it and how it will be divided; and who is liable if the Sponsors default on loans in the case of cost overruns, natural disaster or lawsuits stemming from damage to private property.

B. Proposal for Development Services, submitted to the Bureau by the Sponsors on January 3, 1986:

Even though this document was referenced in the 1988 Environmental Assessment (EA) of the AB Lateral project, and therefore legally must be released if requested, the Bureau and Department of Interior have withheld the bulk of this document from several FOIA requests by Mr. Mark Silversher and a written request from Western Colorado Congress.

Bureau officials and the Interior Department's Solicitor's office stated that the document was mistakenly referenced in the 1988 EA and cannot be released because it contains trade secrets of a proprietary nature associated with Mitex being able to negotiate in good faith with UVWUA. The Bureau withheld portions of the document that included reference to two alternative hydro sites, all financial considerations, descriptions of planning studies, hydrologic analysis, description of design elements, and descriptions of contractor services.

Portions of this information are necessary to determine if smaller projects with less damaging environmental, economic, and social impacts are economically feasible, and at which locations;

to compare alternatives; and to determine the potential of and liability for cost overruns and project delays, which in turn will affect the economic feasibility of the Sponsor's contract with Public Service Compact (Public Service Company), the purchaser of power produced by the contract.

**RESPONSE OR-31:** The FEIS has been revised to include cost breakdowns for the feasible alternatives and financing risks (chapter 2). The Sponsors would be liable for the project. The UVWUA would not be at financial risk for repayment of project loans. Should the UVWUA exercise its option to acquire the Sponsor's share of the project after 25 years, the UVWUA would become liable for operation and maintenance (O&M) expenses.

Reclamation has included summaries of those portions of the contract between the Sponsors and the UVWUA relevant to environmental analysis and plan selection in the EIS (e.g., financial responsibility and liability and estimated revenues to the UVWUA).

The majority of the January 1986 proposal has been released to the public. Those portions that were not released include information that is not relevant to this EIS but is considered proprietary to the Sponsors. The referenced alternative sites were not intended to represent alternatives to the proposed action. Please see **RESPONSE** to **COMMENT F-16** for a discussion of Reclamation's involvement and the lease of power privilege.

**COMMENT OR-32:** Lease of Power Privilege (Bureau) and Distribution of Profits: The project is labelled a "money-maker" by the Sponsors and the Bureau, and in the DEIS alternatives were rated based on maximization of profits. While the Sponsors have actively campaigned for this project by stating it will earn a substantial amount of money for the UVWUA farmers and benefit all local businesses, the DEIS does not indicate how much money will be made, how profits will be distributed, and among whom. All documentation detailing such information has been kept confidential, except for the generic statement in the DEIS that income generated will go to Mitex, UVWUA, and the U.S. Treasury.

As this is a public resource, the public has a right to know approximate amounts and division of income. Indications are that the bulk of revenue this project will generate will go to Mitex. Not only is this money going out of the region and out of the state, but since Mitex is owned by a French corporation (Sithe-Energies, Inc.), it will go out of the country. The degradation of a local and national resource of significant value for the benefit of a foreign investor is a significant issue about which the public has a right to know.

Furthermore, while it is not stated in the DEIS, the portion of the money that goes to the U.S. Treasury goes to the Reclamation Fund (this is a result of a lease of power privilege that must be granted by the Bureau, which still owns the UVWUA system). The

Reclamation Fund is an account set up by Congress where income from existing Bureau projects is deposited to fund future Bureau projects.

There is some question as to the objectivity of a lead agency (in this case, the Bureau) in an EIS process which stands to benefit materially from development of the project, yet has not publicly disclosed, or even discussed, that gain.

WCC requests the following relief for the aforementioned shortcomings:

1. Publication in a revised DEIS of the elements of the Mitex-UVWUA contract regarding the source and method of project financing, division of profits, and liability.
2. Release of the relevant portions of the Sponsor's Proposal for Development Services of January 3, 1986; and inclusion in a revised DEIS of descriptions of project financing, alternative project sites, project costs, and contractor services.
3. Publication in a revised DEIS of detailed estimates of the revenue the project will generate and how that will be distributed, including estimates of the share going to the Reclamation Fund.

**RESPONSE OR-32:** The Sponsors consider the division of profits among themselves confidential (see **RESPONSE** to **COMMENT OR-31**). However, the anticipated revenues to the UVWUA are discussed and presented in the FEIS (see **RESPONSES** to **COMMENTS I-2, I-55, and I-121**); these dollar amounts are the ones that are used in citing benefits to the UVWUA.

Montrose Partners, the private group sponsoring the project, is a Massachusetts limited partnership, of which Mitex is the general partner. Mitex owns only a portion of the partnership, and is, in turn, owned by Sithe Energies, a U.S. corporation.

Lease fees received by Reclamation and deposited in the Reclamation Fund and monies received by the UVWUA will be used to repay UVWUA debts to the United States and O&M expenses of the UVRP. The Uncompahgre hydropower development legislation (June 22, 1938) provided that disposal of monies shall be "...on such terms as the Secretary deems equitable." The lease of power privilege has not been negotiated with the Sponsors; however, Reclamation's charge will not be more than the amount the FERC would charge if it were issuing a license.

It is a frequent practice for Government agencies to charge for private use of lands or facilities under their jurisdiction. Reclamation's mission is to carry out the duties assigned by Congress and Federal law, using funds that are assigned by those laws. The payments associated with potential lease fees have not influenced the discussions in this EIS, nor will they influence

the ultimate decisionmaking process. Reclamation is the lead Federal agency in the NEPA process because it is Reclamation's facility, the UVRP, that will be used for power generation. See **RESPONSE to COMMENT OR-6.**

**COMMENT OR-33:** The DEIS list of preparers does not include the names of employers of people listed. There is a possible violation of the CEQ NEPA Regulations Section 1506.5c, which requires contractors participating in a DEIS to be hired by the lead or cooperating agency; and to sign a disclosure statement specifying that they have no financial or other interest in the outcome of the project.

It is of great concern to us that Mitex, the project sponsor, was mandated to select the contractors for the work of the DEIS. The Bureau of Reclamation seems to have undue faith in Mitex's commitment to ensuring accurate, unbiased studies and findings in the DEIS. Allowing Mitex to select the DEIS contractors is like letting the fox design the henhouse.

HDR Engineering, Inc., a contractor hired by the Sponsors, was a major contributor to both the Environmental Assessment and the DEIS. The company was also the contractor that wrote the January 3, 1986, Proposal for Development Services, which contained the initial proposal and details for the AB Lateral project. That document states that HDR will design plans and specifications for intake works, penstock, powerhouse and electrical systems, and serve as the consulting engineer for the selected general contractor.

HDR contributed to the EA and the DEIS any studies other than the design elements of the project. This constitutes a violation of NEPA regulations 1506.5.c.

There are similar questions about EMANCO, a contractor apparently hired by the sponsors which has contributed numerous studies to the EA and DEIS.

Western Colorado Congress cannot support any of the development alternatives in the DEIS, and we remain greatly concerned about the improprieties and clear violations of the law which have taken place in the preparation of the DEIS. We respectfully request that the Bureau of Reclamation release a revised DEIS which addressed the concerns we have outlined above.

**RESPONSE OR-33:** The list of preparers has been revised to show the employer of each of the consultants; others listed work for Reclamation. The CEQ NEPA Regulations (Section 1506.5c) have not been violated. HDR Engineering, Inc., conducted studies, compiled data, and prepared an environmental report for Mitex. Reclamation then prepared the DEIS using HDR's work along with other data. HDR also executed a disclosure statement prepared by Reclamation specifying that they have no financial or other

interest in the outcome of the project. Some of the work EMANCO conducted under an earlier contract was used and cited in the DEIS. See **RESPONSE** to **COMMENT OR-128** for further information.

**COMMENT OR-34:**

The following comments were taken from Western Colorado Congress's attachment to their main comment letter--called an "Environmental and Economic Analysis of the AB Lateral Project." It is the result of a study made by James R. Guadagno of Paonia. To read the entire 10-page report, please refer to the attached comment letters at the end of this section. Mr. Guadagno's study was restricted to the potential effects of the construction of the AB Lateral Hydropower Facility on riparian habitat along the Gunnison and Uncompahgre Rivers and manifestations of these effects on the economic feasibility of the project.

**B. Effects on the Gunnison River**

The area of greatest concern if the proposed powerplant is built is that stretch of the river between its confluences with the North Fork and the Uncompahgre. (While the effects described here will also occur above the upper junction, it will be lesser in extent, since less riparian habitat exists there.)

Unfortunately, any effects on this section of river have been overlooked in the Bureau of Reclamation's Draft Environmental Impact Statement.

There is no doubt that lowering the flows of the Gunnison River still further through the additional diversion of upstream water for power generation will severely aggravate an already critical situation. Moreover, the proposed seasonal power production pattern will also introduce another factor which is likely to accelerate this deterioration greatly: "winter kill," a killing of trees by drying out of roots during the winter. The persistent lowering of the winter flow of the Gunnison River due to powerplant diversions will inevitably result in a concurrent lowering of the riparian water table. Trees - even large ones - growing now at the upper edges of the riparian habitat zone will feel the effects of this much more quickly than they will the effects of summertime water shortages. Thus, the disappearance of the existing riparian vegetation could be greatly accelerated, as well as aggravated, by the proposed diversion of water out of the Gunnison River for power generating purposes.

**RESPONSE OR-34:** Winter represents a dormancy period for plant species in the area. (Dormancy is a period where growth does not occur.) Therefore, the demand for water and nutrients is greatly reduced; however, moisture is still required. The project would bring winter Gunnison flows more in line with natural "pre-Aspinall" levels. Native vegetation, which developed under low winter flows before upstream regulation, would already be adapted to such conditions. Cottonwoods and other species of riparian



vegetation have flourished along the Uncompahgre, where winter flows have been extremely low throughout the historic record.

**COMMENT OR-35:** The Gunnison riparian zone (particularly downstream of the confluence) will be far more restricted than exists today. New streambanks will be lined with cobbles, instead of alluvium, making it more difficult for vegetation to thrive. Additional erosion would be expected on desiccated banks that are currently vegetated. Moreover, it is likely to take many decades before any significant alteration of these conditions will occur due to the deposition of sediment along the new stream boundaries. This is due to the reduction in sedimentation which has already resulted from the construction of upstream reservoirs and which will be even further aggravated by the additional power diversions. The primary source of sediment, in fact, is likely to come from erosion of the desiccated banks currently occupied by riparian vegetation. Then many additional decades - or perhaps even centuries - must elapse before plants growing on this narrowed edge can attain the state of growth achieved by those of the present riparian zone. And the extent of the growth could never reach that which exists today. Thus, it is inevitable that the construction of the power project will result in the permanent decimation of the rich riparian habitat which now exists along the Gunnison River.

**RESPONSE OR-35:** Vegetation along the Gunnison would primarily continue to be controlled by flows during the growing season and during occasional spring floods. Project impacts during this season would be least as Tunnel diversions are already being made for irrigation. Additional erosion of higher terraces would not be expected. Erosion is actually predicted to decrease on the Gunnison as a result of the project.

**COMMENT OR-36:**

### C. Effects on the Uncompahgre River

The situation regarding changes along the Uncompahgre River would be quite different; here we are dealing with the effects of greatly increased flows, rather than reduced ones. The Uncompahgre River between Montrose and Delta, while appearing to traverse a flat plain, actually has a very high hydraulic gradient for a river of its size. This high gradient has been maintained in the past because of a state of equilibrium which has been achieved between the large amount of sediment brought down by the river from its headwaters in the San Juan Mountains to the south and the relatively small flow of the river.

Events of the past few years, however, have upset this equilibrium in a number of ways. First of all, the construction of the Ridgway Reservoir has interrupted the supply of sediment, excepted for that furnished by Cow Creek and a few smaller streams...The projected demand for water from the Ridgway Reservoir has failed to materialize, creating the prospect of increased downstream erosion (from the Dallas Project alone),

which has been overlooked in the Bureau's analysis. Further, the additional water added to the Uncompahgre River as a result of the AB Lateral would increase the erosion many times over. Because of the low resistance to erosion of the unconsolidated sediments making up the bed of the river in this area, this process would proceed quite rapidly and virtually unchecked, unless severe countermeasures were to be taken.

**RESPONSE OR-36:** Uncompahgre flows have been modeled using current Reclamation simulation models of Ridgway Reservoir releases. Bank stabilization designs have been prepared using these releases as baseline conditions to which project-related diversions would be added. No significant channel bed erosion is predicted. As described in the DEIS and the FEIS, the Sponsors have proposed countermeasures to control bank erosion, a serious potential problem. Please see **RESPONSE** to **COMMENT F-5**.

**COMMENT OR-37:** Reclamation appears to have greatly underestimated the potential effects of this increased erosion, and has proposed minimal measures to compensate for it...Three types of erosion control have been proposed. The first of these consists of bank revetments made up primarily of riprap materials placed along the top of the banks, depending on erosion by the river itself to place these materials in the proper position. The second is the construction of rock jetties designed to divert the flow of the stream away from vulnerable bank sections. The third is the channelization of river meanders into better defined channels. The Bureau estimates that 25 percent of the river's length would be modified by one or another of these techniques, and they state that no significant alteration of the riparian habitat or wetlands along the river will result . . .

. . . But even this drastic step is not likely to check erosion in the river. We must remember that the combined effects of the Dallas and AB Lateral projects would create a totally new situation along the Uncompahgre: a new river three times the size of the old one, traversing unconsolidated sediments which are no longer being renewed, carrying water which has been deprived of the moderating influence of its normal sediment load, and flowing through a channel with an extremely high hydraulic gradient. This new environment would be completely out of harmony with the equilibrium conditions which exist today. The new river would follow the laws of nature in seeking its own balance. And this balance would include the carving of a canyon along the present riverbed until a new equilibrium state is achieved . . .

**RESPONSE OR-37:** See **RESPONSES** to **COMMENTS F-107** through **F-117** and the table of contents to the comments for additional information on bank stabilization. Also see revised text in the FEIS. Channel bed erosion is not predicted to occur.

**COMMENT OR-38:** The Bureau's proposed mitigation measures - riprap, jetties, and channelization - are all designed to check lateral erosion. None of them, however, would be in the least effective in preventing the headward erosion which the new river

would pursue in trying to attain its own balance. There is nothing in the nature of the riverbed which would offer much resistance to this erosion; the cobbled bed cited in the DEIS as an erosion preventative would be removed almost as fast as the finer sediments when attacked from below. The resulting headward erosion would proceed fastest at the lower end, near Delta, but would quickly move upstream until the entire channel became entrenched, scores of feet below its present level.

**RESPONSE OR-38:** Studies performed by the Sponsors and reviewed by Reclamation indicate that the cobble bed of the river is well armored and would not begin to move until flows exceeded 2,000 ft<sup>3</sup>/s. In 1984, flows peaked more than 5,000 ft<sup>3</sup>/s in Delta and were greater than 2,000 ft<sup>3</sup>/s for nearly two months. Despite these high flows, headward erosion was not observed along the river; however, severe lateral erosion did occur. See revised text in chapter 2 of the FEIS.

**COMMENT OR-39:** All the riparian habitat along the Uncompahgre River would completely disappear if headward erosion were allowed to happen. The five thousand acres of wetland would go first, but they would soon be followed by the cottonwood groves, left high and dry by the lowering of the river and the water table it supports. Nor would this loss of riparian habitat be the only effect. The dropping water table would dry up many of the shallow wells found along the river. And the irrigation ditches taking water from the river between Montrose and Delta would find their headgates suspended high above the river's new channel. These changes in the Uncompahgre's streambed would occur much faster than the previously cited alteration of the riparian habitat along the Gunnison, and would thus be far more obvious. And none of the mitigating techniques cited by the Bureau would be effective in halting the process, even if their magnitude were to be multiplied many times over. The only steps which could prevent these changes effectively would be a dividing of the waters coming from the tailrace of the power plant. An amount commensurate with the needs of the riparian habitat and the downstream irrigation demands would be allowed to flow into the present bed of the river. The remainder, which would constitute at least two-thirds of the tailrace flow, would have to be enclosed in an erosion-proof, concrete-lined channel leading all the way from the powerplant to the Gunnison River.

**RESPONSE OR-39:** Because headward erosion would not occur, all riparian habitat would not disappear. Some riparian habitat would be lost, however, as a result of stabilization measures to be installed as part of the project (see further discussion in vegetation section of the FEIS). The construction of a concrete channel between Montrose and Delta is not necessary.

**COMMENT OR-40:** The Bureau's DEIS also states that wildlife would not be significantly affected by construction of the project. The only issue considered in any depth is that of increased winter ice on the Gunnison River due to reduced flows. But this is a very small part of the total wildlife environment...Despite

all our dependence on aerial and ground spraying of insecticides, birds still remain as the primary control mechanism for insect pests. Any significant reduction in their numbers due to a loss of habitat would cause serious problems in the agricultural community.

**RESPONSE OR-40:** Loss of habitat for bird species would primarily be associated with bank stabilization measures. This loss would be temporary, as project Sponsors have agreed to revegetate disturbed areas and to replace any wetland areas permanently lost. The effect on riparian habitat is described in more detail in the FEIS.

**COMMENT OR-41:** It is common practice among U.S. governmental agencies, in determining the economic feasibility of any project, to include both direct and indirect economic effects. It is, in fact, the indirect effects which more often than not determine whether the project is pursued. Reclamation seems to have considered only the costs to the Sponsors and the potential revenues which may accrue to them. Indirect costs have been overlooked...

The valleys of both the Gunnison and Uncompahgre Rivers, located as they are along the principal travel routes, play a central role in the attractiveness of the region, and the future economic health of the area cannot be guaranteed if significant damage is done to these resources. There is no question but that the construction of the AB Lateral power facility with its attendant effects on these valleys would produce such damage. It should be carefully quantified and included in any objective economic analysis of the project.

**RESPONSE OR-41:** The proposed development would be financed entirely through private sources; no Federal, State, or local government moneys would be used to construct or operate the facility. Consequently, the only measure of benefits taken for the financial analysis has been revenues resulting from the sale of power and energy generated by the facility. Indirect costs have not been overlooked--where possible, environmental costs have been economically quantified and added to the FEIS to assist in the decisionmaking process (e.g., fishing, rafting, economic development, taxes, and emissions offsets). No estimates have been prepared for the beneficial effects of bank stabilization.

Development costs have been measured in terms of the direct costs of facility construction and operation (including bank stabilization) and costs of environmental commitments. Economic impacts to rafting and fishing along the Gunnison River are indirect costs that have been accounted for in the analysis through measures of direct expenditures, total regional sales, and total labor-income generated (see tables 3.55 and 3.56).

**COMMENT OR-42** (paraphrased): The EIS should include the cost of a concrete channel from Montrose to Delta. The increased cost to Public Service of Colorado of buying power from the facility must

be considered as well as the effects on Colorado-Ute. Right-of-way costs have not been adequately assessed in the EIS...Another important factor which has not been adequately considered is the difficulty of obtaining rights-of-way.

**RESPONSE OR-42:** A 30-mile concrete channel is not necessary and has not been included. See **RESPONSE** to **COMMENT OR-39** for more information. See **RESPONSES** to **COMMENTS F-6** and **OR-1** through **OR-3** for a discussion of impacts to Public Service Company and Colorado-Ute.

Land acquisition budgets are included in cost estimates, which have been expanded in chapter 2 (detailed description of alternatives) of the FEIS. Rights-of-way costs for a canal from Montrose to Delta are not necessary and have not been estimated.

**COMMENT OR-43:** When all of the above economic factors are added in, it is quite likely that the benefit cost-ratio of the proposed project will fall far below the 1.0 break-even point. Thus, if the normal procedure of considering all of the costs and benefits, direct and indirect as well, is followed, the project will be found to be economically unfeasible...A good example of just such an occurrence can be found in Reclamation's Dallas Creek Project. In this case, costs were underestimated by approximately a factor of three, while the predicted revenues have almost completely failed to materialize. As a result, the residents of Ouray, Montrose, and Delta counties have seen their water bills increased enormously in an attempt to compensate for part of the cost overruns...

**RESPONSE OR-43:** The ratio presented in the DEIS represents the financial feasibility of the proposed development, calculated with respect to the Sponsors' proposed investment. The Sponsors would be responsible for costs of construction. See **RESPONSE** to **COMMENT OR-44**.

**COMMENT OR-44:** ...The AB Lateral project is supposed to be financed without government funding. If a comparable deficit occurs here [as the Dallas project], the burden of paying for it will fall directly on the local population, and especially on the Uncompahgre Valley Water Users' Association members. It would be grossly unfair if they were not warned of the high probability of such an occurrence.

**RESPONSE OR-44:** The risk of all cost overruns rests with the Sponsors; if they default on their loans, then a secured lender would likely assume the project. Such a new participant would be bound by the same lease of power privilege and environmental commitments as the Sponsors. The UVWUA and local public do not assume any financial liability. If the UVWUA chooses to acquire the entire project after 25 years, the project debt would already have been paid.

**COMMENT OR-45:** Finally, there is the matter of selling the power produced by the hydro plant after the contract with the Public

Service Company expires. A market for this excess power is not likely to be found unless it is sold at a considerably lower rate. This deficit must be subtracted from the potential revenues to be derived from the project.

**RESPONSE OR-45:** The Sponsors are free to negotiate for the sale of power after 15 years. Then, power values are expected to be significantly greater than they are today, due to the effects of inflation, anticipated unit retirements, and environmental protection requirements. Project debt should be completely repaid by 2008. The only significant remaining expenses would be O&M and taxes; combining these two expenses yields a plant that is significantly less expensive to operate, while power rates would be higher than today. It is unlikely that a new power sales contract sufficient to cover costs would not be available. If such a power sales agreement could not be reached, the plant would shut down. There would be no impetus to operate, since debt would have been repaid.

### CITY OF DELTA

**COMMENT OR-46:** In our review of the draft EIS we have found there to be adequate assurance for protection against bank erosion and flooding on the Uncompahgre due to the increased water flows from the AB Hydropower project. This has been the major concern of the City with respect to this project. The City Council's position on this project is therefore supportive so long as both the Uncompahgre River is protected against flooding and the Gunnison River is protected against environmental degradation.

**RESPONSE OR-46:** Protection along the Uncompahgre River from flooding and bank erosion is included in the project alternatives. The FEIS contains updated information in chapters 2 and 3. The Gunnison River environment would change as diversions would increase significantly (see chapter 3). Although changes will occur, environmental values would be protected.

### CITY OF MONTROSE

**COMMENT OR-47:** The Montrose City Council has expressed concerns regarding: (1) impact of flows in the Uncompahgre River through the City; (2) ability to extend utilities beyond the location of the proposed penstock; and (3) impacts to Uncompahgre River water quality adjacent to the City's Wastewater Treatment Plant.

**RESPONSE OR-47:** Flows in the Uncompahgre River through Montrose would be reduced by developing the proposed facility. Flows in this reach recommended by the Colorado Division of Wildlife (CDOW) would not be completely met. See **RESPONSES** to **COMMENTS F-79, OR-21, and S-1.**

The design of the penstock considered existing utilities (sewer, water, and telephone) if their locations were known. Final design of the penstock profile elevations would incorporate planned expansions of city utilities and provide for accommodating future unplanned expansions.

As stated in the DEIS, the water quality of the Uncompahgre River is expected to improve at the Montrose Wastewater Treatment Plant. Additional water available for diluting point discharges within the river would not necessarily trigger a revision of National Point Discharge Elimination System permit limits. The present water-quality classification and numeric standards of the river could change if water quality is substantially improved. Reclassification is the responsibility of the Colorado Department of Health and the CDOW, subject to review of water quality and fisheries and wildlife data, respectively.

## DELTA COUNTY COMMISSIONERS

**COMMENT OR-48:** We strongly urge responsible officials and competing interest groups to give serious consideration to approval of Alternative E, as outlined in the Draft Environmental Impact Statement, with the provision that the UVWUA dedicate an additional 200 ft<sup>3</sup>/s to the Gunnison River, such dedication being secondary only to the need for irrigation water. The Board believes that this recommendation, if implemented, will enhance the UVWUA irrigation system, improve the Association's financial condition, allow for the generation of electricity with surplus water, and help maintain the integrity of the Gunnison River, with a qualified minimum flow of 500 ft<sup>3</sup>/s, for current and future generations.

**RESPONSE OR-48:** While alternative E is feasible, the Sponsors have indicated that alternative E with Gunnison minimum flow of 500 ft<sup>3</sup>/s is not. Since that flow is not feasible, the Sponsors are not willing to propose such a change.

## SAN MIGUEL COUNTY PLANNING, BUILDING AND SANITATION DEPARTMENT

**COMMENT OR-49:** My objections to this project are based upon the following facts: 1. The project will make the Gunnison River unnavigable for most of the year to rafting because of reduced flows. 2. It may damage the Gold Medal trout fishery over the long term. 3. The project will threaten "Wild and Scenic" designation of the Gunnison River by diminishing the resources that make it eligible.

**RESPONSE OR-49:** These issues are addressed in the FEIS. As discussed in the FEIS, rafting use is predicted to decline with the hydropower alternatives, but the Gunnison River would not become unnavigable for most of the year since flow changes are

least during the primary rafting season. The rafting season corresponds to the irrigation season when Tunnel diversions are already being made. The effect on the Gold Medal fishery is described in the FEIS; this discussion is based largely on input from the CDOW. The National Park Service (NPS) has determined that the river would still be eligible for designation as a wild river, although (according to the NPS) certain resource criteria for this designation would be adversely affected as described in the FEIS.

**COMMENT OR-50:** The electricity from the project is not needed.

**RESPONSE OR-50:** See **RESPONSE F-6**.

**COMMENT OR-51:** The project will reduce the Uncompahgre River through Montrose to a trickle, nullifying attempts to create a fishery and river park in Montrose.

**RESPONSE OR-51:** See **RESPONSES F-79, S-1, and OR-21**.

## MESA COUNTY WATER ASSOCIATION

**COMMENT OR-52:** 1. Water Quality.--Since Redlands Water and Power and the City of Grand Junction are holders of substantial decrees on the Gunnison River used for both irrigation purposes and municipal use, we reiterate the comments of USEPA concerning water quality degradation in the Uncompahgre River due to increased flows: increased stream bank erosion and sedimentation. The fluctuating regime on the river, potential down cutting, and increased sedimentation creates the need for further description of the downstream impacts and, if appropriate, provisions for mitigation including but not limited to cost for increase treatment to meet Safe Drinking Water standards.

**RESPONSE OR-52:** Streambank erosion would be mitigated by installing bank stabilization measures at various locations along the Uncompahgre River as described in chapter 2 of the FEIS. Consequently, water-quality degradation in the Gunnison River between Delta and Grand Junction is not expected.

**COMMENT OR-53:** 2. Market for Power.--We feel that the DEIS does not adequately address the economic justification for the project. The existing depressed market for power throughout the West does not justify the creation of increased capacity, the effects of which are detrimental to downstream users. The questions needing an answer should be: Is there a need for the power? This question was answered by the Bureau of Reclamation in its final feasibility report for the Dominguez Reservoir. In that report it was concluded that there was not a need for the power and, without that need, the project was not economically justified. The same conclusions can be made for the AB Lateral Project.



**RESPONSE OR-53:** See **RESPONSES F-6** and **OR-1** through **OR-4**. The Dominguez Project would have produced peaking power, which differs from the AB Lateral Project, which is largely baseloaded. The Dominguez Planning Report (completed in 1984 by Reclamation) showed a regional (CRSP) peaking need of 1,400 MW in 1990 and 3,000 MW by 2000. However, need for the peaking power has not yet developed.

**COMMENT OR-54:**

3. Recreation.--With the region promoting itself as a destination recreational opportunity, we find it difficult to understand the desire of the project to reduce flows in the Gunnison River, given the doubtful economic need for this project. Mitek (the "french connection"), the Boston partners and the Water Users are promoting a project with marginal economic justification, benefiting a few, at the expense of a growing recreational opportunity benefiting the region as a whole.

**RESPONSE OR-54:** See chapter 1, purpose and need section in the FEIS. Economic benefits, as seen under the social and economic conditions (chapter 3), would be distributed in both Delta and Montrose counties, in addition to benefiting the Sponsors. Combining fishing and rafting, the FEIS predicts visitor days on the Gunnison to increase for all development alternatives. It is recognized that recreational rafting would be adversely affected.

## COLORADO WILDLIFE FEDERATION

**COMMENT OR-55:** Obviously, the environmental sensitivity of these areas is so significant that the Bureau of Reclamation should exercise the most extreme caution before deciding whether to permit projects that may potentially damage them. Wildlife biology is far from an exact science, and we are skeptical that impacts to wildlife from this project are fully known and accounted for.

**RESPONSE OR-55:** Mitigation measures in Reclamation's recommended plan reflect your concern. Wildlife matters have been coordinated with the CDOW and the FWS.

**COMMENT OR-56:** We are also concerned over the impacts to floating and rafting the Gunnison River if the project is allowed to reduce flows and the potentially adverse impacts on designation of the Gunnison River for protection as a wild river.

**RESPONSE OR-56:** The DEIS and the FEIS recognize a reduction in rafting. The river would remain eligible for designation as a wild river; however, as described in the FEIS, the quality of natural resources that make the Gunnison eligible may be adversely affected.

**COMMENT OR-57:** The primary justification for this project is electric power, despite a current regional surplus. We question whether this kind of justification for the project is sufficient to warrant the Bureau in assuming the risks of harm to the environment and to wildlife that the project will pose.

**RESPONSE OR-57:** The need for power is only one of several needs for the project cited by the Sponsors. See **RESPONSES** to **COMMENTS F-6** and **OR-1** for further discussion of power surpluses.

## UNIVERSITY OF COLORADO WILDERNESS STUDY GROUP

**COMMENT OR-58:** We are concerned with and stand opposed to the AB Lateral project. The diversion of 390,000 acre-feet of water annually from the Gunnison River through the UUVUA's irrigation tunnel to be released into the Uncompahgre River is certain to have unestimable impacts on the ecology and recreational environments of both river ecosystems. This region of Colorado is especially valuable for its natural scenic and recreational attributes. There is not a shortage of power in this region, so there is no reason to so dramatically alter the natural Rocky Mountain environment for hydropower.

Aside from the unforeseeable impacts this project will have on migratory waterfowl, there will be a great deal of pressure put on riparian habitat and fish populations, including Gunnison's trophy-sized trout. Reduction of water flows from 1,000 ft<sup>3</sup>/s to 300 ft<sup>3</sup>/s for 50% of the year would cause Gunnison's fishing industry to suffer dramatically. The current rafting industry would become non-existent for most of the year. The Gunnison River's potential for Wild and Scenic River designation would also be threatened.

**RESPONSE OR-58:** The AB Lateral Facility would significantly increase Gunnison River diversions, which would affect fish, wildlife, recreation, and other resources. The FEIS, primarily in chapter 3, describes these resources in the future under the no-action alternative and other hydropower proposals and attempts to estimate impacts. See **RESPONSES** to **COMMENTS F-6** and **OR-49**.

## COLORADO ENVIRONMENTAL COALITION

**COMMENT OR-59:** The Federal Land and Policy Management Act, Section 603 (a) states that "During the period of review (for Wilderness designation) of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness...Provided, that in managing the public lands the Secretary shall by regulation or otherwise take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection." We maintain that all of the UUVUA

proposals except Proposal A (no action) violate the intent of that legislation because the Wilderness Study Area along the Gunnison River, the Black Canyon of the Gunnison National Monument, and the Gunnison River itself will be negatively impacted by the proposed hydroplant in several ways that the DEIS either inadequately addresses or ignores completely.

**RESPONSE OR-59:** The BLM (in a letter dated September 16, 1989) concluded that:

Although operation of the facility may affect wilderness quality, the Bureau of Land Management would not change its recommendations to the Secretary of Interior that the Gunnison Gorge is preliminarily suitable for wilderness designation. However, only Congress can designate an area as wilderness. We cannot say how Congress would react towards a designation of the Gunnison Gorge as wilderness if the AB Lateral Facility is completed.

We assume that BLM considered the Federal Land and Policy Management Act of 1976 (FLPMA) when forming this conclusion and that implementing the project would not be a violation of that Act. The BLM has expressed concerns with the project and their comment letter at the end of volume II should be referenced for further information. FLPMA makes specific mention of water flows through jurisdictional lands (43 U.S.C. Section 1701 [emphasis added]):

- (g) Nothing in this Act shall be construed as limiting or restricting the power of the United States or--
- (1) as affecting in any way any law governing appropriation or use of, or Federal right to, water on public lands;
  - (2) as expanding or diminishing Federal or State jurisdiction, responsibility, interests or rights in water resources development or control

It thus appears that FLPMA would not confer any special obligations or duties regarding water courses running through land under BLM's jurisdiction.

**COMMENT OR-60:** The DEIS casually acknowledges that a degree or two temperature difference with the reduced winter flow to 300 ft<sup>3</sup>/s is sufficient to freeze substantial areas of the Gunnison River (p. 3-49), yet neglects studying the impact of the freezing on trout survival rate and reproduction.

**RESPONSE OR-60:** River ecosystem impacts resulting from ice build up under postproject conditions were described on page 3-88 in the DEIS. The discussion has been supplemented in the FEIS; overall, icing in trout streams is a natural condition.

**COMMENT OR-61:** The DEIS suggests that the increased flow in the Uncompahgre River diverted from the Gunnison River combined with the settling process of trace minerals in Ridgway Dam will dilute

the mine tailings and heavy trace metals already present in the Uncompahgre River (p. 3-61). Will this process sufficiently improve the quality of the water, making it potable and more suitable for aquatic life and irrigation? What studies support such a finding? The DEIS never addresses the long-term problem that as the Gunnison's flow decreased, less water will be available to dilute the highly polluted Uncompahgre should more need arise for future irrigation off the North Fork and Smith Fork of the Gunnison River, and the possibility of reduced crop yields from the contaminated water of the Uncompahgre and reduced flow of the Gunnison downstream from the North and Smith Forks.

**RESPONSE OR-61:** The primary sources of trace metals within the Uncompahgre River are abandoned mines within the headwaters of the river upstream from Ridgway Reservoir. Trace metals within the soil environment are generally not present in the form of oxides associated with particulate materials such as soil particles. The removal of this compound occurs within Ridgway Reservoir as a result of reduced water velocity and increased gravitational settling of the particles. Therefore, the decreased concentration of trace metals is because of Ridgway Reservoir, not necessarily the availability of additional dilution water resulting from the proposed project. Reclamation presently monitors Ridgway Reservoir trace metal concentrations within and at the outlet to determine water-quality impacts. Preliminary analysis of these data suggests that the reservoir is removing trace metals. However, it is too early to determine the long-term impacts of trace metal removal on aquatic life or on existing or potential river uses. See **RESPONSE to COMMENT OR-10** for an additional discussion of Uncompahgre flow dilution.

Page 3-65 of the DEIS provided information about the specific conductance and TDS of the Gunnison River during 1988 near and below the North Fork. Flows then were similar to those expected in a worst case by implementing the AB Lateral Facility. Although limited, these data suggest that present use of the Gunnison River for irrigation would not be impaired by implementing the project. Flow changes are the least during the irrigation season with the project.

**COMMENT OR-62:** The DEIS states on page 3-65 that turbidity beyond the North Fork inflow and total dissolved solids concentrations in the Gunnison would increase. However, the DEIS disregards the impact this would have on the ecology and irrigation. Furthermore, how does this fit in with Colorado's priority system of allocating surface waters for "beneficial use" (2-42)? The DEIS seemingly interprets "beneficial use" as beneficial to private investors, who are also non-Coloradans instead of the Coloradans who fish, raft, hike, and draw their livelihoods from this public resource. "Beneficial use" can easily be interpreted as actions protecting public waters to ensure their continued availability for a broader spectrum of the population, including commercial, recreational, and aesthetic interests - beneficial in terms of an investment in the future rather than an immediate, short-term financial gain.

**RESPONSE OR-62:** Page 3-65 of the DEIS stated, "...The length of time in the spring, or following thunderstorms, that the river remained cloudy or turbid due to North Fork inflows would be extended, and total dissolved solids concentrations would increase." Based on the TDS information for 1988 (page 3-65 of the DEIS) when flows were similar to those anticipated under worst-case postproject conditions, no impaired use is expected. Also, TDS concentrations will be similar to those historically seen on the Gunnison River (also see **RESPONSE** to **COMMENT OR-61**). Hydropower production is considered a beneficial use under Colorado water laws.

**COMMENT OR-63:** The DEIS seriously lacks citations to any studies backing its position that "development would not change the species presently inhabiting the river, and water use presently allowed would not be affected" (p. 3-64). How can BuRec know this when the developer's proposal is junior to the state's unquantified water rights? Since the DEIS cites absolutely no studies on the impact development would have on insects, the mainstay of brown trout, how can BuRec claim the species presently inhabiting the river would not be affected? For instance, if insect quantities are reduced significantly due to the decreased flow, plant life in the river would be affected, completely altering the composition of the river. Why hasn't the DEIS discussed this? This would seem to be a flagrant violation of the spirit of FLPMA, Section 603 (c).

**RESPONSE OR-63:** The phrase "development would not change the species..." has been changed to read "fish species assemblage." Some aquatic species changes may occur in the lower portion of the Gold Medal reach (i.e., macroinvertebrates). However, the question is whether these minor changes will adversely affect the existing resources deemed most important by the public through the DEIS scoping process.

Stanford (1989) suggested that prolonged flows of 300 ft<sup>3</sup>/s in the Gunnison River will not maintain the existing ecosystem. He indicated that the riverine ecosystem (water quality, temperature, macroinvertebrates, and the Gold Medal trout fishery) that has developed downstream from the Aspinall Unit would change considerably in an upstream direction if the river stabilized at 300 ft<sup>3</sup>/s for a prolonged time.

This "resetting" phenomena may somewhat occur; however, the question is: What impact will this have on the 26 miles of Gold Medal fishery? As previously discussed, growth rates of trout on the Gunnison River during low flow periods were excellent, suggesting that food availability is not a limiting factor even at 300 ft<sup>3</sup>/s. Historically, the Gunnison River below the North Fork confluence has been characterized by maximum summer water temperatures in the low 70's (degrees Fahrenheit).

Macroinvertebrate populations in this warmer section are extremely abundant. Although the species composition and diversity are different from the river above the North Fork

confluence, the species present apparently produce an abundant food source for the trout population, since this reach shows the best growth on the Gunnison River.

The macroinvertebrate shift (associated with the potential upstream ecological resetting of the riverine ecosystem by prolonged low flows) would most certainly resemble that situation found below the North Fork confluence. The excellent trout growth demonstrated by CDOW research below the North Fork confluence suggests little or no impact to trout production in the lower portion of the Gold Medal reach, should this upstream ecological resetting occur in response to reduced flows. However, an increase could occur in the numbers of non-sport fish associated with this ecological resetting in the lower portion of the river in response to reduced flow and velocity.

Both total plant life and aquatic insects would be lessened with reduced wetted perimeter, resulting in decreased flows under postproject conditions. The CDOW does not believe that food is limiting the fishery in the Gunnison River; they believe the primary and secondary production available at the 300-ft<sup>3</sup>/s level would be more than adequate to sustain the existing trout populations at or near their present levels. This assumption has been substantiated by fishery surveys during critical low flow years where fish numbers, growth rates, and condition factors were good to excellent. As the health of the upper trophic levels (fish) are a good indicator of the health of the lower trophic levels, these fishery surveys would appear to indicate that the increased occurrence of a summer flow regime of 300 to 400 ft<sup>3</sup>/s would have little or no adverse impact on the Gunnison River's natural resources enjoyed by the public.

**COMMENT OR-64:** What evidence supports the DEIS assumption that the Uncompahgre River can handle the increased flow proposed by the developers? The DEIS fails to address the problems resulting from erosion such as destruction of riparian habitat. What corrective measures will the developers take to reduce and control erosion along the Uncompahgre, especially since the DEIS suggests the increased water flow downstream from the tailrace would improve the river's water quality (p. 3-66)?

**RESPONSE OR-64:** Hydraulic studies of the river, which are supported by field data, indicate the "bank-full" capacity of the channel is greater than postdevelopment flows. Bank erosion would increase, however, with the project. The proposals include measures to reduce and control erosion along the river (see expanded discussion in chapters 2 and 3 in the FEIS).

**COMMENT OR-65:** The DEIS's assertion that "water quality impacts caused by the reduced flow would be evident only during the irrigation season" (p. 3-66) is like saying "it only hurts when I breathe." If true, this would increase competition for the water at a time when it is dirtiest and least available. Such flippancy doesn't address real concerns that the water will be unsafe for drinking or insufficient for irrigation. The loss of

approximately 123,460 acre-feet of higher quality Gunnison River water during the irrigation season is mentioned but the impacts are not discussed (p. 3-66). This is inconsistent with prevention of unnecessary or undue degradation as charged by FLPMA Section 603(c).

**RESPONSE OR-65:** Implementing the AB Lateral Facility would reduce the quantity of flow entering the Uncompahgre River via the South Canal. Because this canal is used only during the irrigation season, water quality in the reach between the South Canal and the proposed tailrace would only be affected during the irrigation season. Under alternative A conditions, the quality of water in this reach would be suitable for irrigation; the water is not now, nor is it projected to be, used for municipal or domestic consumption.

Under development conditions, the competition for water would not change. Water would be diverted through the South Canal to meet projected irrigation needs and other water-rights demands. The impact to water quality due to the reduced flows would not be significant--the classification of the waters would not change; i.e., it would remain suitable for irrigation. See **RESPONSE to COMMENTS OR-10** and **F-71** for additional information.

**COMMENT OR-66:** The near doubling of dissolved solids near South Canal will supposedly be remedied by the settling process at Ridgway Reservoir. What evidence supports the contention that "although (the development alternatives) would represent a significant increase in concentration, it would not result in an increase of total salt loading to the Colorado River system" (p. 3-67)?

**RESPONSE OR-66:** The increased concentration of dissolved solids would occur within the reach between the South Canal outfall and the proposed tailrace. Ridgway Reservoir is not projected to reduce dissolved solids. The increased concentration would be diluted by flows discharged through the proposed facility. Because the facility would divert at least as much water as has been historically diverted through the South Canal, the total amount of solids would not change. Further, because the facility would slightly increase the Gunnison River diversions during the irrigation season and divert these flows through a section that is entirely lined, water quality in the Uncompahgre River downstream from the proposed tailrace should show improvement in terms of dissolved solids.

**COMMENT OR-67:** The DEIS discussion of the effect of water quality and temperature on trout populations is incomplete. The DEIS admits there would be a decrease in trout density and biomass (p. 3-72) and acknowledges that suitable habitat for trout reproduction and spawning, a function of flow may be the most important factor affecting trout populations in the

Gunnison, (p. 3-75) but doesn't fully explore the repercussions of reduced flow. In an obvious attempt to justify the 300 ft<sup>3</sup>/s flow, the DEIS dances around what is a critical question in terms of the river's ecosystem and the region's tourist-based economy.

Although the DEIS admits that a flow of 500-600 ft<sup>3</sup>/s is optimum for adult trout, it never explores any alternative allowing a flow of 500-600 ft<sup>3</sup>/s is optimum for adult trout, it never explores any alternative allowing a flow of 500-600 ft<sup>3</sup>/s. This lack of moderate proposals violates the intent of FLPMA Section 603 (c) and the National Environmental Policy Act of 1969 (NEPA) Section 1502.14 (a) by its elimination of less extreme proposals. It also raises questions of below what profit margin the developers began axing sound alternatives which allowed a higher ft<sup>3</sup>/s flow in the Gunnison River. (This sneakiness, intended to lull readers into passively approving the least offensive proposal (probably "E") instead raises suspicions that profit is guiding the project rather than true need for electric power to the detriment of the environment, the local economy, and common sense.)

**RESPONSE OR-67:** Page 3-72 discussed existing fishery conditions and does not address changes in trout density and biomass with the AB Lateral Facility. Optimum and minimum flows for trout are presented in the FEIS. Various alternatives were addressed in the DEIS that attempted to optimize flows for different resources; alternatives F-3 through F-6, which studied various minimum flow proposals including 600 ft<sup>3</sup>/s, were not financially feasible and therefore were eliminated from detailed discussion.

The DEIS and the FEIS compare various development alternatives to the no-action alternative. As can be seen from the flow tables, the no-action alternative is not optimum for fishery and other natural resources. The alternatives do include moderate proposals such as alternative E. Profit margins versus the feasibility of alternatives have been clarified in chapter 2 of the FEIS and are discussed further in **RESPONSES** to **COMMENTS OR-5** and **OR-6**.

**COMMENT OR-68:** Likewise, the cavalier treatment of the destruction of trout eggs and larvae due to siltation from reduced flows in the Gunnison (p. 3-85) confirms suspicions that the developers are determined to reduce the Gunnison to the lowest flow it can withstand. Why?

**RESPONSE OR-68:** The destruction of trout eggs and larvae due to siltation is not an anticipated impact of the AB Lateral development alternatives. Siltation can be a problem in the river, as seen during the summer of 1989; however, this problem would not be significantly increased by the AB Lateral Facility (see FEIS, fishery section of chapter 3). Reducing winter flows would lessen the river's ability to move sediment downstream.

**COMMENT OR-69:** With continued arrogance the DEIS dismisses its own observation that colder temperature resulting from the



reduced flow will negatively affect the Gunnison's macro-invertebrates, biomass and fish. Ice jams resulting from the reduced flow and presenting a formidable threat to the trapped trout are similarly dismissed as "occasional high winter mortality of trout populations" somehow justifiable because of the great need to reduce the flow to 300 ft<sup>3</sup>/s (p. 3-88). This alleged need is just not demonstrated in light of the environmental and economic havoc the proposal will wreak.

**RESPONSE OR-69:** Page 3-88 of the DEIS stated:

The occasional high winter mortality of trout populations associated with ice conditions is apparently not due to a lack of food or low water temperatures, but rather more likely caused by catastrophic events such as dewatering of stream sections by ice jams. This type of extensive ice buildup was not observed in the Gunnison Gorge during the low water winter of 1988-1989.

This statement does not indicate that high winter mortality of trout is anticipated by implementing the AB Lateral alternatives; rather, the converse is true. It says that high winter mortality resulting from ice jams is not anticipated.

**COMMENT OR-70:** What tests substantiate the assertion that macroinvertebrate populations were not affected by changes in water temperatures and reduced flows (p. 3-89)? It's a bold assumption that any effects would have strictly shown up as increased fish mortality (p. 3-89).

**RESPONSE OR-70:** See also the **RESPONSE** to **COMMENT OR-63**. The page referenced does not mean to indicate that changes to the macroinvertebrate populations would not occur under the postproject flow regimes, but rather that these changes would have little or no impact on the resident fishery (trout and endemic species). Trout and most fishes in general tend to be opportunistic in their feeding habits, feeding on whatever appropriate food items are available. No evidence exists to suggest that trout, for instance, prefer stoneflies over caddisflies or mayflies over stoneflies. Thus, a minor change in the species composition within the major taxa of aquatic insects of the Gunnison River should have little or no impact on the resident fishery.

**COMMENT OR-71:** The DEIS dwells on the acceptability of a 300 ft<sup>3</sup>/s for trout fry (p. 3-93), while dismissing the fact that up to a 600 ft<sup>3</sup>/s is the best flow for trout reproduction, again raising questions of why a less extreme proposal wouldn't be acceptable to the developers.

**RESPONSE OR-71:** Based on figures 3.13 and 3.15 in the DEIS, 500 ft<sup>3</sup>/s would be the optimal flow for maximum trout reproductive success. The FEIS compares habitat between the development and the no-action alternatives. Fishery conditions, although not

optimal with development, are protected under the postproject conditions when compared to the existing conditions. Alternatives in the EIS provide a range of diversion alternatives from the Gunnison River and do not represent extreme proposals.

**COMMENT OR-72:** The Sponsor's preferred alternative, "C", also involves the greatest habitat decreases (p. 3-95), conflicting with FLPMA Section 603 (c).

**RESPONSE OR-72:** This paragraph has been rewritten in the FEIS. Alternative C presents some impacts that would be greater than experienced under other alternatives. Alternative E is Reclamation's recommended plan.

**COMMENT OR-73:** Increased hiking and decreased raftability resulting from reduced flow will have a significant ecological impact on the Gunnison River which the DEIS only superficially addresses (p. 3-133). This 35% increase in human use (p. 3-136) would not be so drastic under a more moderate proposal with less flow reduction but the developers refuse to entertain any such moderate proposals. In Colorado, opportunities for rafting are limited to just a few waterways in the state. Hiking occurs over a much broader area. The DEIS fails to analyze the effects of losing another river in Colorado to rafting activities. By BuRec's own estimates rafting has grown in popularity by sevenfold within the past six years (p. 3-141) while many rivers have reached their rafting capacity, necessitating regulation of rafting.

**RESPONSE OR-73:** The DEIS described impacts of increased use in the recreation and land use sections of chapter 3; this discussion has been expanded in the FEIS. The 35-percent figure in the comment was intended to show differences between high and low flow years. Project-related changes to the recreation season flows would average less than 200 ft<sup>3</sup>/s. However, flow changes are the least during the peak recreation months. Therefore, management of recreation users is a concern under all alternatives, including the no-action alternative. Please see **RESPONSE** to **COMMENT I-99** for additional information.

As described in both the DEIS and the FEIS, rafting use is projected to decline with the AB Lateral alternatives but certainly would not be lost. Rafting is presently regulated on the Gunnison River; these regulations may ultimately determine the total rafting use of the river. To protect environmental values, numbers of rafters will have to be controlled on the Gunnison.

**COMMENT OR-74:** BuRec is completely sanguine about the potential loss of wilderness designation of the Gunnison Gorge posed by all the development alternatives (p. 3-135) in flagrant violation of FLPMA Section 603 (c) and NEPA Section 1502.14. This irreverence convinces us that BuRec has no environmental interest whatever in the Gorge and is solely interested in profits generated by the project to retire its own debts sooner. The cumulative reduction

of values that make the area attractive leads BuRec only to the conclusion that more restrictive management practices may be instituted by the NPS and BLM to preserve natural values (p. 3-163). BuRec itself seems callous to the legitimate fears that all of the development proposals will permanently and irreversibly alter the ecosystem of the Gunnison River.

**RESPONSE OR-74:** See **RESPONSE** to **COMMENT OR-49**. On the contrary, Reclamation is highly interested in the environmental quality of the Black Canyon and the Gunnison Gorge. Our studies have indicated that the AB Lateral Hydropower Facility would cause certain impacts on the environment of the Gunnison. If the environmental quality is to be maintained, certain management practices would need to be adopted by the BLM and the NPS. Furthermore, with the increasing popularity of the river as a recreational site, these management practices probably will be adopted in the future with or without the project.

**COMMENT OR-75:** The DEIS list of preparers should include the names of employers of preparers to assure readers that no conflict of interest exists under Section 1506.5 (c) of NEPA.

**RESPONSE OR-75:** See **RESPONSE** to **COMMENT OR-33**.

**COMMENT OR-76:** Federal water rights unanswered questions from the DEIS include:

A. The DEIS provides no information about the plans by the three groups holding senior water rights for irrigation in the area of the proposed hydroplant as to whether or when they will develop their rights (p. 2-43).

B. According to Colorado water law, the UVWUA's water rights (1982 and 1987) are also junior to the unquantified federal wilderness and National Monument water rights of the Black Canyon of the Gunnison, commensurate with Congress' intent to reserve enough water to accomplish the original purpose of creating the special management zone of the Black Canyon (p. 2-43). Without some assurance that all of these senior rights will continue to lie dormant, the MITEX proposal is premature. BuRec gives no assurance that MITEX won't contest Federal Reserved Water Rights for the monument.

**RESPONSE OR-76:** The Sponsors will operate under Colorado water law and have therefore agreed to assume any risk associated with perfection of these senior rights (including Federal reserve rights). The FEIS has been modified to clarify the priority of water rights for this project. See **RESPONSE** to **COMMENT F-1** and additional text description in chapter 2 (water rights section).

**COMMENT OR-77:**

3. The hydroplant proposal raises several grave economic concerns which the DEIS wholly ignores or arrogantly glosses over:

A. The DEIS doesn't demonstrate a genuine need for electricity that can't be provided by other suppliers already in the region. The 48-38 megawatts of power the AB Lateral would produce would have to be purchased by PSC under PURPA for 15 years, but the PSC could buy the power from the near bankrupt Colorado-Ute Power Company in Montrose, thereby eliminating the need for the new hydroplant, eliminating unfair competition with existing utilities, and perhaps helping return Colorado-Ute to solvency. In fact, Colorado-Ute is already selling its surplus power at discount rates, further eliminating the need for the hydroplant.

**RESPONSE OR-77:** The Public Service Company would still be free to purchase additional power from Colorado-Ute in addition to the AB Lateral. The 38- to 48-MW capacity of the project is only a fraction of Public Service Company's long-term needs. See **RESPONSES** to **COMMENTS F-6** and **OR-1** and the purpose and need section (chapter 1) of the FEIS.

**COMMENT OR-78:**

B. Even if BuRec could demonstrate a real need for the electric power, the cost of building the hydroplant is prohibitive in light of all hidden costs the DEIS fails to mention. Who will finance the acre-for-acre replacement of lost wetlands required in the Clean Water Act 404 regulations and where will that money come from - private or federal money? Who will fund rights of way agreements for bank stabilization work on private property and where will this money come from? Why isn't it itemized in the cost of the alternatives? All the development alternatives increase the risk of flooding in the Gunnison Gorge and downstream reaches since no diversions would occur as a way of controlling flooding in the Uncompahgre (p. 3-15). Where will flood control and liability money come from?

**RESPONSE OR-78:** The FEIS in chapter 2 has been modified to include cost breakdowns for each alternative. The Sponsors would be responsible for all project costs and project-related mitigation identified in the FEIS and provided for in the lease of power privilege. Estimates of these costs are included in the financial analysis of each alternative. Flooding would not be affected by the development alternatives, although it will occur in the future whether or not the project is developed.

**COMMENT OR-79:**

C. The DEIS doesn't take seriously the real impact of the hydroplant on the regional economy. Although the DEIS admits in several places that commercial rafting in the Gunnison River will be reduced, it continually treats this factor as a fair tradeoff for the increased power and supposed profits to the region. However, since tourism is the region's primary source of income, and since rafting contributes significantly to that revenue, the DEIS should no more dismiss the loss of rafting due to reduced flows than would any of the people who depend on the river's

rafting attraction for their bread and butter. It's not a fair tradeoff. Furthermore, rafting opportunities statewide are limited, while the power facilities can have more flexibility in where they are located and how they operate. The DEIS mysteriously assumes that the money lost from rafting can be made up by increased fishing opportunities (p. 3-138). But fishing opportunities are more abundant statewide than rafting, so the anglers may simply go elsewhere. The loss of commercial rafting could totally crush the fragile economies of towns along the river, already suffering from high unemployment and a statewide depression from the loss of oil revenue. When the rafters stop coming to the Gunnison, other tourist support services will crumble.

ii. Furthermore, since the reduced flows will affect established trout patterns (3-76-79), walk-in angling may never become the substitute to the economy the developers hope it will.

**RESPONSE OR-79:** The FEIS states that rafting would be affected by reduced flows in the Gunnison River. These impacts are measured in terms of direct and regional expenditures and income-generated labor (see table 3.55 in the FEIS). The estimated impact to these categories is that development of the Sponsor's preferred alternative (C) would reduce direct expenditures by approximately 23.8 percent and 12.0 percent with development of other alternatives. From table 3.51, alternative A results in total regional expenditures of \$507,000. Reclamation reported in its Project Data Manual (DOI, Reclamation, 1981) that the value of crops produced in the Uncompahgre Project was more than \$19 million (in 1977 dollars). The recreational economy in the area is extremely important and the Gunnison River is a vital component within this economy; however, compared to use at area state parks, national forests, and national monuments, rafting provides only a small percentage of recreational use in the Gunnison. (Rafting on the Gunnison River represents approximately 4 percent of the total rafting opportunities in the State of Colorado [PIC, 1980], and the EIS shows that this use is affected.)

The EIS also states that another impact of the project would be to increase the opportunity for fishing along the river because the flows will be reduced. While the regional economic impacts of fishing and rafting could be counterbalanced, no attempt is being made to trade off these impacts. Information on impacts to water-surface elevations (depths of flow) has been added to the FEIS (see chapter 3, land use and recreation sections). This information shows that impacts to rafting may be considerably less than stated in the comment.

**COMMENT OR-80:**

iii. The DEIS suggests the hydroplant will create construction jobs but later admits rather lamely what a gamble the project in fact represents (p. 3-146). It merely presents short-term employment possibilities because it will be

automatically operated (p. 3-147) and there is no guarantee it will attract other industry as the developers assure it will (p. 3-147). Given the lack of attention to costs in the DEIS, the real question is whether the hydroplant will bring any financial windfall to the region after all the environmental, recreational, and economic sacrifices it will entail, or whether it will simply bring new debt to the region.

**RESPONSE OR-80:** No projection was made that the project would attract other businesses to the area. The economic analysis in the EIS does not include any such benefit, since it would be speculative and difficult to quantify. The Sponsors (particularly Montrose Partners) would be responsible for all project debt.

**COMMENT OR-81:** The DEIS states the environmental impact will likely incur new management costs to protect the area from increased accessibility on foot. Who will pay the bill?

**RESPONSE OR-81:** The management costs along the Gunnison River are funded primarily through the BLM, the NPS, and the CDOW. These costs generally increase as recreational use increases; these increased costs are funded through these agencies. Recreational use is estimated to increase with the AB Lateral Facility; therefore, management costs to these agencies would increase.

**COMMENT OR-82:** The DEIS's handling of profits and financial disclosure about profits (or more appropriately lack thereof) is so crafty it defies the imagination. This directly violates several sections of NEPA.

**RESPONSE OR-82:** Project finances are fully discussed in the EIS. Also see **RESPONSES OR-83** through **OR-87**.

**COMMENT OR-83:** The DEIS relies on a cost-benefit analysis to justify its alternatives. Buried on page 2-44, the DEIS discloses in passing that it prefers alternative "C", which happens to be the most environmentally offensive alternative. It's annoying that the DEIS makes the reader hunt for this important information. Still, since the alternatives all represent similar proposals (or more correctly, slight variations on the same proposal), in violation of NEPA Section 1502.14, it's almost a moot point.

ii. The developers cost-benefit analysis is strictly in terms of the monetary cost to them weighed against the profits they will net. But this balancing should include the cost to the environment in terms of lost recreational revenues and the lost, irreplaceable aesthetic value, though difficult to gage.

**RESPONSE OR-83:** The EIS uses a financial analysis solely to establish the financial feasibility of alternatives and thus the Sponsor's preferred alternative. It is not a "cost/benefit analysis" used to support Reclamation's selection of the

recommended alternative. Where possible, economic estimates of environmental costs and benefits have been developed and included in the EIS to assist in the decisionmaking process.

**COMMENT OR-84:** The lack of intermediate, less drastic alternatives suggests that there is no room for compromise in this project. Yet the town of Norwood has proposed a similar hydroplant that would displace far less water from the Gunnison, allowing commercial rafting to remain a viable industry in the region. Why doesn't the DEIS reveal Norwood's proposal? The lack of disclosure leads us to suspect there is a minimal profit margin below which the developers won't consider reasonable alternatives. This lack of disclosure violates NEPA Section 1502.14.

**RESPONSE OR-84:** See **RESPONSES** to **COMMENTS OR-8** and **OR-9**.

**COMMENT OR-85:** As a full disclosure law, NEPA requires the Federal agency to "report sufficient information on the project to allow informed public review and be able to make a responsible decision." If material based on proprietary data (which doesn't necessarily have to be disclosed according to NEPA) is referenced in the DEIS, it must be disclosed. However, the developers have not disclosed their cost-benefit calculations after referencing them, thereby violating Section 4-12 of BuRec's NEPA Handbook.

**RESPONSE OR-85:** Please see **RESPONSE** to **COMMENT OR-6**.

**COMMENT OR-86:**

v. All rudimentary information about how the profits will be dispersed are missing from the DEIS. The public is being asked to approve the project without knowing who will benefit from this public resource. Estimates by Mark Silversher, a Norwood resident and supporter of Norwood's hydroplant proposal indicate that area water users will gain only 4 percent of the profits and no reduction in water charges. The rest of the profit will leave the state and the country. The sponsors have refused to release information detailing their ability to fund the project and what would happen in the event of loan defaults and cost overruns.

**RESPONSE OR-86:** The amounts received by the UVWUA would be significantly greater than 4 percent of the project profits. Dollar estimates of these returns are included in the EIS. Montrose Partners would fund the project with bank financing. If the project appears profitable when it is financed, such loans should be available. See **RESPONSE** to **COMMENT OR-31**.

**COMMENT OR-87:** There may be a conflict of interest when BuRec received profit from the project since it is the lead agency in the EIS preparation. The DEIS of course doesn't raise this possibility.

**RESPONSE OR-87:** Please see **RESPONSE** to **COMMENT OR-32**.

## WESTERN SLOPE ENERGY RESEARCH CENTER

(All the following comments are paraphrased--see their comment letter for the complete comments)

**COMMENT OR-88:** ...The B/C analysis and selection of alternatives are inadequate.

**RESPONSE OR-88:** The financial feasibility analysis has been clarified in the FEIS. See **RESPONSES** to **COMMENTS OR-6** and **OR-9** regarding smaller projects.

**COMMENT OR-89:** The Purpose and Need section does not acknowledge the current regional power surplus or the impacts on Colorado-Ute.

**RESPONSE OR-89:** See **RESPONSES F-6** and **OR-1** through **OR-3**.

**COMMENT OR-90:** Potential impacts to the Uncompahgre River are not yet fully studied, and are not comprehensively presented in the DEIS... It is unconscionable and illegal to rush the project through the NEPA process with half-finished environmental impact statements.

**RESPONSE OR-90:** The discussion about the Uncompahgre River has been expanded in chapters 2 and 3 of the FEIS. Refer also to the table of contents for the comments and responses.

**COMMENT OR-91:** The presentation of project impacts is also biased in favor of the project. The difference between Alternative A modeled flows in the Gunnison River and the USGS records of actual flows is significant...This is a critical issue, because when you compare the project flows with Alternative A it makes it seem less damaging than when compared to the USGS numbers. That impacts all the baseline data used in the DEIS and the analysis of economic impacts to fishing and rafting.

**RESPONSE OR-91:** A direct comparison of alternative A flows to USGS flows cannot be made for the total study period because alternative A flows are based upon a simulation model. This model was required to simulate flows in the river that would have occurred had the Aspinall Unit been operating during the study period--1952 thru 1983.

However, it is possible to compare flows entering the Black Canyon from 1979 through 1983. These flows are presented for alternative A in table 3.7 (p. 3-18) of the DEIS and for the USGS in attachment B (which has been corrected for the FEIS); this comparison is summarized in the following table.



Average annual flow (ft<sup>3</sup>/s) entering  
the Black Canyon for alternative A  
and the USGS gauge (1979-1983)

Year	Alternative A	USGS gauge	Percent difference
1979	1,502	1,555	3.41
1980	1,472	1,473	0.07
1981	589	571	-3.15
1982	993	1,040	4.52
1983	1,822	2,226	18.15
Averages	1,276	1,373	7.06

Reading the above data, it is shown that the differences in 4 of the 5 years are insignificant. The percentage difference is less than 5 percent, which is the accuracy of the gauge. The percentage difference exhibited in 1983 cannot be explained through allowable errors in the USGS gauge reading or through errors in the UVWUA diversions. However, even with this percentage difference, the measured impacts stated in the DEIS would not change for any of the development alternatives because flows entering the canyon are greater than 600 ft<sup>3</sup>/s. See **RESPONSES to COMMENTS F-29, OR-22, and the RESPONSES to COMMENTS No. 20 and 21 at the MONTROSE PUBLIC HEARING.**

**COMMENT OR-92:** The claim of increased angler hours for building the project seems pure guesswork. While some increase is possible, saying the amount of flow is inversely proportional to increases in angler hours (table 3.52) and thereby claiming increased benefits for Alternative C is a pathetic manipulation of the numbers. Moreover, the increase of human impacts to the Black Canyon National Monument (which is managed as wilderness in the canyon) and the BLM's Gunnison Gorge Wilderness Study Area (which is also being managed as wilderness) is not quantified, nor is the possibility that increased use would trigger a permit system for hike-in use of the two areas.

**RESPONSE OR-92:** Creel surveys over a period of years confirm that angler use increases at lower flows. Flow reductions with hydropower alternatives are lowest during peak recreational seasons; however, an increase in use is predicted as described in chapter 3 of the FEIS.

Increased use does lead to increased impacts and management needs. Permit systems have already been implemented in the area for some uses and an increased use of permit systems may occur under any alternative.

**COMMENT OR-93:** The DEIS does not explore the potential under Alternative A for a sizeable increase in angler hours on the Gunnison River between the Smith Fork and Delta, based on the McCluskey land purchase, nation-wide promotion of the area and

the maintenance of flows and temperatures suitable to a Gold Medal fishery. We maintain angler hours and the related fishing economy will increase far more under Alternative A than the claims made in table 3.52 for the development alternatives. Moreover, the increase is in an easily accessible area, benefiting a large majority of the public and will serve to reduce fishing pressure and human impacts to the two wilderness areas upstream.

**RESPONSE OR-93:** Use under alternative A and other alternatives might increase. Area promotions, commercial advertising, special designations, and other factors can all stimulate the public's interest in and use of the area. We disagree that increased use downstream from the Smith Fork will reduce pressure upstream; in fact, it may increase use upstream as anglers and hikers seek areas with less use. Overall, the potential for increased use occurs under all alternatives. Management plans, based on recreation-carrying capacity, have been developed to protect resources.

**COMMENT OR-94:** Salt loading is a critical water quality question, and of national concern because of the extreme cost to the taxpayers of the Colorado River Salinity Control Project, treaties with Mexico and impacts to other uses of downstream water. I have a number of criticisms of the DEIS's treatment of salinity...effect of more clean Gunnison River water on erosion and salt loading in Uncompahgre Valley...effect on existing aquifers and salt loading in Uncompahgre Valley...seepage from the Uncompahgre River itself...impacts of wetland mitigation program on salt loading and salinity concentration.

**RESPONSE OR-94:** See **RESPONSES** to **COMMENTS F-36** and **OR-52**. Also, no significant effect is predicted on aquifers along the river. The winter water table would rise along the river. The wetlands mitigation area would be constructed in gravel areas of the floodplain and would not provide seepage into saline formations.

**COMMENT OR-95:** UVWUA farmers and officials continually claim they need more water, and would take more water out of the tunnel if it was big enough. R&B projects in the last few years have tried to increase the tunnel's hydrologic capacity. Table 2.1... lists the UVWUA's irrigation needs as 50,000 acre-feet per year greater than supplies.

**RESPONSE OR-95:** The UVWUA improved the Tunnel during past rehabilitation and betterment (R&B) projects to rehabilitate older sections of the Tunnel, to repair damages resulting from Tunnel operation, and to reduce annual maintenance costs. As a result, minor hydraulic improvements have been made that have slightly increased the capacity.

Table 2.1 in the EIS demonstrates the reliance the UVWUA must place on return flows and inflows from Uncompahgre River tributaries downstream of Colona, such as Spring and Cedar

creeks. Water is reused in the valley. Without these flows, the diversion demands listed in the table could not have been met.

**COMMENT OR-96:** While not proposed as an irrigation project, Alternative C would enlarge the Tunnel and that, plus additional flows provided by the Ridgway Reservoir, will leave more water available to the farmers during the irrigation season. There would be no downstream users to prevent use of the excess water. That would move more water into the irrigating system and on the fields and increase salinity levels.

**RESPONSE OR-96:** Enlarging the Tunnel would not result in increased irrigation, although it would reduce the UVWUA's dependency on return flows (see **RESPONSE** to **COMMENT OR-95**). Because irrigation is not increased, salinity levels would not increase.

**COMMENT OR-97:** Finally, allowing the sponsors to hire contractors to submit reports to the Bureau for the DEIS is tantamount to allowing the fox to design the henhouse. It makes us question the data and arguments presented, considering HDR's future interest in the project.

We request copies of the disclosure statements that the Bureau should have negotiated with the contractors and a statement as to how those jive with the statements in the 1986 proposal for development services submitted by the Sponsors to the Bureau, which states that HDR will design the project and serve as a consulting engineer. This may be a blatant violation of NEPA regulations governing the EIS process and could mean the entire DEIS should be thrown out and a revised document written from scratch.

**RESPONSE OR-97:** Please see **RESPONSES** to **COMMENTS OR-31, OR-33,** and **OR-128.**

## COLORADO TROUT UNLIMITED

**COMMENT OR-98:** Trout Unlimited here addresses two main issues associated with the AB Lateral: (1) the project's potential aquatic impacts, including its potential impacts to the Gunnison's world-class trout fishery; and (2) the actual need for the project.

**Potential Aquatic Impacts:** Trout Unlimited perceives the potential for several resource-related problems with the AB Lateral project, including:

A reduction of quality habitat for adult trout.

Harm to trout populations through low flows and associated increases in summer river temperature and low temperatures in winter and the formation of anchor ice.

A lack of sufficient flow for float-fishing and rafting.

A loss of riparian habitat that is critical to the canyon wildlife and flora.

A threat to the Wild and Scenic designation of the Gunnison by diminishing the resource and the wild, scenic, and recreational opportunities that make the river eligible for such designation.

**Project Effects of the Gunnison Trout Fishery:** The project has caused considerable and heated biological debate in regard to its potential impacts to the Gunnison's Gold Medal trout fishery. The Draft EIS contends that a 300 ft<sup>3</sup>/s minimum flow will not be harmful to the renewed wild trout fishery, and in fact, may serve to improve it.

The DEIS states that 300 ft<sup>3</sup>/s flows will result in good annual trout recruitment and will provide sufficient habitat and cover for adult trout. But the DEIS then states that optimum flows for trout are in the 500 ft<sup>3</sup>/s range.

Conversely, biologist Jack Stanford has studied the Gunnison River for 20 years and strongly disagrees with the DEIS results. Stanford agrees with the much respected studies on the Gunnison wild trout recruitment, but believes that year round flows in the 300 ft<sup>3</sup>/s range would be detrimental to the river and its trout. Stanford argues that the Curecanti system has developed a world-class, tailwater fishery through historic, typical flows in the 500-1,000 ft<sup>3</sup>/s range. By decreasing those average flows the river's entire biological makeup, including its trout population, will be adversely affected, contends Stanford. Stanford calculates the river's optimum flow at 600 ft<sup>3</sup>/s.

Despite the current controversy over the effects of minimum flows on the river's trout, there exists a consensus that places optimum year round flows for the Gunnison in the 500-600 ft<sup>3</sup>/s range. In TU's opinion, flows in that range would not only ensure the protection and preservation of the total riverine system, including its Gold Medal fishery, but would also allow for a continued diversity and enjoyment of recreational opportunities. Trout Unlimited therefore opposes any project and resulting flow regime for the Gunnison that would permit the river to frequently or periodically drop below its optimum flow level of 500-600 ft<sup>3</sup>/s.

**RESPONSE OR-98:** Average adult trout habitat is actually projected to increase for 10 out of 12 months for rainbow trout and 12 out of 12 months for brown trout (see figures 3.16 and 3.17). Temperatures and their effects on trout are discussed in chapter 3 of the FEIS and **RESPONSES to COMMENTS F-58, OR-23, and OR-69**. Riparian vegetation is discussed in **RESPONSE to COMMENT F-50**. In general, negative riparian impacts are not

expected, as flow reductions would be least in the growing season. The river would still be eligible for wild and scenic designation (see **RESPONSE** to **COMMENT I-81**).

Regarding minimum flow versus optimum flows, the FEIS recognizes that postproject flows would not be optimal. However, alternative A (no action) is also not optimal. Minimum flows (300 ft<sup>3</sup>/s) are the same with or without the project, although these flows would increase in frequency with development. However, average postproject flows (654 ft<sup>3</sup>/s for alternative E) are actually closer to the 500- to 600-ft<sup>3</sup>/s optimum than are preproject flows (1,103 ft<sup>3</sup>/s). See **RESPONSE** to **COMMENTS O-63** and **O-71** for additional information.

Regarding Dr. Stanford's disagreement with the DEIS, comments to that effect have not been received.

**COMMENT OR-99: Project Need:** Trout Unlimited must question the actual need and purpose of the project. The rationale behind the project does not stem from a need for electricity. The project has been proposed because the UVWUA wants to shorten the life of its long-standing federal loan and debt for the construction of the Gunnison Tunnel and its irrigation facilities. That debt is due in 2048, but it is the desire of the UVWUA to retire the debt by 2004. By building the AB Lateral, the UVWUA, through the guidelines of PURPA, will be able to sell the newly generated power to Public Service Company. PURPA requires local power companies to purchase locally generated excess power whether it is needed or not. There is no need for this power. In fact, there is an overabundance of power in this area of Colorado. In addition, the local power company in the Montrose area, Colorado Ute, is on the brink of bankruptcy. Yet PURPA regulations will force Public Service to buy - and therefore to sell - the power. In the long run, this power sale could further dilute or undermine the foundering Colorado Ute's electrical market, as well as impose unnecessary cost burdens on local residents' utility bills.

**Conclusion:** There appears to be no need for the AB Lateral Project other than to accommodate the water users' reduction of debt to the federal government. Their self-motivated purpose could quite possibly be detrimental to the Gunnison River, its wildlife, and its users.

**RESPONSE OR-99:** See **RESPONSES** to **COMMENTS F-6**, and **OR-1** and **OR-77**.

## AUDUBON SOCIETY OF WESTERN COLORADO

**COMMENT OR-100:** The reduced flows in the Gunnison River, especially in the winter, will affect an entire ecosystem. No one knows what will happen to this river system if constant low flows such as these are instituted. The lack of fluctuating flows (spring highs) on the riverine system will greatly alter

the Gunnison. Icing in winter and the effect that icing will have on the otter population, as well as on fish and bald eagles is of great concern to us. We feel the DEIS does not adequately address and answer these questions.

**RESPONSE OR-100:** Periodic "high flows" during the spring would occur if the project is implemented and would continue to restructure the vegetation community of the Gunnison River. The major flow change would occur in the winter, yet winter flows would still be higher than natural winter flows. Please see **RESPONSES F-50** and **F-55** for further discussion. We believe that data provided within the DEIS are adequate to predict impacts to otters and bald eagles. Project sponsors have agreed to implement a bald eagle monitoring program recommended by the FWS. Additional information on otters can be found in **RESPONSES** to **COMMENTS F-58** and **F-103**.

**COMMENT OR-101:** The dramatic reduction in flow (to as low as 24 ft<sup>3</sup>/s) in the Uncompahgre River through Montrose is astounding. This river reach will become choked with vegetation and will no longer be a river. Wildlife in that reach will be greatly affected. Although mitigation is proposed, we wonder if the point is being missed. Displaced individuals of various species will not easily move up- or downstream to where there is a river because there are already individuals in the available habitat. Nature does not allow for overcrowding and displaced individuals will likely die. Once again, habitat is lost, being whittled away piece by piece. Downstream the changes in the river will be as bad. The river becomes as in flood, but it will occur year round. The erosion of streambanks will be enormous.

**RESPONSE OR-101:** The project would result in riparian vegetation increasing along the Uncompahgre River between the South Canal and the tailrace (see chapter 3 of the FEIS). Riparian vegetation would develop on any newly exposed riverbanks and could actually provide additional wildlife habitat. The FEIS text has been expanded to more fully describe vegetation and other impacts along the Uncompahgre River.

**COMMENT OR-102:** There is no need for the project, here or in the region. There is excess power today, and increasingly, people are using conservation practices. The project's cost-benefit ratio is so low (from 1.001 to 1.056) that one wonders about the inevitable cost overruns. The final cost-benefit ratio will very likely be even less acceptable.

**RESPONSE OR-102:** Need for power is only one of four principal needs for the project cited by the Sponsors. See purpose and need section (chapter 1) in the FEIS and **RESPONSE** to **COMMENT F-6**.

## NATIONAL PARKS AND CONSERVATION ASSOCIATION

**COMMENT OR-103:** The Bureau of Reclamation can not lawfully approve the proposed AB Lateral Hydropower Facility unless it is

demonstrated that the project will not impair or derogate National Park System values and resources or visitor enjoyment of National Park System values and resources. The Bureau has failed to demonstrate nonimpairment.

The basic legal standard for protection of national park units is established by the National Park System (NPS) Organic Act, together with its 1978 "Redwoods amendments," which impose general standards prohibiting "impairment" or "derogation" of NPS values and resources, except where necessary for reasonable protection and enjoyment of park visitors.

The 1916 NPS Organic Act provides that the "fundamental purpose" of national parks, monuments, and reservations is:

to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

16 USC Section 1 (Act of August 25, 1916, 39 Stat. 535).

The 1978 "Redwoods Amendments" to the NPS Organic Act specifically prohibit the Secretary of the Interior from approving any action or project that could "derogate" the values and resources of any NPS unit.

The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.

16 USC Section 1a-1 (As amended Public Law 95-250, Title I, Section 101(b), March 27, 1978, 92 Stat. 166.) (Emphasis added.)

The "extra-park reach" of the derogation provision was strongly emphasized in the report of the key Senate committee recommending the Redwoods Amendments, which explained that their purpose was:

to refocus and insure that the basis for decisionmaking concerning the System continues to be the criteria provided by 16 USC Section 1,

emphasizing that

this restatement of these highest principles of management is also intended to serve as the basis for any judicial resolution of competing private and public interests in the areas surrounding Redwood National Park and other areas of the National Park System.

Report of the Committee on Energy and Natural Resources of the United States Senate, 95th Cong., 1st Session, Senate Report No. 95-528, at pages 7-8 (1977). (Emphasis added.)

These key and controlling statutory requirements of the National Park System Organic Act must be addressed and complied with by the Bureau of Reclamation in its review of the proposed AB Lateral Facility. The Bureau of Reclamation has improperly failed to acknowledge these statutory requirements in the draft EIS. Furthermore, the draft EIS fails to assess whether the predicted impacts of the proposed AB Lateral project will result in impairment or derogation of NPS values, resources or visitor enjoyment. This analysis should be completed by the National Park Service and included in the DEIS.

**RESPONSE OR-103:** Considerable disagreement exists to what extent the Redwoods Amendments grant the Secretary of the Interior "extra-park" reach regarding a national monument. However, whether or not the amendments apply is not the primary issue; the issue is the impact on the Monument. The FEIS concludes that significant, adverse impacts would not occur in the Monument. Flow changes are significant, particularly in winter months, when average winter flows would be reduced to approximately 500 ft<sup>3</sup>/s. The NPS has also commented on the EIS and has expressed concerns with the development alternatives; however, they have not made any assertion of violation of the "Organic Act" or the Redwoods Amendment.

When the Federal Government removes land from the public domain, the courts have established that the Government reserves with that land the amount of water necessary to fulfill the specific purpose of that reservation. By definition, a Federally reserved water right provides sufficient water to meet the purposes of the original reservation. Because the Sponsor's 1982 and 1987 hydropower right would be junior to the Federally reserved water rights, the project would not injure the purposes for which the Monument was dedicated.

**COMMENT OR-104:** The draft EIS fails to explicitly or adequately describe, or assess potential impacts to, the values, resources and visitor enjoyment of Black Canyon of the Gunnison National Monument. As a result, the Bureau of Reclamation is unable to demonstrate that the project will not impair or derogate park values, resources and visitor enjoyment. Available information indicates, however, that the values, resources and visitor enjoyment of the Monument will be impaired by the project.

**RESPONSE OR-104:** The great majority of use of the Monument occurs during the summer and occurs along the rims of the Monument. During this period, flow changes are least with alternatives for the AB Lateral Facility, and negative or positive impacts would be the least. (See **RESPONSE** to **COMMENT F-61** concerning flow changes in the Monument.)



A predicted increase in visitor use in the Monument along the river could occur, especially before and after the peak recreational season, a use that has both negative and positive effects. The greatest changes due to the AB Lateral Facility would occur in the late fall and winter.

**COMMENT OR-105:** The draft EIS fails to adequately assess potential impacts to the values, resources and visitor enjoyment of Black Canyon of the Gunnison National Monument. The draft EIS fails to adequately evaluate how the proposed AB Lateral Project will affect flow regimes below the tunnel throughout the year. The EIS should provide information on what the flow will be on a weekly or other consistent periodic basis throughout the year. Without this information, it is impossible to meaningfully assess the impacts of the new flow regime. It fails to adequately assess how the new flow regime will affect the ecology of Black Canyon of the Gunnison National Monument. In particular, the draft EIS fails to adequately assess the effects of stabilizing the existing flow and reducing its seasonal variations. Specifically, the draft EIS fails to adequately analyze the affect of the new flow regime on:

- fish, and other invertebrates;
- aquatic insects, and how any change in insect populations will affect fish;
- rare, endangered and threatened species in the Monument, including cutthroat trout;
- riparian vegetation, especially the encroachment of woody plants;
- sediment levels and how sediment levels affect river ecology, including insect and fish populations;
- the geomorphology of the Gunnison River through the Monument;
- especially, how the new flow regime will affect the accessibility of the Canyon bottom, how increased accessibility will affect visitor use levels, and how increased visitor use levels will affect visitor enjoyment of the Monument's wilderness values, especially solitude and a sense of remoteness;
- visitor enjoyment, including visitors' visual and audio perception of the Black Canyon.

**RESPONSE OR-105:** The FEIS has been expanded in several areas in chapter 3 (streamflows, fisheries, river mechanics, and vegetation) to discuss impacts on the Monument. The DEIS and the FEIS contain flow tables throughout a given year for all alternatives. The short-term fluctuations under development alternatives would not be changed or would be reduced (see **RESPONSE to COMMENT F-82**).

The effects of the new flow regime under development alternatives are discussed in the DEIS and the FEIS. Greatest changes occur during the winter when existing flow levels are extremely unnatural. Peak flows in the spring would be only slightly affected. No known endangered or threatened fish species exist in the Monument. The native cutthroat trout has been gone from the Gunnison River for many decades (Wiltzius, 1977).

The geomorphology of the river in the Monument is not projected to change. The potential for increased use along the river would occur under development alternatives, primarily in the early spring and the late fall. Increased use does reduce solitude, although users can disperse more readily at lower flows. If use is too high under any alternative, including alternative A, the NPS will need to manage this use. The NPS currently reports increased use. The river would be noticeably lower in the winter, resulting in visual and audio impacts (recognized in the EIS).

**COMMENT OR-106:** Available information indicates that the values and resources and visitor enjoyment of the Monument will be impaired by the proposed AB Lateral project.

As proposed, the AB Lateral Project will divert approximately 70 percent of the Gunnison River's annual flow. In addition, the project will apparently reduce water levels through the Monument to a minimum of 300 ft<sup>3</sup>/s during 50 percent of the year. This represents a dramatic reduction in current flows. It is our understanding that current average monthly flows for normal years average 1000 ft<sup>3</sup>/s, and that the river is reduced to a flow of 300 ft<sup>3</sup>/s only about 8 percent of the time.

As noted above, the draft EIS fails to adequately assess the effect of this new flow regimes on the values, resources and visitor enjoyment of the Monument. But the probability of impairment of the Monument's natural processes is high in light of such substantial changes.

Furthermore, the reduced flows will dramatically increase the accessibility of the Canyon bottom to visitors. The draft EIS fails to recognize that increased accessibility may impair some of the values and resources which the Monument and its 1976 wilderness designation were set aside to protect.

Increased accessibility is likely to result in increased visitation to and use of the inner canyon which is designated as wilderness. This is not necessarily a bad result in and of itself, but increased visitation may result in the loss of solitude, a sense of remoteness, and the overall experience of the inner gorge as "a wild place." In other words, the Monument's wilderness values - and visitor enjoyment of these values - are likely to be impaired.

In addition, visitor enjoyment of the Monument's scenic and aesthetic qualities is likely to be impaired by the project. The

major visitor activity at the Monument is viewing the canyon from viewpoints on the rim. Visitor's perception and enjoyment of the canyon is shaped in part by the sight and sound of the river below. The reduced flows caused by the project will inevitably diminish or eliminate the roaring sound of the river now produced by higher flows. This roaring sound dramatizes the historic story the Monument was set aside to tell - the carving of Black Canyon by the Gunnison. Similarly, reduced flows will alter the visual appearance of the river, changing its visual character to that of a small stream rather than a powerful river capable of carving the canyon. These aesthetic issues may seem of little significance to the Bureau of Reclamation. But they are fundamental to the reasons why Congress established certain places--like the Black Canyon--as units of the National Park System, and they are fundamental to visitor enjoyment.

**RESPONSE OR-106:** Alternatives being considered would increase diversions from the Gunnison River between 29 percent and 34 percent. When added to irrigation diversions, the total diversions from the Gunnison would range from 58 to 64 percent. However, irrigation diversions are part of the baseline, no-action conditions that have prevailed for most of the 20th Century. As such, it is appropriate to view only diversion increases (29 to 34 percent). Complete flow tables and summary tables are included in the DEIS and the FEIS for more detailed comparisons.

The DEIS and the FEIS recognize increased use due to the project with both beneficial and adverse impacts. However, carefully studying flow tables, as well as river stage information, is needed to understand the impacts of additional use. The Black Canyon is accessible in low flow years, and comparing recreational season flows under alternative A in low flow years with development alternative flows shows that changes are the very least in these months because the Tunnel is often filled to or near capacity during the recreation season of low water years. Increases in visitor use would be more probable in the spring and the fall. The concern about increased use and its effect on wilderness values and management is legitimate, but this concern is probably valid under all alternatives, only now coming to the forefront because of extensive publicity about the river's fishery and other factors. See **RESPONSE** to **COMMENT F-61** for additional discussion.

The aesthetic (visual and audio) concerns are recognized and expanded in chapter 3 (recreation section) of the FEIS. These changes would be apparent in most winters and, to a lesser extent, in other months. The winter flow changes are large, when most of the increased diversions occur. However, the diversions result in flows that are much closer to natural than now occur under alternative A.

**COMMENT OR-107:** A decision to approve the proposed AB Lateral project would be premature and inappropriate prior to quantification of the Monument's federal reserved water right by the National Park Service.

The Colorado courts have recognized that Black Canyon of the Gunnison National Monument has a federal reserved water right for that amount of water necessary to fulfill the Monument's purposes. The NPS is now initiating studies to quantify that right. It is our understanding that these studies will take about 1-1/2 to 2 years.

The Monument's federal reserved water right is senior to the Uncompahgre Valley Water User's conditional right for the AB Lateral Project. Under state law, the Uncompahgre Water Users may not harm any senior water right including the NPS's federal reserved water right for Black Canyon National Monument.

It is not possible to determine whether or not the operation of the proposed AB Lateral project will harm the NPS's federal reserved water right until the NPS completes its studies and quantifies the federal reserved water right for the Monument. Thus, it would be inappropriate for the Bureau to approve the project until the NPS completes quantification.

The studies that the NPS will be completing to quantify the right are also needed to fully and properly assess the potential impacts to the Monument from the project. Thus, at a minimum, the Bureau should postpone any decision on the proposed AB Lateral project until the NPS has a chance to complete these studies.

The draft EIS appears to assume that the Monument's federal reserved water right will be a minimum flow of 300 ft<sup>3</sup>/s year round. While this figure has been discussed as the minimum amount of flow needed to minimally protect the lower Gunnison Gorge's game fish population, there has been no determination that 300 ft<sup>3</sup>/s is, or is even likely to be, the quantification recommended by the NPS. The Bureau should not rely on this figure to make conclusions regarding impacts to the Monument.

**RESPONSE OR-107:** Data and information collected downstream and within the Monument have been used to assess impacts in the DEIS and the FEIS. We think that this information is adequate for the decisionmaking process. Mitigation measures have been added to the proposals to reduce adverse impacts. See also **RESPONSES** to **COMMENTS F-1** and **F-11**. The reserved water right is senior to the hydropower rights of the AB Lateral Project.

**COMMENT OR-108:** The existing tunnel is registered as a national historic site on the federal register. Thus, the AB Lateral Project must be assessed under the provisions and procedures of the National Historic Preservation Act. This hasn't been done.

**RESPONSE OR-108:** Reclamation originally nominated the Tunnel to the National Register. If alternative C were implemented, additional consultation would be required.

**COMMENT OR-109:** There is surplus electric power currently available throughout the west. There is thus no need for the project. The purpose and need section of the draft EIS should admit this fact.

**RESPONSE OR-109:** See **RESPONSES** to **COMMENTS F-6** and **OR-1**.

## **COLORADO TROUT UNLIMITED**

**COMMENT OR-110:** The project is economically infeasible, as there is surplus electric power, and Colorado-Ute has now gone bankrupt.

**RESPONSE OR-110:** See purpose and need section (chapter 1) in the FEIS and **RESPONSES** to **COMMENTS F-6** and **OR-1**.

**COMMENT OR-111:** The project forces Montrose area farmers to use contaminated water from the Uncompahgre River rather than clean Gunnison water.

**RESPONSE OR-111:** See **RESPONSE** to **COMMENTS OR-10, OR-65** and **OR-66**.

**COMMENT OR-112:** The reduced flows on the Gunnison would have a negative impact on the important rafting and fishing economy as well as to threaten fish and wildlife.

**RESPONSE OR-112:** The DEIS and the FEIS project an increase in fishing and a decrease in rafting. Economic effects are also described. Chapter 3 contains an analysis of fish and wildlife impacts.

**COMMENT OR-113:** The proposed wild and scenic designation for the Gunnison River would be threatened. Aurora's plan for transmountain diversions could further reduce flows.

**RESPONSE OR-113:** The Gunnison River would remain eligible for designation; some of the criteria would be affected as stated in the DEIS and the FEIS. Aurora (and others) have studied the Gunnison River Basin as a source of transmountain diversions; these proposals will be reviewed through various processes including NEPA and would have to consider the AB Lateral Facility. The transmountain diversion proposals are currently not in the NEPA process and have not been considered in alternative A or the development alternatives.

## SIERRA CLUB LEGAL DEFENSE FUND

**COMMENT OR-114:** The Bureau of Reclamation NEPA Handbook and the Council on Environmental Quality (CEQ) NEPA regulations describe the alternatives chapter as "the heart of the environmental impact statement."

CEQ regulations (40 C.F.R. Section 1502.14) require federal agencies to rigorously and objectively evaluate all reasonable alternatives, including those not within the jurisdiction of the lead agency, in order "to provide a clear basis for choice among options by the decisionmaker and the public." However, (with the exception of the No Action Alternative, A) the AB Lateral DEIS includes only so-called "alternatives" (B,C,E,F) that actually are nearly clones of the proposed action. All divert large amounts of water, year-round, generate substantial income for the project's sponsors, and have similar, significant negative environmental, economic and social impacts to the surrounding region. Reasonable alternatives that divert less water and subsequently generate less income but have fewer and less significant environmental, social and economic impacts are either not included in the DEIS or were dropped from study (F-3 through F-6, G, and H).

Only one alternative (F) proposed to mitigate some of the environmental impacts. However, its mitigation measures were vaguely and incompletely presented, and no studies were made of the effectiveness or viability of those measures. Meaningful analysis of this alternative in the DEIS is thus impossible.

**RESPONSE OR-114:** See **RESPONSE** to **COMMENT OR-5**.

**COMMENT OR-115:** The similarity of alternatives described in the DEIS and the lack of small scale project alternatives violates CEQ regulations requiring all reasonable alternatives be considered (Section 1502.14). It further violates the BUREC's NEPA Handbook, section 4-9.B.2, which states: "Each alternative should be a distinctly different approach, and may emphasize the achievement of some objectives at the expense of others."

The current selection of alternatives doesn't allow for adequate analysis of the project by the reviewing public, which is being asked to comment on the diversion of a public resource for private gain. In fact, the skewed range of alternatives prejudices the DEIS and consequently the public and federal decision makers in favor of a large project with substantial and widespread impacts, even if the least damaging alternative is selected.

**RESPONSE OR-115:** Only reasonable alternatives have been considered; see **RESPONSE** to **COMMENTS OR-5**.

**COMMENT OR-116:**

B. Alternatives dismissed from further study were eliminated based on secret economic data and an arbitrary and undisclosed determination of what amount of profit is acceptable to project sponsors.

1. The method of determining economic feasibility was presented in the DEIS as a benefit-cost ratio. Any alternative rating 1.00 or higher was considered feasible and retained. Those below 1.00 were considered infeasible and eliminated.

However, with a benefit-cost ratio of only 1.056 for the sponsor's preferred alternative (C), it seems obvious that there is a hidden margin of profit embedded in the numbers. No prudent investor would sink \$63 million in a project that only returned five cents on the dollar - you can get a better return at the bank. Representatives of Mitex, UVWUA (these two are the Sponsors) and BUREC have admitted in private communication with representatives of Western Colorado Congress that there is indeed an undisclosed figure in the benefit-cost ratio on the cost side that represents the acceptable rate of return on the sponsor's investment.

Thus, the DEIS benefit-cost ratio does not represent a true benefit-cost ratio or even the actual economic feasibility of any alternative. Instead, it represents the amount of guaranteed profit the sponsors desire before building any alternative.

2. Nowhere in the DEIS is this fact disclosed, even though the benefit-cost ratio used is described in summary on page S-11, and in extensive detail on pages 2-40 and 2-44.

Instead, as on page 2-40, the benefit-cost ratio is represented as a strict comparison of the costs of building the project versus benefits to the sponsors: "The benefit/cost ratio for each of the alternatives (F-3 through F-6) is less than 1.0, implying that the costs of development incurred by the Sponsors are greater than the benefits."

The actual numbers remain unknown, as does the Sponsor's acceptable rate of return.

**RESPONSE OR-116:** See **RESPONSE** to **COMMENT OR-6**.

**COMMENT OR-117:** Because the benefit-cost ratio was used to determine which alternatives were included in the DEIS; because it was used to eliminate alternatives with lesser negative impacts from consideration as uneconomical; and because it can be further construed to mean all smaller scale projects are uneconomical and therefore infeasible; the omission of a description of the "acceptable rate of return" component of the benefit-cost ratio in the DEIS significantly influences the public, elected officials and federal agencies' ability to adequately review the project.

This omission violates BUREC's NEPA handbook section 4-12: "The NEPA is not interpreted as requiring the release of proprietary information; however it is a full disclosure law and Federal agencies are expected to have and report sufficient information on the project to allow informed public review, and be able to make a responsible decision."

Instead, as presented in the DEIS, the benefit-cost ratio is disinformation. Moreover, the use of the word "implying" on page 2-40 is unusual in describing a factual statistic, and indicates that BUREC, as author of the DEIS, knowingly covered up the true nature of the benefit cost ratio.

See NEPA regulation referring to the use of benefit-cost ratios in an EIS: 40 C.F.R. 1502.23.

**RESPONSE OR-117:** See **COMMENTS** to **RESPONSES OR-6** and **OR-7**.

**COMMENT OR-118:** The alternatives selected in the DEIS ignore proposals by outside entities to develop a profitable hydroelectric project on the Uncompahgre Valley Water Users system. The alternatives also ignore BUREC's own studies which have determined that a small scale project on the UVWUA South Canal is economically viable and attractive. This is a blatant violation of the National Environmental Policy Act and 40 C.F.R. 1502.14.

1. The town of Norwood's current proposal to build a 900 ft<sup>3</sup>/s project on the Uncompahgre Valley Project's South Canal was not considered. This proposal is smaller than the smallest alternative included in the DEIS (E: a 950 ft<sup>3</sup>/s project on the AB Lateral and is proof that smaller projects are economically feasible and should be included within the range of reasonable alternatives.

2. A 1980 report by the Department of Interior's Water and Power Resource Services, now BUREC titled Report on Assessment of Small Hydroelectric Development at Existing Facilities, found the UVWUA South Canal hydroelectric project (project # UC283132) to be among 37 highly attractive and economically feasible projects out of 159 sites studied nationwide.

**RESPONSE OR-118:** Reclamation concurs that development of South Canal sites may have been feasible in 1980; however, under present conditions, they are not considered feasible. (Also see **RESPONSES** to **COMMENTS OR-8**, **OR-9**, and **OR-84**.)

**COMMENT OR-119:**

D. The lack of medium and small-scale alternatives has made it extremely difficult for the public, local governments, and federal and state agencies to hold meaningful discussions about ways to lessen negative impacts while still generating revenue for project sponsors.



During an informal meeting of several parties participating in this NEPA process (BUREC, Mitex, UVWUA, Colorado Division of Wildlife, Western Colorado Congress, and rafters) on June 1 in Montrose, talks were initiated to find such common ground. These talks, however, have been delayed because no such alternative is in the DEIS. It is likely that if a compromise agreement was made, it would be for an alternative not covered in the DEIS, thus requiring BUREC to revise and reissue the DEIS.

For these reasons, Western Colorado Congress and The Wilderness Society request revision of the DEIS to remedy current inadequacies, specifically:

1. Inclusion in the selection of alternatives examples of small-scale projects that balance electricity and revenue generated against lesser environmental, social, and economic impacts.

2. Inclusion in the selection of alternatives existing proposals from outside entities, or;

3. Exclusion of those alternatives in a revised DEIS, but inclusion of a comparison of the Sponsor's proposed alternatives with those proposed by other entities; detailing power and revenue generated and environmental, economic, and social impacts.

4. Use of benefit-cost ratios where 1.0 represents break even or where the investor's acceptable rate of return and the difference that represents from break even is explicitly mentioned.

**RESPONSE OR-119:** See **RESPONSE** to **COMMENT OR-9**.

**COMMENT OR-120:**

## II. Financial Information

The financial information necessary for the public, local governments, and state and federal agencies to adequately evaluate the proposed AB Lateral Project and its various alternatives was not released in the DEIS and has been kept confidential despite repeated requests from citizens and public interest groups.

Such information includes portions of contractual agreements between Mitex and the UVWUA, project costs (design/construction, land acquisition, environmental mitigation, financing, legal fees, and administrative costs), economic liability, and division of profits. Without this data, it is impossible to fully analyze the adequacy of the Sponsor's proposal or compare alternatives, as well as evaluate the potential for cost overruns, the adequacy of proposed environmental mitigation, economic liability, and the value of this project to the local and regional economy. The need for this information is addressed in section 4-12 of BUREC's NEPA

Handbook: "The NEPA is not interpreted as requiring the release of proprietary information; however, it is a full disclosure law and Federal agencies are expected to have and report sufficient information on the project to allow informed public review, and be able to make a responsible action."

Lack of this information has triggered FOIA requests and a Congressional inquiry from Representative George Miller, D-Ca., chair of the Subcommittee on Water and Power Resources of the House Committee on Interior and Insular Affairs.

1. The contract between Mitex and the Uncompahgre Valley Water Users Association (UVWUA):

The Sponsors and BUREC have refused written requests by public interest groups as well as members of the UVWUA to review this contract.

While the AB Lateral Project is being touted as a major economic benefit to the local community which entails no liability for the local water users, the Sponsors have refused to release the one document that details the method and ability of Sponsor's to fund the project; how much revenue will be generated; who gets it and how it will be divided; and who is liable if the Sponsor's default on loans in the case of cost overruns, natural disaster or lawsuits stemming from damage to private property.

**RESPONSE OR-120:** See **RESPONSE** to **COMMENT OR-31**.

**COMMENT OR-121:** The EIS should include certain portions of Sponsors' Proposal for Development Services of January 3, 1986. Even though this document was referenced in the 1988 Environmental Assessment of the AB Lateral Project, and therefore legally must be released if requested, BUREC and Department of Interior have withheld the bulk of this document from several FOIA requests by Mr. Mark Silversher and a written request from WCC.

BUREC officials and the DOI's Solicitor's office stated that the document was mistakenly referenced in the 1988 EA and can not be released because it contains trade secrets of a proprietary nature associated with Mitex being able to negotiate in good faith with the UVWUA. BUREC withheld portions of the document that included: reference to two alternative hydro sites; all financial considerations; descriptions of planning studies; hydrologic analysis; description of design elements; and descriptions of contractor services.

Portions of this information are necessary to determine if smaller projects with less damaging environmental, economic, and social impacts are economically feasible, and at which locations; to compare alternatives; and to determine the potential of and liability for cost overruns and project delays, which in turn

will effect the economic feasibility on the Sponsor's contract with Public Service Company of Colorado, the purchaser of power produced by the Project.

**RESPONSE OR-121:** See **RESPONSE** to **COMMENT OR-31**.

**COMMENT OR-122:** 3. Lease of Power Privilege (Bureau) and distribution of profits:

The project is labelled a "money-maker" by the Sponsors and BUREC personnel, and in the DEIS alternatives were rated based on the maximization of profit.

While the sponsors have actively campaigned for this project by stating it will earn a substantial amount of money for the UVWUA farmers and benefit all local businesses, the DEIS does not indicate how much money will be made, how profits will be distributed and among whom. All documentation detailing such information has been kept confidential, except for the generic statement in the DEIS that income generated will go to Mitex, UVWUA and the U.S. Treasury.

As this is a public resource, the public has a right to know approximate amounts and division of income. Indications are that the bulk of revenue this project will generate will go Mitex. Not only is this money going out of the region and out of the state, but since Mitex is owned by a French corporation (Sithe) it will go out of the country. The degradation of a local and national resource of significant value for the benefit of a foreign investor is a significant issue about which the public has a right to know.

Furthermore, while not stated in the DEIS, the portion of the money that goes to the U.S. Treasury goes to the Reclamation Fund. (This is a result of a lease of power privilege that must be granted by the BUREC, which still owns the UVWUA system.) The Reclamation Fund is an account set up by Congress where income from existing BUREC projects is deposited to fund future BUREC projects. There is some question as to the objectivity of a lead agency in an EIS process which stands to benefit materially from development of the project, yet has not publicly disclosed, or even discussed, that gain.

**RESPONSE OR-122:** See **RESPONSES** to **COMMENTS OR-31** and **OR-32**.

**COMMENT OR-123:** For these reasons, Western Colorado Congress and The Wilderness Society request:

1. Publication in a revised DEIS of the elements of the Mitex-UVWUA contract regarding the source and method of project financing, division of profits, and liability.
2. Release of the relevant portions of the Sponsor's proposal for Development Services of Jan. 3, 1986; and inclusion in a

revised DEIS of descriptions of project financing, alternative project sites, project costs and contractor services.

3. Publication in a revised DEIS of detailed estimates of the revenue the project will generate and how that will be distributed; including estimates of the share going to the Reclamation Fund.

**RESPONSE OR-123:** Please see **RESPONSE** to **COMMENT OR-32**.

**COMMENT OR-124:** Uncompahgre River Erosion and Impacts to Wetlands and Riparian Zones: NEPA requires full study of all impacts of all alternatives in the DEIS, in order to allow the public, local governments, and state and federal agencies to fully evaluate the proposed project. The AB Lateral DEIS was released, however, with only preliminary study of impacts to the Uncompahgre River Corridor, and before in-depth studies on erosion, wetlands and mitigation were completed.

This is a clear violation of NEPA and section 4-12 of BUREC's NEPA Handbook: "Bureau policy is not to move ahead on proposals where relevant information is lacking so as to preclude the meaningful analysis of alternatives, impacts or the means to mitigate impacts."

1. The DEIS identifies erosion along the Uncompahgre River corridor below the tailrace as a significant problem, while at the same time it also says only preliminary studies have been made: "Preliminary studies conducted by the Sponsors indicated that about 25 percent of the river banks between the tailrace and Delta (26 miles) may require treatment." (emphasis and parentheses added; page 2-16).

**RESPONSE OR-124:** Studying impacts to the Uncompahgre River continued after the DEIS was published in April 1989. The results of in-depth investigations that were completed during the summer of 1989 are included in the FEIS.

Using preliminary data in the DEIS was not a violation of NEPA or Reclamation's NEPA Handbook. No significant change occurred in the magnitude of the impacts or the bank stabilization program. Reclamation will not move ahead on that program until both the FEIS and the Record of Decision are completed. (The Record of Decision will not be issued until 30 days following the filing of the FEIS.)

**COMMENT OR-125:** No information is included to assess impacts of the proposed bank stabilization measures. No information is included regarding potential loss of wetlands due to canalization, concrete and rock riprap, the cutting off of meanders, revetments, etc. While the DEIS estimates there are 5,000 acres of wetlands along the Uncompahgre corridor between the tailrace and Delta, no estimates of impacts or proposed mitigation for loss of all or part of these wetlands is included. Because of the policy of no net loss of wetlands, this is a

substantial omission, affecting both the scale of negative impacts created by this project, estimated projects costs, and the benefit-cost ratio of each alternative. No information is included regarding contracts for rights-of-way agreements on private property. Because such work will entail extensive construction and alteration of these private lands, this is a substantial omission, which could affect the costs of each alternative. No analysis was made in the DEIS of impacts to private and public lands resulting from construction of the stabilization measures. Failing to address these impacts is a violation of the Clean Water Act 404 regulations governing impacts to wetlands and of NEPA. It could also substantially affect estimated project costs and the benefit-cost ratio for each alternative.

6. No details were included in the DEIS regarding a proposed sinking fund, which would cover the costs of continued monitoring and stabilization work on the Uncompahgre. It is likely such work would be extremely expensive. The cost of bank stabilization was listed in the DEIS as one of the reasons for eliminating alternatives G and H from the DEIS as uneconomical. Moreover, considering the cost of such work from past floods in 1983 and 1984, it is important for the community to know how large the sinking fund would be, how long it would last, and who would be liable for damage and lawsuits from damage to property in the event the fund was depleted.

**RESPONSE OR-125:** See **RESPONSES** to **COMMENTS OR-13** through **17**.

**COMMENT OR-126:**

IV. Purpose and Need (See actual Sierra Club Legal Defense Fund letter for preface to these requests.)

Therefore, Western Colorado Congress and The Wilderness Society request:

1. A revised DEIS purpose and need section that discusses the need for electricity based on a larger regional context; present regional surplus capacity; and the need to keep utilities solvent.

2. A revised DEIS that includes in the impact analysis a section on how selling AB Lateral at high prices to a guaranteed market will affect other regional power suppliers, the future of regional utilities, and the costs to consumers of this power.

3. If PSC purchases Colorado-Ute, its needs for power in the future will change significantly. That change must be reflected in a revised DEIS section on purpose and need.

4. A revised DEIS must take into account the project's impacts on conservation and depletion of natural resources.

**RESPONSE OR-126:** See **RESPONSES** to **COMMENTS OR-1** through **OR-3**.

**COMMENT OR-127:** BUREC'S model estimating flows in the Gunnison River downstream of the point of diversion for the AB Lateral may have numerous errors. It has resulted in significantly different numbers for flows in the case of no action alternative A, when compared to the historical numbers as read in the actual USGS measurements. The effect of this is to make impacts of the project appear significantly less when compared to the no action alternative A than when compared to the real numbers in the USGS records. Considering this difference--which is important to the perceptions and ability of the public, local governments, and state and federal agencies to evaluate the project--BUREC must list the models assumptions and methodology in the appendix of a revised DEIS as required by the BUREC's NEPA Handbook section 4-4.

**RESPONSE OR-127:** See **RESPONSES** to **COMMENTS F-29, OR-22**, and the **RESPONSE** to **COMMENT 21** at the **MONTROSE PUBLIC HEARING**.

**COMMENT OR-128:** There is a probable violation of 40 C.F.R. Section 1506.5(c), which requires contractors participating in a DEIS to be hired by the lead or cooperating agency; and to sign a disclosure statement specifying that they have no financial or other interest in the outcome of the project.

HDR Engineering Inc., a contractor hired by the sponsors was a major contributor to both the EA and the EIS. The company was also the contractor that wrote the Jan. 3, 1986 Proposal for Development Services, that contained the initial proposal and details for the AB Lateral project. That document states that HDR will design plans and specifications for intake works, penstock, powerhouse and electrical systems and serve as the consulting engineer for the selected general contractor.

If HDR contributed to the EA and the EIS any studies other than the design elements of the project, that constitutes a violation of 40 C.F.R. Section 1506.5 (c).

There are similar questions about EMANCO, a contractor apparently hired by the Sponsors which has contributed numerous studies to the EA and DEIS.

Accordingly, the DEIS should be revised on the basis of objective and fully-disclosed data and recirculated for public comment.

**RESPONSE OR-128:** See **RESPONSE** to **COMMENT OR-33**. To fully understand the procedures that were followed in preparing of the DEIS and the FEIS, it is essential to have knowledge of all of 40 C.F.R. 1506.5 and not just part(c).

The following is the full narrative from Section 1506.5:

(a) Information. If an agency requires an applicant to submit environmental information for possible use by the agency in

preparing an environmental impact statement, then the agency should assist the applicant by outlining the types of information required. The agency shall independently evaluate the information submitted and shall be responsible for its accuracy. If the agency chooses to use the information submitted by the applicant in the environmental impact statement, either directly or by reference, then the names of the persons responsible for the independent evaluation shall be included in the list of preparers. It is the intent of this subparagraph that acceptable work not be redone, but that it be verified by the agency.

(b) Environmental Assessments. If an agency permits an applicant to prepare an environmental assessment, the agency, besides fulfilling the requirements of paragraph (a) of this section, shall make its own evaluation of the environmental issues and take responsibility for the scope and content of the environmental assessment.

(c) Environmental impact statements. Except as provided in section 1506.2 and 1506.3, any environmental impact statement prepared pursuant to the requirements of NEPA shall be prepared directly by or by a contractor selected by the lead agency or where appropriate under 1501.6(b), a cooperating agency. It is the intent of these regulations that the contractor be chosen solely by the lead agency, or by the lead agency in cooperation with the cooperating agencies, or where appropriate by a cooperating agency to avoid any conflict of interest. Contractors shall execute a disclosure statement prepared by the lead agency, or where appropriate the cooperating agency, specifying that they have no financial or other interest in the outcome of the project. If the document is prepared by contract, the responsible Federal official shall furnish guidance and participate in the preparation and shall independently evaluate the statement prior to its approval and take responsibility for its scope and contents. Nothing in this section is intended to prohibit any agency from requesting any person to submit information to it or to prohibit any person from submitting information to any agency.

HDR Engineering, Inc., did not prepare the DEIS. With Mitex, consultants hired by HDR or Mitex, and several State and Federal agencies, HDR submitted environmental information for possible use by Reclamation in preparing the DEIS. Reclamation outlined the types of information required, independently evaluated the information, and is responsible for the accuracy of the information that has been used. The names of the persons responsible for the independent evaluation (along with those HDR and Mitex employees who made significant contributions) were included in the list of preparers of the DEIS and the FEIS. In addition, HDR signed a disclosure statement.

In EMANCO's case, they contributed information for the EA, some of which was used in the DEIS and the FEIS. Again, Reclamation independently evaluated the submitted information and is

responsible for the accuracy of those segments that were used. As mentioned previously in **RESPONSE OR-17**, the DEIS will not be reissued.

## WILDERNESS AWARE

**COMMENT OR-129:** It appears that the project would significantly reduce flows in the Gunnison River, particularly through the Gunnison Gorge, to minimum streamflows levels (300 ft<sup>3</sup>/s) for at least half of the year. This will dramatically affect the Gold Medal Wild trout fishery of the river, which is one of the most outstanding in the country. Water temperatures will rise to dangerous levels in the summer, and ice jams will form in the winter, producing constant and unnatural stress on the fishery.

**RESPONSE OR-129:** Flows in the river would be reduced since the Tunnel would be operated year round, rather than only during the irrigation season. The EIS predicts that the fishery would be protected under development alternatives. The icing mentioned is not projected to affect the fishery; it is a natural occurrence on trout streams in the West. Rises in water temperature would harm the trout fishery if high levels were maintained. The fishery was not harmed by temperature levels reached in 1988 under low flow conditions, as discussed in the EIS.

**COMMENT OR-130:** ...I am one of six river outfitters permitted to run trips through the Gunnison Gorge. I can attest to the fact that if this project becomes a reality, the loss to the local economies of Delta, Olathe, and Montrose will be substantial. All six of the Gunnison Gorge outfitters will be put out of business on the Gorge, since the river will be unrunnable most of the year. The loss of opportunity for the public to experience this spectacular public resource is staggering.

**RESPONSE OR-130:** See **RESPONSE** to **COMMENT OR-79**.

**COMMENT 131:** The Gunnison Gorge is home to many endangered species as well, which would be damaged or wiped out by the lower water levels caused by the project. River otter, bald eagles, and peregrine falcons would be severely affected, which is a direct violation of national environmental law. Important riparian habitat will also be reduced for mule deer, elk, ducks, geese, black bear, and other wildlife.

At the same time, the Uncompahgre River will be affected by increased flows when the AB Lateral water is dumped into it. The additional flow stands to cause severe erosion problems and destruction of wildlife habitat.

**RESPONSE OR-131:** See the index to Comments and Responses for information on these topics and chapter 3 of the FEIS.

**COMMENT OR-132:** In contrast, the benefits of the AB Lateral Project are questionable to say the least, and appear to be



mostly, if not wholly, political. There is no evidence that local farmers would benefit from the project, since its primary purpose is reportedly hydropower. There is also little evidence that the electricity is needed, as it will further burden the already bankrupt regional electrical system by forcing Public Service Company to buy the power under the PURPA Act. The only apparent winners in this situation are the Bureau of Reclamation because they would get to build another project, and the UVWUA (especially their foreign investors), who stand to make money at the expense of the economic health of the region.

**RESPONSE OR-132:** Benefits to farmers who are UVWUA members are described in the purpose and need section (chapter 1) and the social and economic impact section of the FEIS (see chapter 3). See **RESPONSES** to **COMMENTS F-6** and **OR-1** regarding power needs.

## COLORADO-UTE ELECTRIC ASSOCIATION

**COMMENT OR-133:** Colorado-Ute informed you on October 27, 1988, that the AB Lateral Project could jeopardize Colorado-Ute's ability to operate the Bullock Station in compliance with wastewater permit limits placed on Bullock Station by the Colorado Department of Health. These permit conditions are set forth in permit No. CC-0000043 issued by the State Water Quality Control Division.

I have discussed this matter with Mr. Don Holmer of the Colorado Water Quality Control Division. Colorado-Ute is particularly concerned about the way this issue was addressed and apparently discounted as a nonissue on page 3-31 of the Draft Environmental Impact Statement. Mr. Holmer agreed with me that the issue Colorado-Ute raised with you has not been addressed. Mr. Holmer and I believe the proposed AB Lateral Project, because of low flows entering the City of Montrose, could affect stream temperatures and could cause Colorado-Ute to be unable to comply with the discharge limits for temperature required by the Bullock Station Wastewater Discharge Permit.

Colorado-Ute requested in its October 27, 1988, letter to you that this issue be addressed and mitigation required to alleviate impacts be identified. Neither was addressed in the Draft Environmental Impact Statement.

Mr. Holmer also asked that you be informed that the Bullock Station Permit Number stated in his February 7, 1989, letter to you was incorrect and should be changed to CDPS Permit No. CO-0000043.

**RESPONSE OR-133:** The DEIS stated that the Bullock Plant is not presently operating and has not operated for several years. We understand no plans exist to restart the plant in the immediate future. Should Colorado-Ute elect to restart Bullock, impacts to temperature standards could occur, because lower flows through Montrose in the summer would warm more than present flows.

Therefore, water diverted to the Bullock Plant for cooling would be warmer than in the past, thus possibly increasing the discharge temperatures.

The FEIS (streamflows in chapter 3) has been modified to acknowledge this concern. This impact would be largely limited to the late summer when Uncompahgre flows would be the lowest and temperatures highest (See **RESPONSE** to **COMMENT O-21** regarding streamflows). Since older plants such as Bullock tend to be expensive to run, operation is usually limited to peak periods. Colorado-Ute is a winter-peaking utility. As such, should the plant be restarted, its operation would most likely be concentrated in the winter when the AB Lateral would have no effect on Uncompahgre streamflows, and temperature limits are easier to meet.

It is nonetheless possible that, should the AB Lateral proceed and Colorado-Ute decides to restart Bullock and use it during the late summer, a new permit or permit variance could then be required. Under Colorado water law, the UVWUA is under no obligation to provide Gunnison River water to Colorado-Ute to assist in meeting discharge requirements. The Sponsors have, however, indicated that they would work with Colorado-Ute and the Department of Health to help resolve future problems, should they arise.

## SIERRA CLUB, ROCKY MOUNTAIN CHAPTER

**COMMENT OR-134:** The Sierra Club encourages the Bureau of Reclamation to develop an alternative that supplies water to the Gunnison River through the Black Canyon of the Gunnison and Gunnison Gorge that is sufficient to maintain current recreational uses of the river, existing quality and level of fishing in the Gunnison, healthy populations of juvenile and adult trout, healthy riparian habitat, existing stream morphology, and all other indicators of a thriving riverine ecosystem.

It would facilitate discussion of the alternatives if the Bureau of Reclamation would identify the environmentally preferable alternative in the EIS. Since this is not done in the AB Lateral DEIS, it is assumed that the No Action is environmentally preferable. For this reason, the Sierra Club supports the No Action Alternative.

The crux of the controversy surrounding to the AB Lateral proposal is the amount of water drawn out of the Gunnison River in order to generate hydroelectricity and thereby monetary profits. If the UVWUA were simply proposing to put hydroelectric turbines on their existing canal system, utilizing their existing water rights under the current water management scenario, other users of the river would have little cause to object. However, the UVWUA and their Boston financial backers, Mitex, instead prefer to almost double the amount of water diverted from the

Gunnison on an annual basis, and to also increase the flows through the Gunnison Tunnel. This unfortunately has a negative impact on other users.

Mitex and UVWUA claim that alternatives that leave more water in the river are uneconomic. The DEIS (2-41) does not provide any justification for these benefit-cost ratio calculations. The DEIS is deficient in this respect.

**RESPONSE OR-134:** While changes are predicted, Reclamation believes that the preferred alternative (E) would protect the listed resources. The environmentally preferred alternative will be identified later in the Record of Decision document. Limiting operation to the irrigation season, while it may sound appealing, has little value to the utility system. If operation were so limited, the utility would have to build "backup" capacity to cover seasons when the project is shut down, which could nearly double electrical costs.

Additional text has been added to the FEIS regarding financial analysis (chapter 2, the summary comparison of alternatives section). See also **RESPONSE** to **COMMENT OR-6**.

As a document, the EIS attempts to summarize more detailed, separate studies. It would serve no useful purpose to include significant details on alternatives that are not feasible. Reclamation staff have reviewed supporting documentation for the financial analyses and are satisfied that the analyses are reasonable.

**COMMENT OR-135:** NEPA requires that all necessary information be provided in the DEIS. The DEIS has not met this requirement in its use of benefit/cost ratios. "If the information relevant to adverse impacts is essential to a reasoned choice among alternatives and is not known and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement." (40 CFR 1502.22(a)). The information concerning benefit/cost ratios of alternatives is essential to a reasoned choice among alternatives since the project proponents have chosen to make this piece of information the crucial decision point for selection of an alternative. The DEIS needs to include all of the costs calculated by the proponents, including the profit margin of Mitex.

NEPA regulations further require that if the agency chooses to use benefit/cost ratio analysis in choosing among environmentally different alternatives, then the agency must discuss the relationship between the benefit/cost analysis and "any analyses of unquantified environmental impacts, values, and amenities." (40 CFR 1502.23). Since the DEIS provides no information as to how the benefit/cost ratios in it were derived, particularly for environmental costs to values and amenities such as minimum streamflow, and since these ratios are used to exclude certain alternatives, the DEIS is clearly in violation of NEPA regulations.

NEPA regulations also note that if material is based on proprietary data which is itself not available for review and comment, it shall not be incorporated by reference (40 CFR 1502.21). Clearly, if Mitex does not want to share its benefit/cost calculations with the DEIS reviewers, then this information should not be part of the DEIS and the decision process.

**RESPONSE OR-135:** The EIS does not use a benefit/cost ratio, as defined in Federal regulations, to select among alternatives. A financial feasibility ratio, which addresses only direct costs to the Sponsors, was used to identify feasible alternatives, as the project is being funded privately, not federally. This has been clarified in the FEIS. See **RESPONSE** to **COMMENT OR-6** for additional information.

**COMMENT OR-136:** The DEIS is perhaps premature since the financial feasibility of the project, according to the project proponents, depends on diverting water in addition to the early decrees of UVWUA. These recent priority water rights, dating to 1982 and 1987, are junior to the unquantified federal wilderness and National Monument water rights of the Black Canyon of the Gunnison. The DEIS notes that these federal rights are senior to the hydropower rights (2-43) and would be unaffected by hydropower development. The converse is not true, however. The hydropower development could be drastically affected by the quantification of the federal water rights, and could make the project financially infeasible by reducing the amount of water it can withdraw, at least according to the financial predictions of the proponents. It seems to be putting the cart before the horse to discuss approval and permitting of a project that could be blown out of the water by as yet unknown federal water rights. Reclamation should consider postponing action on this permit application until the quantification of federal water rights is complete.

**RESPONSE OR-136:** The Sponsors have acknowledged that Federal water rights within the Black Canyon have not been quantified. They are prepared to assume the risks associated with quantification of these rights.

**COMMENT OR-137:** The AB Lateral Hydropower project may be illegal under the conditions of Section 603 of the Federal Land Policy and Management Act. Section 603 requires BLM to manage areas identified for wilderness review (such as Gunnison Gorge) "in a manner so as not to impair the suitability of such areas for preservation as wilderness." BLM has a legal responsibility to see that new uses, such as the application of the 1982 and 1987 water right decrees which postdate FLPMA, do not degrade the wilderness characteristics of Wilderness Study Areas. The DEIS notes that "operation of the facility may affect wilderness quality," and that "both recreation use and volume of water in the reach of river would be affected." (DEIS, p. 3-135). Furthermore, at lower flows, fishermen will be able to make increased use of the riverbank within the Gunnison Gorge, perhaps

to the detriment of wilderness values. The DEIS does not make a determination that these impacts to wilderness values are in compliance with the requirements of FLPMA and BLM's Interim Management Policy. The information provided in the DEIS would seem to indicate that the AB Lateral Project will violate the wilderness protection requirements of FLPMA.

**RESPONSE OR-137:** See **RESPONSE** to **COMMENT OR-59**.

**COMMENT OR-138:** There are obviously a number of serious questions that have been left unanswered by the DEIS. In short, if the project proponents, led by a investment partnership from the East Coast, are unwilling to come clean about their costs and expected profits from the project, the Sierra Club sees no reason to allow them to degrade a valuable public resource such as the Gunnison River. The public owners of the Gunnison, and the public permitting agencies such as the Bureau of Reclamation that stand in service to the public, have every right to all pertinent information before deciding whether to allow the use of a public resource for private gain. If the private investors do not want the public to know the details of their project, let them go elsewhere and find purely private resources to exploit.

**RESPONSE OR-138:** The FEIS has been clarified regarding financing plans (also see **RESPONSE** to **COMMENT OR-6**). However, how the Sponsors allocate profits among themselves is not pertinent to a thorough discussion of project impacts (see **RESPONSES** to **COMMENTS OR-31** and **OR-32**). Reclamation believes that the FEIS contains sufficient information for a reasonable decision to be made about the merits of the project.

## PAONIA CHAMBER OF COMMERCE

**COMMENT OR-139:** We question the survey used for Table 3.47, as it does not reflect the conditions in the local area.

**RESPONSE OR-139:** See **RESPONSE** to **COMMENT OR-29**.

**COMMENT OR-140:** The measure of boater days used to assess the value of rafting is incorrect. 1987 was truncated season due to reduced flows during the last half of the year. Table 3.48 should be adjusted to show 1987 boater days under normal flow conditions.

**RESPONSE OR-140:** See **RESPONSE** to **COMMENT OR-29**. Table 3.48 is based on actual boater use during 1987 and was not used in projecting impacts.

**COMMENT OR-141:** Money in an economically depressed region goes a lot further than under normal conditions. The table on 3.48 does not reflect the value of rafting income to the local economy.

**RESPONSE OR-141:** The net impact to the regional economy should be a positive one. See **RESPONSE** to **COMMENT OR-29**.

**COMMENT OR-142:** The DEIS figures for direct and indirect expenditures need to be corrected according to the above list, and then combined with a better assessment of user days. You will find the economic losses due to the impacts on rafting to be far greater than the DEIS estimates, and increasing over time.

**RESPONSE OR-142:** See **RESPONSE** to **COMMENT OR-29**. The net present value of rafting impacts was estimated by applying an inflation factor of 5 percent per year over a fifteen-year period and discounting to present values using the current government discount interest rate (approximately 8 percent).

**COMMENT OR-143:** The DEIS correctly describes rafting as a growing industry in Delta County. However, the use of Tables 3.6 and 3.9 to calculate boater user days does not account for the year to year fluctuations and the large number of minimum flow years the project would create.

**RESPONSE OR-143:** The impact analysis presented in table 3.51 uses average changes to flows. However, a careful analysis of the flow tables will show that the project's largest reductions in Gunnison flow during the recreation season actually occur in higher water years versus lower years. By averaging these years, the analysis actually overstates the impact, rather than understating it. Year-to-year fluctuations exist both with and without the project.

Additional information on impacts to water surface elevations (depths of flow) has been added to the recreation section in chapter 3 of the FEIS and may be of additional assistance in understanding impacts. See **RESPONSE** to **COMMENT OR-29** for additional information.

**COMMENT OR-144:** Table 3.47 lists a value of \$25 per angler day. While that may correct for local fishing enthusiasts, it is too low for non-local users, which are increasing in number every year. The study must differentiate between local and non-local users and add in expenditures for travel, lodging, equipment and other costs.

**RESPONSE OR-144:** The value of angler days was based upon the FWS estimates on the Arkansas River in 1980; these estimates were escalated to 1988 dollars. These values should reflect the average expenditures of both local and non-local anglers.

**COMMENT OR-145:** The DEIS anticipates an increase in angler days from the project, and argues that this will mitigate the impact of rafting...This may increase fishing benefits and angler days over the short term, yet have very serious, long lasting impacts.

**RESPONSE OR-145:** The FEIS projects an increase in angler days and a reduction in rafting days with the development alternatives. The angler days do not mitigate the rafting days - they are two separate recreational activities and do not compensate for each other.

The analysis in the FEIS predicts what long-term effects are on the fishery; habitat conditions with hydropower development are expected to maintain the Gold Medal fishery. Special regulations are presently in effect to control harvest, and these regulations are reviewed regularly by the CDOW. In the future, these could change as use increases, a possibility that exists with any alternative.

**COMMENT OR-146:** Substantial investment is being made to provide public access as well as advertise the Gunnison River fishery....These investments may be in jeopardy. The EIS should discuss angler increases under Alternative A and the differences in fishing use above and below the Smith Fork.

**RESPONSE OR-146:** Delta County and Reclamation have acquired the described fishing access. The AB Lateral Facility was considered before the acquisition by both parties and the CDOW, and it was concluded that the acquisition would be valuable under the no-action and the development alternatives. This situation is discussed in greater detail in the FEIS as is the different level of use above and below the Smith Fork. The fishery analysis in the FEIS has been coordinated with the CDOW to provide as accurate predictions as possible. See also **RESPONSE** to **COMMENT OR-93**.





# INDIVIDUAL COMMENTS

## SCOTT JORGENSEN

**COMMENT I-1:** Some of the numbers used in the DEIS are inadequate and the implications of these numbers are implausible; for example, the expenditure estimates for rafting and fishing and related economic conditions. For instance, table 3.47 (p. 3-45) suggests the local expenditures per person per day are an average rate of \$19.00 per day for lodging. Assessment of local motel rates does not support this estimate. In truth, the nightly lodging expenditures in the Montrose and Delta area average around \$35 daily.

**RESPONSE I-1:** The values used in the draft environmental impact statement (DEIS; see table 3.47) are reasonably accurate estimates of the average per-person per-day expenditures. For example, assuming an average party size of 2.5, the motel cost would be about \$47.50 (2.5 times \$19). Rooms for \$47.50 for a party of three are abundant in the area. Also, see **RESPONSE** to **COMMENT OR-29**.

**COMMENT I-2:** There is no real assurance the project will help the UVWUA. The UVWUA revenue of \$150,000 annually (p. 3-148) seems small by comparison with Mitex' profit of \$4 million net annual profit. All the while, the UVWUA will receive only 4 percent of the profits during the first 15 years of operation. At the present time, Colorado-Ute has 40 percent surplus of electrical power that it is unable to sell, and at this time is trying to avoid involuntary bankruptcy.

It has been suggested that a wheeling fee to move power from the proposed hydroproject through Colorado-Ute's transmission to Public Service will have a positive impact on Colorado-Ute. But I suspect the ability to sell its surplus power would have a far better financial return for Colorado-Ute than transferring a competing entity's power.

**RESPONSE I-2:** As stated, the \$150,000 quoted in the environmental impact statement (EIS) is a minimum payment. Estimated payments could be significantly higher. See **RESPONSES OR-6** regarding financial feasibility and **F-6** regarding Colorado-Ute Electric Association (Colorado-Ute).

**COMMENT I-3:** There appears to be no need for the project beyond reduction of UVWUA debt to the Federal Government. This self-motivated purpose is detrimental to the Gunnison and Uncompagre Rivers, its wildlife, and users.

**RESPONSE I-3:** The UVWUA debt retirement is only one of four principal project needs cited by the Sponsors. Please see the purpose and need section of the FEIS for further information. The need for power is also discussed in **COMMENT F-6**.

**COMMENT I-4:** The increased water temperatures of the Gunnison River and its negative effects on trout fishery are:

A. EA 3-27 - Minimum flow periods would increase with the project. Stream temperature would increase to 68°F and above. Growth potential for trout begins to decline at 68°F. Maximum trout growth occurs between 45°F and 66°F.

B. DEIS 3-85 - Water temperature would change with increases in the frequency of 300 ft<sup>3</sup>/s streamflow. The Gunnison River would cool to icing conditions and warm up in the summer.

C. DEIS 3-49 - Maximum stream temperature near Austin is 68°F to 77°F.

D. DEIS 3-42 - Maximum daily average temperatures were 71°F, and the maximum daily temperature was 77°F. Hooking mortality in trout increases at 60°F. As the temperature climbs, two things happen:

1. The amount of oxygen water holds decreases.
2. The trout's metabolism increases. Trout react to this danger by decreasing activity levels.

**RESPONSE I-4:** See **RESPONSES OR-23** through **OR-25**.

**COMMENT I-5:** Icing in the Gunnison River:

A. EA 3-27 - Ice known to reduce macroinvertebrates.

B. DEIS 3-88 - Macroinvertebrates could be reduced by icing and increased diversion.

C. DEIS 3-85 - Water temperature would change with frequency of 300 ft<sup>3</sup>/s flows. At these flows, the formation of frazzil and sheet ice occurs.

1. Ice would increase the development time for Brown Trout.
2. Ice may increase the mortality of Brown Trout eggs.
3. Decrease the growth rate of fish.

D. DEIS 3-49 - Ice formation and accumulation in the Gunnison at flows below 500 ft<sup>3</sup>/s.

E. DEIS 3-48 - The occurrence of ice bridging and frazzil ice jams.

F. DEIS 3-47 - Ice bridging and anchor ice as far as National Monument. Anchor ice should be observed as a symptom of the river being too low to maintain ecosystem as we know it!

When anchor ice forms, the zoobenthic community moves deeper into substrata of rocks and rubble, concentrating insects into less space and greater population density, creating a situation where predation becomes an extreme factor in the zoobenthic population, possibly negatively affecting the forage base for trout.

G. DEIS 3-44 - Comments on the development of ice bridging and frazzil ice with flows below 500 ft<sup>3</sup>/s.

H. DEIS 3-40 - Ice bridging may negatively affect species' usage such as eagles, otter, and waterfowl.

As you can see, the most adverse and negative effects to the Gunnison River ecosystem caused by icing and warming is occurring in the most recreationally accessible, biologically diverse area.

**RESPONSE I-5:** The increase in icing under development alternatives would occur and is discussed in the FEIS. Also see **RESPONSE** to **COMMENT OR-69**.

**COMMENT I-6:** 3. Trout populations and dynamics have been outstanding since the development of the Curecanti tailwater fishery.

A. DEIS 3-68 - 300 to 400 fish per acre above North Fork confluence.

B. DEIS 5-7 and 3-68 - 900 to 1,000 trout per acre in less accessible Gunnison Gorge and Black Canyon.

C. DEIS 3-27 - Trout populations below North Fork confluence at all time high as exemplified:

1986	5,493 trout
1987	11,700 trout
1988	14,600 trout

Population estimates for the Gunnison Gorge is 600 fish per mile or better, while below the North Fork confluence, there are 10 times the amount of 16-inch fish as there were in 1981.

D. DEIS 3-80 - Spawning habitat is optimum at 500 ft<sup>3</sup>/s.

E. DEIS 3-90 - Adult summer habitats are best from flows ranging from 400 to 1,000 ft<sup>3</sup>/s.

F. DEIS 3-78 - Adult habitat above North Fork confluence is optimum at 600 ft<sup>3</sup>/s.

G. EA 3-13 - Winter habitat for trout is optimum between 400 and 1,000 ft<sup>3</sup>/s.

H. DEIS 3-77 - Adult trout habitat, Duncan Trail, is optimum at 600 ft<sup>3</sup>/s.

I. DEIS - Increased population below North Fork attributed to spawn success in 1986 and 1987 (which occurred in flows above 300 ft<sup>3</sup>/s).

As you can see by the DEIS, there exist a consensus of data that places year round flows for the trout population in the Gunnison

River at 500 to 600 ft<sup>3</sup>/s, and not the proposed 300 ft<sup>3</sup>/s flow regime of the AB Lateral Project. Flows in the 500 to 600 range would ensure the protection and preservation of the total riverine system including the Gold Medal fishery and the continued diversity of its recreational opportunities.

**RESPONSE I-6:** We generally concur with this comment. Tables in the EIS show minimum and optimum flow levels for different life stages of trout; these levels are slightly different from those cited in the comment. The EIS compares alternative A (no action) with the development alternatives, and the differences are presented as impacts in chapter 3. None of the alternatives, including alternative A, provide year-round flows in the 500- to 600-cubic-foot-per-second (ft<sup>3</sup>/s) range due to the natural hydrologic cycles and the criteria for operating the Aspinall Unit. Alternative E flows average 654 ft<sup>3</sup>/s and generally are closer to optimum than alternative A, which averages 1,103 ft<sup>3</sup>/s. Water quality and the Gunnison's ability to carry sediment are reduced at lower flows; however; this is further discussed in chapter 3 of the FEIS.

**COMMENT I-7:** Concern is expressed for river otters in the Gunnison River:

A. DEIS 3-40 - If ice were to cover the Gunnison River as it did in the winter of 1988-89, species using the river could be negatively affected.

B. DEIS 3-123 - No data on otters released in the Gunnison River.

C. DEIS 3-124 - Habitat data and requirements have not been addressed, as well as no studies have been conducted to study otter populations.

D. DEIS 3-126 - Suggest that below the tailrace of the proposed hydrofacility, the discharge of water from the hydroplant will keep the Uncompahgre free of ice, providing potential habitat for water flow, bald eagles, and otters.

E. DEIS 3-98 - States the velocity of the discharges from the power facility will be too fast to support fish. Also, ducks common to this area don't like fast water. So as you can see, there will be no forage in the Uncompahgre River for the otters. That's nice. Let's freeze them from one drainage, and starve them out of the other. This type of planning is ludicrous.

**RESPONSE I-7:** The FEIS discusses impacts on otters. The Colorado Division of Wildlife (CDOW), which transplanted the otters, has been consulted for the impact analysis. See **RESPONSES F-58** and **F-103** for further details.

**COMMENT I-8:** Concern is expressed for bald eagles along the Gunnison River: The bald eagle may never again soar the skies of the Gunnison River if the AB Lateral Project is built as

proposed. With the proposed AB Lateral Project, the Gunnison River flows will be reduced to 300 ft<sup>3</sup>/s 50 percent of the time, most notably in the winter.

The DEIS points out 3-49: The potential for ice development and formation increases with flows below 500 ft<sup>3</sup>/s. The DEIS 3-48 states that ice bridging and anchor ice will begin to form as far upstream as the Black Canyon National Monument.

Last winter, the Gunnison River below the North Fork confluence froze from bank to bank, severely restricting the amount of open water available for wintering bald eagles and waterfowl. Bald eagles primarily prey upon fish and waterfowl. With ice bridging the river bank to bank, the hunting and foraging area for bald eagles became extremely limited.

In the DEIS 3-12, the proponents suggest that below the tailrace of the proposed hydrofacility, the discharge of water from the hydroplant will keep the Uncompahgre River free of ice, providing potential habitat for waterfowl and eagles. But DEIS 3-98 states the velocity of the discharges from the power facility will be too fast to support fish.

Also, ducks common to the area don't like fast water. If the water velocity below the tailrace won't support fish, it stands to reason that duck usage will be minimal.

What is it that the proponents of this project suggest that the eagles eat! With the Gunnison River frozen and no forage available in the Uncompahgre River, the disappearance of the eagle is assured. With this type of logic displayed in the DEIS, these magnificent animals are truly endangered.

The DEIS 3-120 and 3-121 state that the Gunnison River is a high use wintering habitat for eagles, and that preservation of habitat is the key to the preservation of the bald eagle. To maintain the habitat, we need to maintain the flows of the regulated Gunnison River. The DEIS 3-121 states little is known of the bald eagles' wintering habitat along the Gunnison River.

In the DEIS 2-33, the proponents propose to study the bald eagle after the development of the project. Isn't this somewhat backwards? Shouldn't eagles and eagle habitat and usage be studied prior to the development of the project?

The DEIS 2-33 proposes to study eagles from the Black Canyon National Monument downstream to the North Fork confluence. Last winter, 10 eagles wintered below the North Fork confluence. Six bald eagles wintered near Austin, and four more eagles wintered near Delta in the area of the Camel Switch Bridge.

DEIS 3-120 clearly states that the BLM classifies the Gunnison River as a high use area and the Uncompahgre as a low use area in terms of eagles. Why isn't the proposed eagle study extended downstream of the North Fork confluence to Delta?

The bald eagle is a national treasure. We can't allow these birds to disappear. The Gunnison River must be maintained at a minimum of 500 ft<sup>3</sup>/s to preserve the wintering habitat of bald eagles. The eagle represents a part of our national heritage. Guarantee its future. Scale back the AB Lateral hydroproject and maintain the Gunnison River ecosystem for the eagles.

**RESPONSE I-8:** Icing would increase during certain years; however, large areas should not freeze based on observations during the winters of 1988-1989 and 1989-1990. Additional information on waterfowl has been added to the FEIS. The monitoring concern is recognized. See **RESPONSES F-83** and **F-91** for further information. The mitigation plan included is designed to monitor for impacts and mitigate them if they actually occur.

**COMMENT I-9:** Water quality.-- With the project as proposed, one has to be concerned with water quality throughout the Gunnison and Uncompahgre drainages.

A. DEIS 3-65 - Suggests the Gunnison River and particularly below the North Fork confluence will have its dilution capability reduced. And below the North Fork confluence, the water quality of the Gunnison on average will be of poorer water quality due to the development of the proposed project.

B. DEIS 3-61 through 3-99 - Comments on the excessive amounts of salts found in the Mancos or adobe formations found along the Uncompahgre River. And salt load is now occurring due to tributary side flows and irrigation returns.

Imagine what increased water velocity and erosion could do to the salt loading in the Uncompahgre River.

C. DEIS 3-67 - The Uncompahgre River gains selenium between Colona and Delta.

There is a distinct possibility that the proposed AB Lateral hydroproject will increase the flows in the Uncompahgre River threefold. With this potential for large-scale erosion, it may create even more selenium depositing in the Uncompahgre River. Selenium is known to reduce the reproductive success of native Colorado River fishes. The impact of selenium has not been fully addressed in the DEIS.

D. DEIS 3-66 - Streamflows through Montrose to the tailrace would be of lower water quality, and the increased flows from the tailrace would improve water quality, provided measures to prevent erosion would be undertaken.

**RESPONSE I-9:** Gunnison River flow reductions would decrease the dilution of lower quality inflow. Therefore, water quality would decline downstream from the North Fork (as discussed in chapter 3 of the FEIS).

Selenium is believed to enter the Uncompahgre River in ground water primarily from irrigated lands on the Mancos Shale formation. Selenium concentrations increase in the river in a downstream direction toward the city of Delta where peak levels are reached. Additional water in the Uncompahgre River would reduce the concentration of this element, particularly when selenium concentrations are highest in the winter and the early spring. See **RESPONSE F-71** for further information.

**COMMENT I-10:** Now we have a major financial problem that will not only erode at the streambanks of the Uncompahgre, but also at the profit margin and the cost effectiveness of this project.

The DEIS has no idea the extent the stream erosion will be, nor the amount of money needed to prevent large-scale erosion in the Uncompahgre.

To finalize my comments, the potential large-scale erosion of property, roads, bridges, and riparian habitat is extreme with this project. The cost overruns will be enormous.

DEIS 3-34 - Uncompahgre streambank unstable.

DEIS 3-67 - Without bank stabilization, the degradation of the stream channel would occur. The sediment load would increase.

DEIS 5-6 - Extreme erosion of Uncompahgre streambank.

DEIS 3-99 - Salt loading from Manco's formation. Salts that often dissolve during weathering.

DEIS 3-39 - Channel clearing, straightening, rock jettie, and revetment work will be needed.

**RESPONSE I-10:** See **RESPONSES F-97, F-98, and F-113; I-27; and I-30.**

**COMMENT I-11:** Riprap and canalization of 25 percent of the Uncompahgre River streambank translates to large scale destruction of wetlands and riparian habitat. As proposed, the AB Lateral would be disruptive to waterfowl management. Channelization causes soil erosion. It interferes with the water table, and can cause flooding by moving too much water too soon. It allows rivers to dry up too fast during droughts and destroys winter waterfowl habitat.

**RESPONSE I-11:** Channelization is no longer included as a proposed measure for bank stabilization. Riprap measures would directly disrupt approximately 7 acres of wetlands, which would be replaced by the Sponsors off-site with in-kind mitigation. Wetlands would also be affected--both in a negative and a positive manner--by increased water elevations along the

Uncompahgre River in the late fall through early spring. (See further discussion in chapter 3, soils and vegetation section of the FEIS.)

**COMMENT I-12:** Because of these reasons, they are now working on a bill to ban river channelization in Tennessee, HB1409 and SB1418. Why have no studies been done in the DEIS addressing waterfowl? South of the Ash Mesa Bridge on the Uncompahgre River, an estimated 1200 ducks wintered in the natural riparian habitat, while north of the Ash Mesa Bridge, only 20 ducks wintered in this section of channelized river. This alone should give you an idea of the potential damage created by channelization to wildlife.

**RESPONSE I-12:** Bank stabilization can be accomplished without channelization, and channelization is not proposed in the FEIS. Waterfowl use of the Uncompahgre and Gunnison rivers is influenced primarily by habitat conditions, proximity to feeding areas, and human disturbance. Channelized areas almost always provide less habitat for waterfowl and other wildlife, and these are discussed in more detail in the FEIS (see chapter 3). The influence of human disturbance can best be seen by the change in habitat use following the waterfowl hunting season. In some areas, winter use of the Uncompahgre River could increase, resulting from additional open water. In other areas, use could decline as water velocity increased and water depth increased. However, human disturbance may still be the primary factor involved. Areas of the stream with high velocity would be less attractive to waterfowl.

Nesting habitat for waterfowl is more difficult to estimate. Uncompahgre River flows would generally be higher entering the nesting season, influencing ducks to nest in higher areas, which are less susceptible to spring flooding. Higher flows may provide more area for early broods, but increased water velocities could offset any gains.

## BRADFORD HATCHER

**COMMENT I-13:** The DEIS contains no organized climatological data, which makes it impossible to assess the intensity and duration of icing impacts on instream flows and biota, or the impacts of overwarming downstream.

**RESPONSE I-13:** A combination of mathematical modeling and observed water temperature data are used to address the issue of ice formation on the Gunnison River. The mathematical model used to predict the location of ice within the Gunnison River used climatological data collected at the Redlands Mesa Agricultural Station. Therefore, actual climatological data are used in assessing icing of the Gunnison River. Warming of the Gunnison River is addressed in the EIS through the use of water temperature data collected during 1988 and 1989. These data



represent water temperatures in the Gunnison River during low flow periods and include near-record high air temperatures in July 1989.

**COMMENT I-14:** The DEIS contains no "percent of time exceeded" table on the Uncompahgre River flows. If tailrace discharges are to be shut down when the Uncompahgre reaches its mean annual flood of 1,900 ft<sup>3</sup>/s, this will entail a very severe flushing action on a much more delicately balanced Gunnison ecosystem. This flushing would tend to occur in the middle of the critical trout fry swim up windows around which the DEIS build most of its low flow arguments.

**RESPONSE I-14:** Project operation would coordinate both Gunnison and Uncompahgre River flows using flow-ramping objectives. As releases from Ridgway are gradually increased, tunnel diversions for power will be gradually decreased. The anticipated ramping rate for releases from Ridgway will be between 100 and 200 ft<sup>3</sup>/s per day. Consequently, power diversions through the Tunnel would be decreased by similar values until the 1,900-ft<sup>3</sup>/s criterion is met. Rapid fluctuation in the Gunnison River would be detrimental. Under all alternatives including the no-action alternative, high flows in the Gunnison River would reduce trout recruitment.

**COMMENT I-15:** The DEIS makes repeated use of the argument that more flow regulation is better. Prior to regulation by the Aspinall Unit, the Gunnison, especially through the Black Canyon, was regarded as "the finest trout stream in the world" (National Geographic Society, 1949). This is not claimed anymore although the fishery still merits high praise. But if more regulation is better, one would expect enhancement.

**RESPONSE I-15:** The Gunnison River upstream from the Gunnison Tunnel (Tunnel) was recognized as an outstanding fishery. This section of the river was supported by supplemental stocking due to habitat or harvest conditions and was not, therefore, a "wild trout" fishery as exists today.

**COMMENT I-16:** It seems that, especially for a supposedly protected river, the entire flow argument flows in the wrong direction. Minimum instream flow requirements are the single most crucial factor in the river's protection. Yet these are established in the DEIS on primarily economic grounds and not on what the stream "wants" to function optimally as an ecosystem that incidentally supports a fishery. The DEIS then spends much of its length trying to justify what could well be an ecologically disastrous low flow.

**RESPONSE I-16:** See **RESPONSE F-11** for information on the development of minimum flows. The 300 ft<sup>3</sup>/s is not based on economic grounds. The FEIS does discuss optimum and minimum flow levels because of the significant public and agency interest in the minimum flow situation. The proposed alternatives do not optimize the river, nor does alternative A. The impacts of

changing flow conditions under alternative A to conditions under development alternatives are discussed in chapter 3 of the FEIS.

**COMMENT I-17:** An argument used repeatedly in the document states in essence that, since the fishery has on occasion (7.8 percent of the time) sustained low flow impacts of 200-300 ft<sup>3</sup>/s and survived, that increasing the frequency and duration of these impacts by a factor of seven times would be sustainable. This is a fallacious argument. It's like saying that if a boxer can take one punch, then six more won't hurt him. The system needs time to recover from traumatic years and impacts. Increasing the adverse condition by a factor of seven is likely to make recovery doubtful.

**RESPONSE I-17:** Past and present fishery studies by the CDOW suggest that a flow regime of 300 to 400 ft<sup>3</sup>/s does not constitute a stress for the aquatic ecosystem of the Gunnison River. On the contrary, trout reproduction and recruitment have been excellent, fisherman success has been good, macroinvertebrate density and diversity appear good, water temperature and quality are good, and winter icing impacts on the trout and macroinvertebrates appear to be negligible. Siltation problems occurred during the low flow summer period of 1989; higher flows would have reduced the impact of this siltation.

**COMMENT I-18:** The DEIS gives lip service to the idea of establishing a minimum instream flow based on the optimum flows for each of the trout life stages, but then proceeds to do nothing about it. Rather, it does a quick shell game and returns only to ideal fry swim up flows, spreading these ten weeks across the entire year, to justify 300 ft<sup>3</sup>/s minimums.

**RESPONSE I-18:** Swim-up fry are stated to be the most sensitive life history stage for trout (most sensitive regarding controlling population size). The available trout habitat within the Gunnison River for swim-up fry is examined only when swim-up fry are present in the Gunnison River. The FEIS clearly shows that 300 ft<sup>3</sup>/s is not optimum for all life stages at all times of the year.

**COMMENT I-19:** While I think that Nehring's fishery data are pretty much beyond contest, I also think that his findings have been abused in the DEIS. It must be remembered that the Phabsim model charts only certain physical dimensions of trout habitat. A complete model would take on temperature, turbidity, toxicity and climatic events as well as the very important energy, chemical and nutrient cycles. In general, I prefer the more comprehensive ecosystem approach recommended in the DEIS response of Dr. Stanford, for reasons given below.

**RESPONSE I-19:** The instream flow analysis was not used alone while analyzing the potential impacts to the Gold Medal trout fishery. But rather, the analysis was used in conjunction with a

myriad of other biological indicators, tools, and literature searches to develop the best analysis available under the existing time and manpower constraints.

As Dr. Stanford suggests, some "resetting" of the river ecosystem would occur under the postproject flow conditions. Reclamation is not refuting this claim; in fact, resetting may occur, although certainly nothing remotely resembling the magnitude of the resetting that occurred on the Gunnison Gorge with the construction of the Aspinall Unit. The fact that summer diversions would change the least (because the Tunnel already carries irrigation water) would reduce changes. However, a minor resetting of the river in and of itself does not necessarily constitute a significant environmental impact to the Gold Medal trout fishery (see **RESPONSE OR-63**).

**COMMENT I-20:** One does not, with any kind of success, perform an analysis of the environmental impacts on a complex ecosystem by beginning, and effectively ending, with a quantitative study of two species (brown and rainbow trout) which move between the third and fourth trophic (feeding) levels of the system. It is important to note that the total food supply generated here is roughly, but closely, a direct function of the stream area defined by the wetted perimeter. The total biomass of this nutrient salad (soup when suspended by turbulent flows) is going to decrease in direct proportion to a sustained decrease in wetted perimeter. This will affect biomass up to the top of the chain, yet the DEIS gives it no mention...

The final EIS should have at least several typical sections with the percent of reach for which it is typical. The stabilized low flow channel appears here to accommodate flows around 650 ft<sup>3</sup>/s. It is apparent from the steep banks beyond this that an increase in flows beyond 650 ft<sup>3</sup>/s does not do much to increase wetted perimeter, while decreases below this figure become significant, in a practically linear manner, in their impacts on wetted perimeter, and thus on the first trophic level. If we measure the difference in river width between 650 ft<sup>3</sup>/s and the proposed 300 ft<sup>3</sup>/s, we're looking at a proposal that calls for roughly 70 percent of present river biomass. This is a significant impact, yet it goes unmentioned in the DEIS. (See numbers 8-13 in Mr. Hatcher's letter for a detailed explanation.)

**RESPONSE I-20:** A field study and literature search was conducted on all pertinent aquatic parameters, including the various trophic levels, to assess if any of these ecological factors would be significantly affected and would ultimately affect the productivity of the brown and rainbow trout fishery. The main thrust of the analysis revolved around the trout fishery because it was identified as one of the major significant issues during the environmental scoping process for the DEIS.

Also, species in the higher trophic levels such as trout have been successfully used as biological indicators of the overall health of the aquatic ecosystem, as they are directly dependent

on the lower trophic levels for their very existence. Any significant perturbation to one of the lower trophic levels will be reflected in relatively short order in the condition factors associated with the upper trophic level species (i.e., a healthy, robust trout population reflects excellent primary productivity (algae and leaf litter) and secondary productivity (macro-invertebrates such as aquatic insects). Past and present monitoring of the 300- to 400-ft<sup>3</sup>/s flow level in the Gunnison River has found trout populations to be excellent; the exception was 1989 when flash flooding affected the fishery.

Allochthonous material (leaf litter, etc.) plays a relatively minor role in the energy cycling of the Gunnison Gorge. The overall productivity of the system is driven largely by primary production, particularly the filamentous algae *Cladophora*, the primary food source for most of the grazing benthic insects.

Wetted perimeters were calculated for a range of flows for all the transects established for the Duncan Trail (instream flow analysis) fishery habitat study site. This analysis indicated that an average reduction in wetted perimeter existed of approximately 7 percent (155 feet to 144 feet), with a flow reduction from 650 to 300 ft<sup>3</sup>/s. The wetted perimeter loss in a typical riffle section was larger at approximately 30 percent (435 to 305 feet). Thus, we fail to see where a 70 percent reduction in river biomass could occur under project conditions. We agree that a reduction in overall primary and secondary production could occur under project conditions due to a reduction in available bottom area, but monitoring studies at the 300- to 400-ft<sup>3</sup>/s level have suggested that food is not limiting to the existing fishery under this flow regime even with the loss of wetted perimeter. In addition, slight reductions in water depth might increase sunlight penetration and primary production.

Nowhere in the DEIS is an 80-percent reduction in habitat or fish numbers indicated as the comment suggests. However, the DEIS did state that the 300-ft<sup>3</sup>/s level provides 80 percent of the habitat available at the optimum flow of 500 to 600 ft<sup>3</sup>/s.

No species are predicted to be lost in the Gunnison Gorge ecosystem; however, there may be some changes in percent composition. Trout fry are not herbaceous as suggested; they feed primarily on zooplankton.

See **RESPONSES F-27, F-46, and F-94** for further information.

**COMMENT I-21:** It is claimed that in a dry year the effects of development could nearly double the record number of angler hours. This must assume present level of interest. Given lowered trout biomass one might presume that, for these doubled angler hours, harvest, in pounds of trout biomass, might remain constant while proportional harvest might also double, bringing total trout biomass to below 50 percent of present. But I would suspect that, at this point, interest in fishing in the Gunnison would begin to wane. The river might become another

catch-and-release stream, unless it were stocked. Would the Sponsors pay for stocking? And the doubled angler hours - what are their impacts on wildlife?

**RESPONSE I-21:** Chapter 3 in the FEIS predicts an increase in angler days for development alternatives but certainly not a doubling of the record number of anglers. Lowered trout biomass is not predicted as shown in the FEIS. The river presently has special regulations to reduce harvest. The need for stocking is not anticipated by the CDOW as long as habitat for successful trout reproduction and survival is provided. As indicated in the comment, use is certainly related to fishery quality.

**COMMENT I-22:** I would submit that the healthiest overall approach to this problem is to draw a new bottom line for a Gunnison River minimum instream flow requirement. This need not be a hard, straight line, and, legally, it could not exceed historical and realistic demands of the UVWUA for irrigation requirements that sometimes require low flows of 300 ft<sup>3</sup>/s. But flows lower than what these decreed and proven agricultural water rights require ought to be regulated by numbers which respect the Gunnison River ecosystem. This bottom line would be a complex curve, reflecting minimums which vary throughout the year according to instream life stages, compromising where necessary between optimums for cohabitating species and intra-species life stages. I think that this optimum bottom line will be found to be much closer to the present "stabilized low flow channel" than it is to the proposed 300 ft<sup>3</sup>/s minimum, with this minimum considered as representing a severe stress on the system to be avoided whenever possible, and not economically indulged in whenever available.

**RESPONSE I-22:** The FEIS discusses recommended flow levels, both optimum and minimum. Chapter 2 describes alternatives that meet or attempt to meet these flows. Careful review of flow tables has shown that optimum levels are not met under alternatives, including alternative A. The 300-ft<sup>3</sup>/s minimum does not represent a severe stress, according to available data. It does not represent the minimum flow required for fishery survival; the survival flow would be much lower in the Gunnison River. It also does not represent an optimum flow level under all conditions. Further discussion of the 300-ft<sup>3</sup>/s flow is found in **RESPONSE F-11**.

**COMMENT I-23:** (paraphrased) The B/C ratios in Chapter 2 show returns on investment that appear suspiciously low. What are the real numbers?

**RESPONSE I-23:** The financial feasibility ratio includes returns on investment. The FEIS has been modified to clarify this point. See **RESPONSE OR-6**.

**COMMENT I-24:** (paraphrased) The Western Slope is in electric surplus; power is not needed.

**RESPONSE I-24:** See **RESPONSES F-6**, and **OR-1** and **OR-3**.

**COMMENT I-25:** Several attached charts were prepared that show monthly flow levels under various conditions (see figures 1 through 3 in Mr. Hatcher's letter).

Figure 1 charts average monthly Gunnison flows, diversions, and proposed impacts for the average year between 1965 and 1983. The heavy line shows what I would consider to be a reasonable minimum instream flow. The hatched area below this shows what I consider to be the volume of unreasonable demands on the river. It can be seen here that in average or better years, a reasonable flow requirement would only withhold a small percentage of proposed diversions from power production, perhaps 15 percent.

Figure 2 charts average monthly Gunnison flows, diversions, and proposed impacts for the dry years between 1965 and 1983. This was taken from the fifth driest month during the 19-year period, or roughly a 25 percentile year. Some of these low flows, however, were reached six and seven times during this period. Again, the heavy line shows what I consider to be a reasonable minimum instream flow while the hatched area below it says "too much." To achieve reasonable minimums in this one year in four, proposed power production would need to be curtailed by about 35 percent.

Figure 3 charts historic percentile monthly average flows from the DEIS simulated post Aspinall flow data.

**RESPONSE I-25:** The charts are informative and appreciated. The suggested energy generation penalties associated with the increased minimum flows appear relatively accurate. However, they would make the project infeasible. A rough cut at the financial impact of generation loss can be viewed by multiplying the appropriate financial feasibility ratio in chapter 2 by the fractional generation loss. For example, a 15-percent (average) generation loss would cause a 1.05 financial feasibility ratio to be reduced to approximately 0.9.

Alternative analyses prepared for the EIS included assessing varying minimum flows. Alternative F-6, with 450 ft<sup>3</sup>/s in 4 months, 600 ft<sup>3</sup>/s in 2 months, and 300 ft<sup>3</sup>/s for the balance of the year, was not feasible. A flow of 600 ft<sup>3</sup>/s extended for a longer time period (all year) would produce an even lower financial feasibility ratio and would also be infeasible.

## MITCHELL SWANSON

**COMMENT I-26:** Increased erosion on the Uncompahgre River.--It is freely admitted in the DEIS that increasing flows on the Uncompahgre River will cause accelerated erosion. However, there is a serious lack of information and analysis in the DEIS to justify the open-ended, "blank-check" budget to arrest bank erosion. The DEIS, the consultant and agency reports (Stevens,

1988; and U.S. Soil Conservation Service, 1988) lack the technical information necessary to deal with the erosion problems realistically and to propose effective solutions.

Because the analyses are deficient, there are substantial deficiencies in the preferred alternative design (alternative C), which are discussed below. A more detailed and appropriate set of technical analyses are crucial to a realistic computation of the benefit to cost ratio, which is only 1.056 for the preferred alternative. The potential costs of stabilizing 39.6 miles of channel could easily exceed \$4.3 million over the project life and drive the B/C ratio down to less than 1.00. In addition, the B/C ratio for the preferred alternative could be driven down to a level where other alternatives are more economically favorable.

**RESPONSE I-26:** Additional information has been added in chapters 2 and 3 of the FEIS to describe the erosion and the mitigation measures. Additional technical data have been provided to Mr. Swanson; findings are summarized in the FEIS. The cost of solutions is included in the cost estimates in chapter 2.

**COMMENT I-27:** Many of the key conclusions regarding impacts to the stability of the Uncompahgre River are based on limited information and conjecture about the mechanics of the stream. The DEIS relies heavily on a report by Stevens (1988) to describe the problem, the expected impact, and the measures that will correct the problems. But the Stevens report is a preliminary reconnaissance effort at best and not an appropriate level of study to confidently determine the magnitude and types of impacts, to propose effective stabilization measures, or to determine the costs. What specific information was used to generate a cost estimate for construction and operation and maintenance of pre-project and future bank stability projects? What information was used to determine the proposed channel treatments? Have similar bank protection projects been undertaken on the Uncompahgre River and have they been successful? What are the proposed projects and where are they located? What information or analyses were conducted to conclude that increased flows on the Uncompahgre River would reduce salinity problems while erosion increased?

**RESPONSE I-27:** Cost estimates stated in the FEIS are based upon analyzing 1977 and 1988 aerial photography, river cross sections, bed and bank samples, interviews with landowners, and engineering analysis. Operation and maintenance costs were estimated according to Soil Conservation Service (SCS) standards. Areas to be treated were identified and were then adjusted according to estimates of existing protection. The methods of proposed treatment suggested in the DEIS were based upon methods which the UVWUA and local landowners have employed in the past. In most cases, these methods (riprap, jetties, fences) have been successful. However, channelization, which has not been used by the UVWUA but has been used by landowners, has not been successful (from an environmental perspective).

Reclamation conducted analyses that indicate that if erosion protection measures are implemented, salinity would not increase. Seepage from the presently unlined AB Lateral would be reduced as would the salt loading associated with this seepage. Development of the project would increase the amount of water in the lower Uncompahgre River for dilution of dissolved solids in that reach.

Flow reduction in the Gunnison River upstream from Delta would decrease dilution of salts, and salinity levels would increase, as discussed in chapter 3 of the FEIS.

**COMMENT I-28:** The erosion problems of the Uncompahgre River are not isolated to the trouble spots that will cease to be trouble if they are treated. The evidence I have reviewed points to a system-wide problem on the Uncompahgre River where the natural, narrow meandering channel morphology is out of equilibrium with present conditions. It appears that many reaches of the Uncompahgre River are changing from a narrow (average about 60 feet wide) single channel meandering stream to a wide (up to 450 feet) braided stream. This is a very serious problem and a costly one to correct as it is; if discharge is increased the problem could become more difficult to treat. The channel appears to be responding in dramatic fashion to past disruption or projects or recent large flood events. If this is the case, the Uncompahgre River will continue to become wider and braided and this could be substantially aggravated by increasing discharge from the AB Lateral hydropower operation.

The proposed channel stabilization measures will be largely ineffective and perhaps harmful to the problem unless the underlying causes of the instability and the quantitative river mechanics are understood. The information in the DEIS indicates that these analyses have not been completed. A combination of field and historical channel stability analysis is needed, then appropriate remedies can then be prescribed and their cost estimated. Technologies which involve river training rather than simple bank protection will be far more cost effective and less harmful to the environment; in fact river training creates many opportunities to improve the environmental quality of the stream while reducing instability. Without proper analysis, realistic cost estimates are not feasible to calculate. In turn, the economic justification of the project is flawed and the project Sponsors take considerable financial responsibility for solving a problem that the DEIS does not describe adequately in scope or magnitude.

**RESPONSE I-28:** Interviews with landowners indicate that the flood of 1984, which was the second largest on record at Delta, played a major role in shaping the existing river channel. The river is considered to be a meandering stream, rather than braided. The braided effect, which is apparent in 1988 aerial photos, is due to the extremely low flows coupled with the lack of spring flooding over the past 3 years; gravel bars deposited in the 1984 flood have resulted in the present configuration. The increased discharges resulting from project operation would



move these bars downstream and lengthen the meanders. However, this same movement could easily occur without development as a result of prolonged high flows.

The proposed stabilization measures to be installed before facility operation would be designed to reduce erosion and mitigate the impacts of development. Stabilization measures can be roughly divided into two groups, those designed to prevent erosion of an existing bank and those intended to guide the flow or promote sediment deposition in designated areas. Proposed measures fall into both of these groups. Blanket revetment, using rock riprap, is proposed in developed and sensitive agricultural areas. In rural areas along terraced wetlands, streambank vegetation is proposed. The design of these measures has been based upon field surveys; field sampling and laboratory analysis of the bed and bank materials; detailed study of 1988 aerial photography; interviews with landowners near the river; and technical analyses of collected data.

**COMMENT I-29:** The flow information presented in the DEIS is inadequate for identifying the impact of the proposed project flow regime on the Uncompahgre and Gunnison Rivers. The DEIS presents monthly mean discharge data and does not provide daily mean discharge data to describe the proposed operation of the AB Lateral hydropower facility. Fluctuating flows on a daily or weekly basis can seriously accelerate erosion. The DEIS does not provide detailed enough information to evaluate the effects of operation on channel morphology.

**RESPONSE I-29:** The hydrologic impacts were assessed using mean monthly flow data of both rivers because daily variations are extremely minor in the controlled system. Sufficient information does not exist to evaluate such impacts on a daily or weekly flow basis. Although both rivers are gauged by the U.S. Geological Survey (USGS), the effects of recent upstream regulation are not adequately defined in the records. Simulation was used to incorporate upstream regulation; simulation of daily flows for a 32-year period would not be practical nor would it provide significantly different results.

Upstream regulation of the Gunnison River has reduced the daily fluctuation of flows in the river downstream from Crystal Dam. Flow changes that do occur are made gradually to avoid environmental impacts in the Black Canyon. Operation of the Ridgway Reservoir will have a similar effect on the Uncompahgre River. See **RESPONSE F-11** for additional information.

**COMMENT I-30:** The proposed project lacks several key logistical and institutional elements for management and implementation of the proposed Uncompahgre River bank protection program. How will the Project Sponsors prioritize, design and implement the bank protection program on the Uncompahgre River? Who decides which projects are the most urgent? Who decides which erosion problems are the responsibility of the Project Sponsor? How will a determination be made about which erosion problems are the

responsibility of the Sponsors and which erosion problems are existing? Will the Project Sponsors take responsibility for existing erosion problems? What if the cost of the needed bank protection measures exceeds the money in the sinking fund? Where will the additional money come from if it is needed? Has the cost of repair and maintenance of existing or new structures been considered? If so, what are the anticipated costs? What are the costs of habitat mitigation for bank protection projects? Will habitat mitigation be on-site or off-site and in-kind replacement?

**RESPONSE I-30:** The proposed mitigation program discussion has been expanded in the FEIS. The Sponsors have not made a distinction between existing erosion problems and problems resulting from development. They have acknowledged that existing problems, if left untreated, would only become worse with development. Therefore, existing problems would be treated before operation.

The costs of annual maintenance have been included in the overall maintenance costs of the facility and are detailed in the FEIS. If needed, additional funds for post-operation stabilization measures would be taken from project revenues.

Habitat mitigation would be in-kind and would be located off-site. The mitigation plan proposed by the Sponsors is described in the FEIS in chapter 3.

**COMMENT I-31:** Another serious deficiency of the preferred alternative design is the lack of any provision to shut down hydropower diversion if bank erosion is substantially increased. The proposed operation procedures call for not adding to flood flows, but they do not provide any provisions to curtail or cease operations if erosion in the Uncompahgre River increases. Such provisions are needed to gain confidence that the Project Sponsor will correct the erosion problems that arise.

The DEIS fails to address potential liability issues resulting from increasing flows in the Uncompahgre River. What is the Sponsor's legal liability if increased erosion destroys property and the Sponsor is sued for damages? Have the costs of such liability been considered?

**RESPONSE I-31:** Project shutdown is always an option; however, mitigation that would allow the project to keep operating is preferred. The Sponsors have agreed to extensive mitigation that should reduce economic and sensitive environmental losses. Should a lawsuit be filed despite the proposed mitigation, legal liability beyond the Sponsor's commitments would have to be determined by the courts.

The proposed alternative is generally designed to mitigate for project-induced erosion. Erosion caused by normal river flows

and floods would not be the project's responsibility, although proposed stabilization measures should help in reducing these erosion events.

**COMMENT I-32:** The DEIS fails to address the environmental impacts of instituting a large-scale channel stabilization project on the Uncompahgre River. The proposed erosion control measures can destroy valuable riparian habitat and, more importantly, may create additional instabilities in the river system. Deferring an impact analysis to application for an Army Corps of Engineers 404 permit is not sufficient since the 404 application process does not fully address economics and alternatives analysis. The cost of mitigation for bank protection projects yet to be designed or identified are ignored as well. It is well known that bank protection often increases erosion in other reaches requiring more bank protection. Other proposed measures such as channel straightening and "canalization" have substantial impact upon channel stability by increasing channel gradients. These impacts should be addressed in the DEIS.

**RESPONSE I-32:** Impact analysis of the proposed measures was presented in the DEIS and has been expanded in the FEIS (river mechanics section of chapter 3).

**COMMENT I-33:** The DEIS claims that channel stability on the Uncompahgre River below Ridgway reservoir and above the tailrace will improve due to decreased flows and that the sediment supply will be reduced. However, Stevens (1988) states that Reclamation has planned for two feet of channel degradation below the reservoir (p. 3-8, para. 3). It also stated that Ridgway Reservoir does not have a flood control function and that flood insurance maps would not be changed. The combined effect of continuing larger floods (the magnitude is not stated) and the release of clear water flows could increase erosion in this reach, add sediment to downstream reaches and increase instability. Sediment transport capacity is usually a power function of discharge, such that a small increase in discharge often results in several fold increase in the ability to erode and transport sediment; often, the infrequent flood events are most important for channel morphology and sediment transport. More information is needed to adequately assess the impact of the recent closure of Ridgway Reservoir on sediment supply and channel morphology.

**RESPONSE I-33:** The reference to channel degradation below Ridgway Reservoir pertains to the river immediately below and a short distance downstream from the dam. Degradation and subsequent bank erosion are not expected to occur downstream from Colona. Although no flood control storage is planned for this reservoir, flood regulation and peak attenuation will occur. The combination of this effect and the reduced flows entering the river from the South Canal would increase channel stability in the reach between the South Canal and the proposed tailrace. However, periodic flooding would still occur with or without

development. The erosion-related impacts of these floods would be reduced with development by constructing bank stabilization measures.

**COMMENT I-34:** The DEIS also claims that the morphology of the Gunnison River between the Gunnison Tunnel and the North Fork "would not change" because "flood events (which) would be largely affected by development" (p. 3-35, fourth paragraph, fourth sentence) and any encroaching vegetation would be periodically scoured away. At the same time, the DEIS claims that reduced flows below the North Fork would stabilize the channel there: "The overall impact of the proposed development alternative would be to increase the stability of the Gunnison River below the North Fork." What information and analyses lead to the conclusion that no change in flood flow regime will maintain one reach as is, and stabilize the eroding reach downstream "due to reduced discharge"? It does not appear that one can achieve both. Again, this claim demonstrates some deficiencies in the analysis.

**RESPONSE I-34:** The Gunnison River channel in the reach between the Tunnel and the North Fork is less susceptible to erosion because the bed and banks are largely comprised of granitic rock and boulders. There are areas within this reach having gravel banks; these areas would tend to stabilize due to the reduced flows. However, periodic flood flows would continue to occur, scouring vegetation and eroding the gravel bed and banks. This action would not be affected by the proposed development.

In the reach between the North Fork and Delta, the bed and banks are more susceptible to erosion due to the material composition. Reduced flows in this reach would have a stabilizing influence inasmuch as the duration of erosive flows would be reduced. However, as noted in the comment above, periodic flood flows would still occur, resulting in channel erosion. The text of the FEIS has been changed to clarify this issue and is included in the river mechanics section of chapter 3.

**COMMENT I-35:** The DEIS does not consistently recognize the ramifications of increased bank erosion on the Uncompahgre River to other key environmental impacts including water quality, recreation, fisheries and aesthetics. In fact, there are many internal inconsistencies within the DEIS on these issues: Water Quality: Page 3-66, fourth paragraph, last sentence states that "increased flows downstream from the tailrace would improve water quality, provided measures to limit erosion would be taken." In other words the claim that increased flows will improve water quality by diluting salinity (p. 3-67, paragraph four, first sentence) are only valid if bank protection is installed, maintained, and successful in arresting erosion and instability. How will this be accomplished for the whole Uncompahgre River? What information exists to support the claim that erosion will be arrested and water quality improved? Isn't the total salt load the same even though the solution is less concentrated?

**RESPONSE I-35:** The total salt load would be reduced by implementing the project. Under the no-action alternative, water would continue to flow to the Uncompahgre River via the South Canal, over half of which is unlined, and Cedar Creek, none of which is lined. Under development alternatives, a portion of irrigation supplies would be delivered through the lined AB Lateral and the penstock. This action would reduce exposure of the water to formations contributing salts to the water, thereby reducing the total salt load.

The measures proposed by the Sponsors to stabilize river banks have been successfully used along the Uncompahgre River in the past. If properly installed and adequately maintained, the proposed stabilization measures should be successful in reducing the erosion-related impacts of increased flows. As such, the total sediment load in the river would not be significantly increased. See **RESPONSE F-36** for additional information.

**COMMENT I-36: Recreation:** The claims of positive recreational benefits of the project on the Uncompahgre River described in page 3-136, fourth and fifth paragraphs, are unfounded and inconsistent with the discussion of increased erosion and instability found on page 3-37, paragraph seven. These claims of a positive recreational benefit will not be realized in any scenario, even with the proposed channel stabilization measures.

Page 3-136, paragraph four, states that "Under all development alternatives, increased flows below the tailrace could improve the recreational values of the Uncompahgre River as the result of relatively stable releases of high quality clear Gunnison River water. These releases coupled with the effect of the Ridgeway Reservoir upstream, could improve the water quality of the channel and stabilize and expand the wetlands of this area."

These claims conflict with the conclusions of the project impacts to river morphology. Increased flows will accelerate erosion, add sediment, and degrade water quality. The high quality clear water will likely become quite turbid and muddy when it travels a short distance and entrains sand, silt, and muds while inducing increased erosion. What information exists to support the claim that clear water conditions will endure below the tailrace? How can wetland areas expand and stabilize if erosion creates a wide, barren, braided channel and removes riparian vegetation? How will wetlands area expand if many reaches must be treated with riprap and bank protection measures, which often destroys riparian vegetation?

Under any foreseeable future condition with the project, new rafting and canoeing opportunities will be very limited at best with either increased channel widening and erosion or with new bank protection works. When the Uncompahgre River widens, flows could become too shallow making it difficult to navigate. Trees falling into the channel from eroding banks will present navigational hazards. If the proposed bank protection projects are installed, rafting and canoeing will become hazardous as

riprap works will become navigation hazards; visual resources will degrade as vegetated natural banks are replaced by barren riprap banks.

Page 3-136, paragraph four further states that, "A cold water fishery could develop in the (Uncompahgre) river in response to improved habitat conditions. However, habitat may still limit development of a significant fishery." What does this statement mean? It seems to say that new habitat would develop, but that habitat may limit development? This claim does not consider habitat conditions with a shallow and wide braided channel morphology.

**RESPONSE I-36:** In some cases, recreational use would increase slightly; for example, hike-in fishing along the Gunnison River is predicted to increase. The EIS does not predict positive recreational benefits on the Uncompahgre but does recognize that additional, high-quality water may lead to recreational enhancements. The exception to this is along the 5-mile reach through Montrose where flows would be significantly reduced. The wide, braided channel described in the comment could develop if the river were left alone; however, this is not the case. Existing landowners have already installed extensive amounts of bank protection, and the Sponsors propose to add to this protection. The net result is that the Uncompahgre is expected to continue as a meandering river. See additional discussion in chapter 3 (impacts of alternatives section) of the FEIS for more information.

**COMMENT I-37:** Loss of white water recreation on the Gunnison River: Page 3-153, first paragraph states that: "Although rafting activity can be expected to decline with reduced flows in the (Gunnison River) Gorge, hike-in fishing activity should increase. This is because, as discussed earlier, flows in the 300 to 600 ft<sup>3</sup>/s range produce excellent fishability on the Gunnison River. This claim appears to be based upon the perfunctory and statistically insignificant information on fishery use alluded to on page 3-129, paragraph five, last sentence: "Records are not kept of inner canyon users who enter from upstream of downstream from the monument's boundary; but NPS officials report this use is increasing and was especially evident in 1988 when low river flows permitted people to travel greater distances throughout the canyon (Thoreson, personal communication, 1989)". This single observation is an inadequate substitute for identifying impacts for the life of the project and long-term use. How will the loss of whitewater rafting be mitigated: Is increased access for hike-in fishery use an adequate replacement? Is the DEIS suggesting that hike-in fishery use will mitigate for the losses in white water rafting?"

**RESPONSE I-37:** The increased fishing use was not based on the information referred to on 3-129 of the DEIS but rather on creel surveys conducted over a period of years by the CDOW. Flow changes would be least during the recreation season. This impact

is not completely mitigated, and the FEIS shows a net loss. Angler use is not meant to be a substitute for this loss.

**COMMENT I-38:** The DEIS is fully deficient in considering cumulative impacts. Several positive benefits are stated, but some very important negative cumulative impacts are completely ignored.

1. Increased flows on the Uncompahgre River from the AB Lateral Project, the closure of Ridgway Reservoir, and planned bank protection projects for the Uncompahgre River from the tailrace to Delta.

The AB Lateral Project will increase flows and erosion on the Uncompahgre River. This requires a massive bank protection project to arrest the increased erosion which will further impact channel stability, degrade biological resources, reduce wetland areas, and require significant expenditures. The Ridgway Reservoir now traps all sediments but does not reduce significant floods; this combination could cause serious erosion downstream (2 feet of degradation is anticipated by the Bureau of Reclamation) releasing more sediment to aggrade and de-stabilize reaches downstream. The EIS is deficient in addressing these impacts individually and collectively.

2. Reduced flows due to the AB Lateral Project on the Gunnison River will decrease white water rafting on the Gunnison River. Recent projects on the Gunnison River, notably Crystal, Morrow Point, and Blue Mesa Reservoirs have destroyed white water recreation on the upper three fifths of Black Canyon of the Gunnison River, about 32 miles. Future dam projects are being considered on the Gunnison River. This combination of past and proposed projects could fully destroy water recreation in Black Canyon.

The DEIS fails to mention or address the cumulative losses of white water recreation on the Gunnison River due to past and proposed projects. The AB Lateral Project will reduce flow levels to a 300 ft<sup>3</sup>/s minimum, far below the minimum and optimum flows for white water recreation. Reduced flows mean reduced rafting below the Gunnison Tunnel. Taken in the context of past projects, the AB Lateral Project will significantly reduce rafting on the remaining portion of Black Canyon, except for the 3.5 miles between Crystal Reservoir and the Gunnison Tunnel.

**RESPONSE I-38:** More extensive analyses of the impacts of increased flows and planned bank protection on the Uncompahgre River are contained in the FEIS, especially in river mechanics and vegetation sections of chapter 3. Projections of the extent of whitewater rafting on the Gunnison River if the Aspinall Unit were not in place would be highly speculative at best, and any statement of cumulative losses of whitewater recreation would be nothing more than conjecture. Actually, rafting on the Gunnison River during the summers of 1988 and 1989 when flows have been held between 300 and 400 ft<sup>3</sup>/s (due to drought conditions) has

been considerably greater than would have been predicted using the analysis in the FEIS, indicating that the analysis is conservative.

We know of no proposed projects on the Gunnison River that are at more than a preliminary stage of planning. At this early stage, it is beyond the scope of this document to speculate on the impacts of proposed projects. We assume the National Environmental Policy Act of 1969 (NEPA) compliance documents for any of these projects would include cumulative analysis of impacts of that project and the AB Lateral Project (if the AB Lateral Project is built).

## KENT WHEELER

**COMMENT I-39:** This letter offers a lengthy discussion of the DEIS, and presents detailed comments regarding the following items (see actual comment letter for details): (1) lack of flow-routing studies for the Uncompahgre River; (2) inadequate studies of the probable morphological changes to both river systems; (3) lack of studies to the alluvial floor aquifer; (4) completely inadequate riprap designs; (5) poorly planned wetland conversion; (6) water-rights problems; and (7) the use of icing studies that have already been shown to be inadequate.

**RESPONSE I-39:** Flow-routing studies for the Uncompahgre River have been performed by the Sponsors as part of preliminary design computations and are referenced in this FEIS; studies include both hydrologic and hydraulic analyses of the reach between the proposed tailrace and the city of Delta.

Regarding the impacts to the Gunnison River's morphology, see **RESPONSE** to **COMMENT I-34**. Regarding the impact to the morphology of the Uncompahgre River, see **RESPONSES F-32** and **F-107** through **F-117**.

Studies indicate that development would not cause degradation of the channel bed; it was thus concluded that water tables would rise near the river. This rise, which is expected to vary between 1 and 2 feet in the winter depending on location, would subsequently affect vegetation near the river. This impact is further discussed in the FEIS (chapter 3, vegetation).

Bank stabilization measures would be properly designed and installed and would include blanket riprap revetment and streambank vegetation. As part of the Section 404 Permit, design would require Reclamation's approval, as well as the Corps of Engineers. Windrow revetment and channelization, both of which were defined as alternatives in the DEIS, have been rejected as feasible solutions.



Regarding the wetland mitigation, see **RESPONSE** to **COMMENTS F-75, F-76** and **F-109**. Additional information regarding water-rights issues has been added to the FEIS. See **RESPONSE** to **COMMENT F-1**.

According to Reclamation observations during the winter of 1988-1989, actual icing conditions that occurred in the river were extremely close to those predicted in the icing studies performed by Ashton. No impacts to fisheries from icing were observed resulting from these conditions.

### RALPH E. CLARK III

**COMMENT I-40:** Since the Gunnison River from below Crystal Dam is a regulated river, the discussion in the final EIS of its management under various conditions and for various purposes would benefit from broadening the consideration of attributes and factors relevant to management options. Recent publications by J.V. Ward and J.A. Stanford provide a useful starting point for being sure to "cover all the bases" with respect to management considerations and requirements in river regulation.

The FEIS should make explicit - and allow for public discussion of - the possible management options for the Gunnison River as a public resource and how these would be achieved. If some form of the AB Lateral hydropower facility is built, some options for future management of the Gunnison as a regulated river would be reduced.

Some possible options are suggested implicitly within the statement and the tradeoff between fishing and rafting is highlighted. A comprehensive and specific plan for the river needs to be established, perhaps through congressional designation, in conjunction with plans for the hydropower project. This would reduce uncertainties regarding the availability of flows to be diverted from the Gunnison to it.

**RESPONSE I-40:** The FEIS contains additional information on the operation of the Aspinall Unit in chapter 3 (streamflow section). However, it is beyond this document's scope to study the various management options for the Aspinall Unit, which is operated primarily for hydropower production and water conservation. Within that framework, efforts are made to benefit recreation, fish and wildlife, and other interests both downstream and at the Unit reservoirs themselves. The Aspinall Unit would not be operated to benefit or supply water to the AB Lateral Facility nor would the facility prevent future management options with the Aspinall reservoirs. However, the facility's water right would represent a long-term flow diversion subject to prior water rights.

**COMMENT I-41:** From results of the recent Upper Gunnison-Uncompahgre Basin Phase I Feasibility Study, it appears that the USBR has available to it from Blue Mesa Reservoir about 180,000 acre-feet of uncommitted firm annual yield. Commitment

of this toward maintenance of flows in the Gunnison below the Tunnel should receive consideration in the FEIS. Consideration of placement of new demands upon the Aspinall Unit should not be avoided.

**RESPONSE I-41:** The purpose of this FEIS is to assess the impacts resulting from the proposed development of hydropower facilities within the Uncompahgre Valley Reclamation Project (UVRP). The Sponsors have agreed that this proposed development would not place any new demands on the Aspinall Unit. The operation of the Aspinall Unit could change in the future, which would be done independently of the AB Lateral Facility.

**COMMENT I-42:** In the above feasibility study (p. 9-11), a caution was given that direct comparisons should not be made between results of modeled instream flows through the Black Canyon with consideration for the AB Lateral diversions and results of modeled flows through the Black Canyon to be found in this DEIS. It appears that the same engineering consulting firm did both sets of modeling and some clarification of the differences between sets of results is needed.

**RESPONSE I-42:** Hydrologic impact studies for the proposed project were based upon simulation model results done by Reclamation, which yielded the expected flows in the Gunnison River below Crystal Dam and upstream of the Tunnel. The assumptions and modeling procedures used by Reclamation in performing these simulation studies were different than those used in the modeling studies performed for the Upper Gunnison-Uncompahgre Basin, Phase I Feasibility Study. Comparing average annual values shows that the two sets of modeling results differ only by 0.3 percent.

**COMMENT I-43:** A table presenting the economic trade-offs/differences between power production alternatives and fishing and rafting alternatives would be helpful (reference p. 2-40 and the discussion of recreational economics). There is competition between different directions for the allocation of a resource and each would provide economic development potential.

**RESPONSE I-43:** Summary tables S-2 through S-4 present economic impact data for power production, rafting, and fishing as well as user-days of rafting and fishing.

**COMMENT I-44:** Under no action (i.e., the hydropower project is not built), it is stated that conditions in the valley would not change significantly in the foreseeable future (p. 3-5). Does this include the demand for electrical power?

**RESPONSE I-44:** **RESPONSE F-6** identifies the need for power. If the project is not built, power would probably be provided by alternate means, presumably through additional fossil-fueled generation (see discussion under the need for power section in chapter 1 and chapter 3 of the FEIS, air quality section). Power would be sold to the Public Service Company.

**COMMENT I-45:** Projected power outputs per month should be given for the proposed alternatives so as to illustrate the effects of operational constraints in relation to simulated flows in the Gunnison River (p. 3-9).

**RESPONSE I-45:** Power output is a function of head, flow rate, and unit efficiency. Power output was determined on the basis of available flows to the proposed hydropower facility. The effects of operational constraints are illustrated in the simulated average monthly flows entering the hydropower facility. The flows for each alternative are shown in tables 2.7 through 2.10 of the FEIS. Tables 3.7 through 3.11 of the FEIS show simulated flows entering the Black Canyon of the Gunnison.

**COMMENT I-46:** The reach of the Uncompahgre River most adversely affected by the hydropower facility would be the initial miles of a recreation trail, with associated facilities, proposed to go between Montrose and Ouray utilizing the abandoned railroad right-of-way. Provision should be made in mitigation requirements to enhance, not detract, from the opportunities for riverside recreational improvements along this reach.

**RESPONSE I-46:** During the nonirrigation season, the project would have no effect on this reach of the river. During the summer, the project would reduce flows, particularly in the reach below or downstream of the Loutzenhizer Canal, a relatively short stretch when compared against the total mileage from Montrose to Ouray (2 miles out of 36). However, this area does include the city of Montrose locality. Above the Loutzenhizer Canal, development alternatives could aid corridor development through the natural stabilization of Uncompahgre River banks. See FEIS text discussions in chapter 3, river mechanics and recreation sections. See also **RESPONSE OR-21**.

**COMMENT I-47:** Consideration is needed as to the significance to water users of any increase in total dissolved solids anticipated to occur below the North Fork (p. 3-33 and 3-65) as a result of there being less higher quality water from the Gunnison to dilute flows in the North Fork.

**RESPONSE I-47:** Please see **RESPONSE OR-61**.

**COMMENT I-48:** Old car bodies and refuse should be added to the list of riprap material (p. 3-35). Channel protection measures should address removal of such material where feasible and its appropriate material. Consideration should be given to also using vegetation such as willows, grasses, and other vegetative measures for bank and channel stabilization (p. 3-37).

**RESPONSE I-48:** Existing channel protection measures along the Uncompahgre River would not be removed or replaced under this program in areas where the measures are in adequate condition. However, in some areas, material including old cars would be

removed and replaced. Riprap material under the program would be "clean" rock. Vegetative measures have been included in the bank stabilization plan. See **RESPONSE F-76**.

**COMMENT I-49:** It appears that both the hydropower project and recreational activity can be "sized" to available flows. An alternative is needed for evaluation which provides for a stabilized 600 ft<sup>3</sup>/s flow in the Gunnison River below the Tunnel (p. 3-83)...

**RESPONSE I-49:** Alternative F-6 evaluates the use of a 600-ft<sup>3</sup>/s minimum (for hydropower, not irrigation diversions) during certain periods of the year (see chapter 2 of the FEIS). Alternative F-6 was not economically feasible, so it was not assessed in detail.

## RUTH HUTCHINS

**COMMENT I-50:** Lack of sufficient economic data (p. 5-9).--What specific changes are predicted to occur because of the development that would erase the current dependency on agriculture, tourism and light industry? And what plans are being formulated to address this change development would create?

**RESPONSE I-50:** No significant changes to the overall economic base are predicted. The local agricultural economy would benefit from power revenues that could be used partly for system improvements and stabilizing water rates.

**COMMENT I-51:** What expenses will the UVWUA incur for increased compensation to the Board of Directors and the managerial staff as the scope of their job is increased by the O&M of power plant operations? Where is the financial schedule of proposed income increase to UVWUA that shows a direct benefit to the water users reflected in reduced water delivery costs? On what percent of what figure - net profit or gross profit - is \$150,000 to \$1,000,000 base? Has the board of UVWUA been fully apprised of the financial scope of this development and negotiated the very best long-range terms for the water users? Have the water users been advised likewise?

**RESPONSE I-51:** The UVWUA would be reimbursed by Montrose Partners for expenses directly related to project operation. Exact impacts to water delivery costs are not possible to predict, though the UVWUA has indicated that, in addition to using revenues for rehabilitation of the irrigation project, they expect to use revenues to help offset future increases in water costs. Revenues to the UVWUA would be calculated proportionate to net revenues (see **RESPONSE OR-31**). The UVWUA supports the proposed project and is fully informed about the development and satisfied with the agreement with Montrose Partners.

**COMMENT I-52:** Pages 1-2 What is the relationship between Montrose Partners (MP) and Mitex, Inc. What is the amount of

investment capital MP is providing for the project, and what is the anticipated return on this capital to MP? What is Mitex's position as general partner? Is Mitex a subsidiary of another company? And if so, of what company? What is Mitex's Dunn and Bradstreet rating? Will this project be financed 100 percent by bonds? What specific hydrofacilities has Mitex developed, and what was Mitex's specific involvement?

**RESPONSE I-52:** Mitex, Inc., is a general partner of Montrose Partners who will provide all of the investment capital for the project. Mitex is a subsidiary of Sithe Energies, USA, an independent power developer based in New York. Project financing is further discussed in the FEIS. Mitex and Sithe have developed sites in Pennsylvania, North Carolina, Virginia, Idaho and California. See **RESPONSE OR-32**.

**COMMENT I-53:** Pages 1-2, paragraph 2. What are the terms of the Lease of Power Privileges?

**RESPONSE I-53:** The lease would provide for cost reimbursement, fees, Reclamation's oversight role, and the Sponsor's obligations including environmental commitments. See FEIS text discussion (chapter 1) and **RESPONSE F-16**.

**COMMENT I-54:** Pages 1-3, Need for Project, paragraph 1. Shortly after the Colorado Public Service Company (CPS) contract with UUVWUA /Montrose Partners was signed, the Colorado Public Utilities Commission stopped all PURPA Act requests at the instigation of CPS in order to review the entire pricing structure. This project under discussion - AB hydropower - was one of the last power supply contracts signed under PURPA before the price structure review was requested. Presently, adequate power is available; the future is not predictable and the Company is locked into a contract price of \$0.047 per kilowatt hour.

**RESPONSE I-54:** The actual power rate is closer to \$0.041 per kilowatt hour. Please see **RESPONSES F-6** and **OR-1**.

**COMMENT I-55:** Pages 1-3, Need for Project, paragraph 1

"(4) enhancing the UUVWUA's revenues for debt repayment and system improvement."

Current management has purchased \$7,000,000 worth of federal debt for \$2,000,000 and has refinanced this lower debt with the State's assistance of a 5 percent loan with yearly payments of \$251,000. If the salinity control program's plan for replacing winter stock water by domestic water is implemented, the UUVWUA has the potential to net \$357,000 on water sales to Tri-County through the Reclamation. This would cover the yearly cost of the State loan and advance the Association \$101,000 yearly.

Where in this draft EIS is this enhancement of revenues to UUVWUA portrayed as terms of a contract with revenue scheduling based on

different project income levels to be received? And when are water delivery costs to UVWUA members to be lessened?

**RESPONSE I-55:** As stated in the text, UVWUA revenues are anticipated to vary between \$150,000 and \$300,000 in the early years, increasing to more than \$1 million annually by 2008. Also see **RESPONSE I-51**. Delivery costs to UVWUA members for future years are based on many factors. Anticipated rates are presently unknown.

**COMMENT I-56:** River bank failure and erosion that will occur in the Uncompahgre River north of Montrose caused directly and indirectly by increased flows exiting from tailrace. Pages 3-38 (paragraph 2), pages 3-39 (paragraph 3), and page A-2 (Bank Stabilization). Bank stabilization will be an ongoing program for the life of the development: the correction of a situation the development continually creates. What provisions for monitoring sedimentation rates by the USGS are provided? Is a 404 Permit required for each new modification to correct bank erosion? What if a permit is denied?

**RESPONSE I-56:** The FEIS has been modified to include an additional discussion of bank stabilization. The 404 Permit requirements would be decided by the U.S. Army Corps of Engineers (COE); to date, they have not yet decided whether additional work would be done under a single 404 Permit or if individual permits would be required. However, the former would probably be in effect. If a 404 Permit is denied, then a revised application must be prepared or the specified work cannot be done.

**COMMENT I-57:** Potential water quality impacts.--Pages 3-61, paragraph 3, ...pages 3-66, Development alternatives; pages 3-67, paragraph 2. "The development alternatives would provide less dilution of selenium between the South Canal and the proposed tailrace.." What mitigation measures are to be provided to farmers who are raising vegetables for table use in the market? Is a testing program to be implemented? And what would the spectre of selenium in vegetables do to the Uncompahgre's image as a provider of quality produce nationally?

**RESPONSE I-57:** Water-quality data indicate that selenium concentrations are highest in the Uncompahgre River near Delta. Highest levels are reached during the winter when river flows are most influenced by irrigation drainage. South of the tailrace, Gunnison River flows would still be provided to irrigators under the West, Montrose and Delta, and Loutzenhizer Canals. The highest selenium concentrations would be diluted in the Uncompahgre River if the AB Lateral Facility were constructed. The USGS, Reclamation, and the Fish and Wildlife Service (FWS) are studying selenium in the Uncompahgre River, and these studies will continue. Specific monitoring as part of the AB Lateral Facility is not planned; however, other agencies would continue to monitor the Uncompahgre and Gunnison Rivers. Also see **RESPONSE OR-10** for additional discussion.

**COMMENT I-58:** Incomplete water right information. Pages 3-29 Montrose and Delta Canal, Loutzenhizer Canal, and Selig Canal.--What are the amounts and priority dates of the adjudicated water rights on these three canals?

**RESPONSE I-58:** The UVWUA diverts water from the Uncompahgre River into the three canals under a variety of adjudicated water rights, each with different priority dates; the most recent water right is from the 1920's. All have water rights senior to the AB Lateral Hydropower Project, so operating the proposed facility would not affect the diversions into these canals.

**COMMENT I-59:** Pages 1-14, paragraph 2. Under the heading Dallas Creek Project, what quantity of water has UVWUA contracted to purchase from this project and what is the cost per acre foot of water? How and when will it be used? What quantity of water have Montrose and Delta contracted to purchase from the Dallas Creek Project and what is the cost per acre foot of this water? How and when will it be used? What other amounts of water are under a purchase contract from this project?

**RESPONSE I-59:** The UVWUA has a contract with Tri-County Water Conservancy District for 10,300 acre-feet of irrigation water from Ridgway Reservoir; the approximate cost is \$7.50 per acre-foot. Water will be used on the UVWUA lands and will be delivered late in the irrigation season after the Uncompahgre River flows drop off. Municipal and industrial water has been contracted for in the following amounts:

	<u>Delta</u>	
Block 1		1,600 acre-feet
Block 2		2,100 acre-feet

	<u>Olathe</u>	
Block 1		150 acre-feet
Block 2		75 acre-feet
Block 3		75 acre-feet

	<u>Montrose</u>	
Block 1		3,000 acre-feet
Block 2		2,000 acre-feet
Block 3		5,000 acre-feet

	<u>Chipeta</u>	
Block 1		315 acre-feet
Block 2		30 acre-feet
Block 3		135 acre-feet

	<u>Menoken</u>	
Block 1		290 acre-feet
Block 2		30 acre-feet
Block 3		130 acre-feet

Tri-County

Block 1	1,250 acre-feet
Block 2	80 acre-feet
Block 3	11,840 acre-feet

The approximate cost of the municipal and industrial water is \$80.00 per acre-feet annually; M&I water would be delivered through the Tunnel under an existing exchange agreement.

**COMMENT I-60:** Changes in the Bureau, Pages 3-17, Development Alternatives, paragraph 7. "None of the development alternatives would change the operations of the Aspinall Unit." What are the effects of a change in the operating procedures of the Aspinall Unit? What are the cumulative impacts of possible administrative changes? What are the Bureau's rules concerning the Aspinall Unit? Why doesn't the Bureau operate the Aspinall Unit to prevent negative impacts? Why wasn't more time given for a possible compromise?

**RESPONSE I-60:** Changes in the operational procedures of the Aspinall Unit would affect the water supply for the AB Lateral Facility. No changes are presently being considered or proposed; if they are proposed in the future, they would be subject to NEPA compliance. The operation of the Aspinall Unit is discussed in greater detail in the FEIS (chapter 3, streamflow section); the Unit is operated primarily for hydropower production and water conservation. Within this framework, fish and wildlife, recreation, and irrigation uses are benefited where possible. Many of the potential uses of the river have conflicting water needs--for example, fishing versus whitewater recreation and recreation at Blue Mesa Reservoir versus higher summer releases--and these have to be balanced.

The negotiations for a compromise on the AB Facility after the DEIS was published are reported in chapter 4 of the FEIS.

**COMMENT I-61: SUMMARY**

Water use and reuse, delivery and drainage has evolved into a special art under the UVWUA. The management is reducing the debt of the company substantially and delivery system improvement associated wide may be accomplished under the salinity control program. The ultimate goal of reducing annual farmer's assessments for their water is a grand inducement for entering into contract for construction of the AB Lateral hydroproject. But monetary gain is the only benefit. The draft EIS tables (page S-14, alternative C) anticipates a power production of 274,911 megawatt hours (MWh) annually. The estimated project cost is \$62,954,000.

274,911 MWh sold at an assumed contract price of \$0.047 per kilowatt hour (KWh) realizes an annual gross of \$12,920,017.00. (A price is not provided in the draft EIS). Before UVWUA enters into the joint venture with Montrose Partners after 15 years, the



gross income generated will be substantial. The prime beneficiaries are: the Montrose Partners (who are they?) and their associates, Mitex, Incorporated. What is Mitex? The obvious big loser is the Uncompahgre River. Money cannot make up for its loss.

**RESPONSE I-61:** Annual gross revenues for alternative C would be approximately \$11 million in the first year of project operation. Present values of the anticipated revenue streams are included in chapter 2 of the FEIS, which has been revised to include additional information regarding financing, expenses, etc. See **RESPONSE I-52** regarding Mitex, Inc., and Montrose Partners.

## CALEB GATES

**COMMENT I-62:** The assumption that vertical erosion won't occur is unjustified except through prayer. It is concluded that lateral erosion will occur, and in time, this will contribute to headward erosion. There is no science provided to conclude whether the river bottom cobbles won't be removed. Further, there is no reference as to whether the floods of 1983 and 1984 scoured new deeper channels. Table 3.16 doesn't reflect maximum and minimum flows and their frequency. Historical flow data on the lower Uncompahgre River through Delta should be presented on a year by year basis as it is for the Uncompahgre at Colona in table 3.3. While the DEIS states flood stage on the Uncompahgre is 1,900 ft<sup>3</sup>/s, the report by Michael Stevens states that 800 ft<sup>3</sup>/s, provided by the South Canal to the Uncompahgre, is equivalent to a small flood (p. 10). What percent of time will the Uncompahgre be between these two figures? The averages from table 3.16 aren't enough. Wetland mitigation also has no detailed plan.

**RESPONSE I-62:** Text has been added to the FEIS that documents the conclusions that vertical degradation of the channel bed would not occur resulting from development of river flows (chapter 3, river mechanics). These conclusions are based on scientific methods used for many years by Reclamation that are also accepted by the professional engineering community.

The flood of 1984 likely caused scour in various reaches of the river; however, the extent of the scour is unknown and it was not studied for this EIS. Analyses performed for this study used field-surveyed cross sections taken in 1988 and early 1989.

Additional hydrologic data are available in the AB Lateral Unit Water Supply Study (HDR, 1989a) and Preliminary Design Report, Uncompahgre River Bank Stabilization Program (HDR, 1989b). Streamflow tables for the Uncompahgre River are found in chapter 3 of the FEIS. Additional information, along with the wetlands mitigation plan, is also included in chapter 3.

**COMMENT I-63:** Secondly, the economic impacts to rafting and fishing as discussed for alternative A on page 3-149 rely on

false and inaccurate assumptions. Fishing is gaining in popularity every year. The acquisition of the McCloskey land for public fishing access will be promoted state and nationwide. Between the Smith Fork and North Fork bank fishing is better for flows between 600 and 1200 ft<sup>3</sup>/s. So even if the river is less wadeable, the fish will be closer to the banks and won't be as spooked. The subjectivity of relating fishing success to wadeability is absurd. The Gunnison's reputation as a prime fishery will draw anglers at those flows.

**RESPONSE I-63:** We concur that the river has increased in fishing popularity. Individual anglers have different preferences for different flows. The creel census data collected for a range of flows show that both use and fishing success increase with lower flows. Of course, the river's reputation as a prime fishery is extremely important.

**COMMENT I-64:** Thirdly, the fry recruitment will be adequate at flows of 600 ft<sup>3</sup>/s. This fish study overemphasizes high fry recruitment. The river needs adult spawners to have fry. Common sense says adult habitat is most important.

**RESPONSE I-64:** Most trout fisheries are managed by stocking, either of fry or adult fish. The Gunnison River is unusual because natural reproduction can maintain the fishery; this is why the fry life stage (swim-up fry) is so critical. Of course, habitat must also be protected for other life stages, but research cited in the FEIS indicates that the swim-up fry is the critical stage. Stable flows at 600 ft<sup>3</sup>/s do provide habitat, but it is not optimum. Postproject flows on average increase rainbow trout adult habitat in 10 out of 12 months and brown trout habitat in 12 months. Lower flows also have problems, as siltation can increase and downstream temperatures can exceed desirable levels.

**COMMENT I-65:** The ecosystem of the Gunnison from the Forks to Delta will be best preserved if spring floods occur. Icing should be prevented and flows should be at least 500 ft<sup>3</sup>/s and not 300 to 400 ft<sup>3</sup>/s.

**RESPONSE I-65:** Spring floods are important for some of the river resources; postproject tables show that spring floods would not be significantly affected by the AB Lateral Facility. The spring flows have been reduced during the 20th Century by numerous water developments, including the Aspinall Unit. Icing would increase with the AB Facility on line; icing occurs under alternative A but would occur significantly more often under development alternatives. Icing naturally occurred here in the Gunnison River and did not appear to damage the natural resources.

**COMMENT I-66:** Finally, since Reclamation has become an expert at manipulating flows, I propose that operational changes occur with the Aspinall Unit.

Considering the inaccuracies of 20 to 60 ft<sup>3</sup>/s being read on the gauges and difference of up to 1,000 ft<sup>3</sup>/s between the computer model and historical flows, I propose that Morrow Point and Crystal be kept lower year round to absorb peak demand flows from Blue Mesa Dam. This will allow for more evenly released flows from Crystal Reservoir in the winter and thereby improving the fishery.

**RESPONSE I-66:** Crystal Reservoir is presently operated to absorb peaking flows from Blue Mesa and Morrow Point reservoirs. Crystal releases are stable; this is what provides relatively stable flows in the Gunnison River. Little flexibility exists in operating these two reservoirs because of their relatively small sizes. Flexibility exists in Blue Mesa Reservoir because of its large storage capacity, and it is possible that operation changes there could be used to support different flow regimes. Unforeseen problems at the Crystal Powerplant (see **RESPONSE F-11**), changes in Tunnel diversions, or sudden tributary inflows can and do cause river fluctuations. Reclamation has recently tried to minimize these fluctuations, but they will never be eliminated completely. Therefore, visitors to the river must always be aware that sudden river flows can occur.

## ESTHER AND JOHN ACQUAFRESCA

**COMMENT I-67:** We are greatly concerned about the impact of the AB Lateral hydropower project...on rafting, fishery, and recreation.

**RESPONSE I-67:** The AB Lateral Facility would divert a large amount of additional water from the Gunnison River, which would affect natural and recreational resources; rafting use would decline. This impact and other impacts are discussed in the FEIS along with measures to reduce adverse impacts.

## STAN ADAMS

**COMMENT I-68:** ...I believe the DEIS is deficient and inadequate because too little, or no, investigation was done of the consequences of the Project on that portion of the Gunnison River between its confluence with the North Fork and the City of Delta. Also, I believe it's flawed in stating that eagle and otter prey species will relocate from the Gunnison to the Uncompahgre; therefore, the eagles and otters will not relocate either.

**RESPONSE I-68:** Investigations downstream from the North Fork include water quality and fishery investigations along with bald eagle and waterfowl observations, reported in the DEIS and expanded on in the FEIS. Eagle and otter prey species would not be relocated from the Gunnison to the Uncompahgre because of the AB Lateral Project. Evidence exists that waterfowl use has

recently shifted out of the Gunnison Gorge. Otters are not expected to be reduced in the Gunnison River because of the AB Lateral Facility.

**COMMENT I-69:** (paraphrased: see number 1-5 in actual letter.) Which entities would profit? Obviously, the consortium of the UVWUA and Mitex/Sithe. Less obviously, Reclamation would profit from its lease, to the consortium, of hydroelectric-generation rights. Don't you think the DEIS should have been researched and written by an uninvolved agency? Isn't Reclamation's profit a departure from the usual? Why are there so many "secret" contracts involved? Details of Reclamation's involvement should be public. Do any Reclamation or UVWUA officials own stock in Mitex? How does the town of Norwood's hydroproposal fit in?

**RESPONSE I-69:** Reclamation's lease fees would not be so large they would jeopardize project feasibility, nor would they create a conflict of interest. See **RESPONSE OR-32**. Reclamation's involvement is discussed in the FEIS. The only proprietary contract we are aware of is the one between the UVWUA and Montrose Partners. See **RESPONSE OR-31**. No Reclamation officials own stock in Mitex or Montrose Partners or stand to make personal financial gain resulting from the project. The UVWUA Board is satisfied with the Mitex contract. See **RESPONSE OR-9** regarding Norwood's proposal.

## C. COURTNEY ANTRIM AND HELEN W. BEALE

**COMMENT I-70:** ...we object to the destruction of waterfowl habitat that will result when the South Canal water flow is reduced by half or more.

Waterfowl nesting sites have been drastically reduced over the years both in this country and in Canada. This would severely impact local nesting sites not only on the South Canal but throughout the entire valley be reduced "stream flow" and wetlands. In one stretch of the South Canal alone, less than one quarter mile long, there are nesting pairs of mallards, shovelers, and teal. Multiply that by the hundreds of miles of canals in the valley and you've got a serious impact. Taking into consideration the extensive recreational facilities being developed at the Dallas Reservoir, we do not believe that additional waters, sufficient to make up for the depletion of the South Canal, will be released into the Uncompahgre River. The result will be permanent and devastating.

We own 1 mile of frontage on the South Canal and observe this usage by waterfowl daily. Reduced "stream flow" to produce power not needed and monies in the pockets of the UVWUA strikes us as a waste of a valuable resource.

In closing, we would also like to point out that 15 years after the startup of the hydroelectric plant, it will, in all

likelihood, be obsolete and require more monies to bring it up to date. When, then, will the benevolence toward the farmers, so often touted by the UVWUA, begin?

**RESPONSE I-70:** Water levels would be reduced in the South Canal, which may reduce waterfowl nesting success. Nesting habitat and flows in the canal would still be available because it would still supply water to the West, Montrose and Delta, and Loutzenhizer canals. However, the water surface elevation would be lower, which would reduce the amount of cover available at the water's edge for waterfowl broods and would lead to increased predation. Other canals would not be affected. Wetland losses would be mitigated by replacement plans included in the FEIS. Additional information is included in the FEIS (chapter 3, vegetation section) and in **RESPONSE I-12**.

Obsolescence is not a serious problem for hydropower facilities, as they typically operate more than 50 years.

## LINDA BAKER

**COMMENT I-71:** ...I see no reason to further impact the Gunnison River, especially for more power, as there is no need for power given the current surplus.

**RESPONSE I-71:** Please see **RESPONSE F-6**.

## MARVIN BALLANTYNE

**COMMENT I-72:** At this time, the Gunnison River has the qualities that should allow it to be designated a Wild and Scenic River. That would give the river and the area recognition that would further increase the recreation and tourist use and enjoyment. Wild and Scenic River designation is less likely if the AB Lateral comes to pass.

Modifying conditions on the Uncompahgre are less controversial. It is clear that the severe reduction in stream flow through Montrose would be a detriment to the recreation resource. The recreation potential on the Uncompahgre is just now in early stages of development through the Uncompahgre Riverways organization, stimulated by the Ridgway Reservoir. The AB Lateral Project would be a strong negative impact to the river development and the recently improved Chipeta Lakes.

**RESPONSE I-72:** The cited flow reduction would adversely affect recreation potential, and this impact is discussed in the FEIS. Please see **RESPONSES S-1** and **OR-21** for additional information.

**COMMENT I-73:** At the same time, immensely increased flows north of Montrose would require canalization and bank stabilization that would reduce the attractiveness of the river to tourists as well as wildlife. A reduced ratio of Gunnison River water in the

Uncompahgre River south of Montrose will put a lower quality of irrigation water on a large part of the valley. This will reduce the future life of that soil as viable agricultural production land.

**RESPONSE I-73:** The Uncompahgre River north of Montrose is presently not a tourist attraction but is used by wildlife. With development of the proposed project, wildlife use of this land would not be significantly changed. Canalization of the river is no longer being considered as an alternative for stabilization of the river banks. See expanded text in chapter 2 of the FEIS for description of proposed stabilization measures.

Regarding the impacts to water quality, see **RESPONSE to COMMENT OR-10**. The quality of irrigation water delivered to much of the area downstream from the proposed facility would be improved.

**COMMENT I-74:** The above detriments would be suffered to achieve some small "profit" to the water users and would produce unneeded electrical power. The presumed profit to the UVWUA would be on the order of \$12 per acre according to some proponents. The public has no way of knowing the actual estimated amount because the contract with Mitex has been kept secret, to the considerable annoyance of many. But there is some question whether the water users will actually get much of anything out of the project, because when the UVWUA inherits the project after 25 years, there may not be a buyer for the electricity. In any case, \$12 per acre is scarcely significant for agricultural land which has total annual input costs of a few to several hundred dollars per acre.

**RESPONSE I-74:** Estimated ranges of UVWUA revenues are included in the EIS. While there is currently no contract obligating utility purchases of project power after 2008, the likelihood that there would not be a buyer then is extremely remote. Hydroelectric projects, being capital intensive, have very low operating costs compared with other utility supply sources (e.g., no fuel cost and much lower maintenance costs versus a typical coal- or gas-fired plant). The cost of producing power from AB Lateral, once debt is repaid (est. 2008), is expected to be far less than that from other available sources. Thus, a market for power after the first 15-year obligation seems assured.

**COMMENT I-75:** The over-capacity for electrical generation in the west will not be taken up in only a few years. In fact, the trend is toward reduction of demand as more efficient appliances and machinery are being used. Additional technological improvements could mean that the project's power would never be needed. In the short run, Colorado-Ute would benefit immensely more from an opportunity to sell power than the small amount they would get from a wheeling fee.

Finally, I must say that the Draft Environmental Impact Statement often presents the appearance of a hastily drawn document which

fails to investigate in adequate detail many of the impacts of the proposed project. Fish in the Gunnison are considered, but insects that fish live on are ignored. The impacts to the recreation opportunities above Montrose are dismissed with a few short statements. Erosion and wetlands protection below Montrose are only now being investigated. And in several places in the report, the wording suggests a bias of the writers in favor of the project.

**RESPONSE I-75:** See **RESPONSE F-6** regarding the electrical surplus. Estimates of demand reduction and known technological improvements are included in the forecasts used to support the analysis. See **RESPONSES OR-1** and **OR-77** regarding Colorado-Ute. The impact analysis has been expanded in the FEIS, and Reclamation believes it is adequate.

### BRUCE BARNHART

**COMMENT I-76:** ...The power is not needed. The tourist market is healthy and growing here; we need to protect that...

**RESPONSE I-76:** See **RESPONSE F-6**. Impacts to regional and local tourism are discussed in chapter 3 in the social and economic conditions section of the FEIS.

### LYNN BECKER

**COMMENT I-77:** ...After reading the EIS on the AB Lateral, it concerns me that a study was not done on the value's of having flowing water through town. What would an individual pay just to have the option to use those waters, or just know that it is available to them? Do the people of our community realize that under the preferred alternative C that the water in the Uncompahgre would be reduced from 325 ft<sup>3</sup>/s to 24 ft<sup>3</sup>/s during the months of August, September, and October? (24 ft<sup>3</sup>/s would fit through a 4 to 6-foot pipe.) And what about in a drought year; that is not even mentioned in the EIS?

We will now have the New Uncompahgre River flowing right through our town like we have never known it. Persons will be able to fish its banks at Riverbottom Park. Should we be so anxious to dry-up that potential? Do we even know all the advantages a clean Uncompahgre River will add to this community? Would not the (increased) use of the water (increase) its value, not only to every person in our community, but to new businesses looking to relocate, or persons looking to retire?...

**RESPONSE I-77:** The analyses performed for the DEIS were intended to represent worst case, which would encompass a drought year. For further information, see the **RESPONSE** to **COMMENT OR-21**.

## ROBERT BECKER

**COMMENT I-78:** In regards to the rivers, the DEIS does not at all address the intrinsic value of these flows to the citizens. These are valuable assets to this valley and one reason many of us live here. Rafting on the Gunnison, a growth industry, will be reduced to practically zero. Fishing will be more accessible but what about the effects of several drought years like last year, and this year is looking that way too. At 300 ft<sup>3</sup>/s water temperatures of 80 degrees were recorded at Austin last year which is too warm for trout, and though more young fish will survive, in a narrower river they will compete for less food and the overall health of the fishery will decline, I believe.

**RESPONSE I-78:** The assets are valuable and are described in the FEIS. During the last two low water years, rafting continued with more emphasis on small groups and rafting for angling. Fishery impacts are also discussed in the FEIS.

**COMMENT I-79:** The Uncompahgre River flow through the city of Montrose at a quarter of its present flow, will greatly affect the town. The quality of that water will also be poor, consisting of a large amount of waste water. I would not like to see that happen.

**RESPONSE I-79:** Flows would be significantly reduced in this reach in the irrigation season, and water quality would be reduced. Please refer to the **RESPONSES** for **COMMENTS S-1; OR-10, OR-20, and OR-47; and I-77.**

**COMMENT I-80:** It seems that the UVWUA, Montrose Partners, and Mitex have few concerns for the widespread impacts of their project as proposed in alternative C.

Mr. Hokit of UVWUA has publicly stated that the DEIS is "pretty clean," but he also stated at one of their meetings on the record that he had not read it. The companies are concerned with the cash flow but not the value of our water flows in terms of aesthetic or intrinsic value. With the Aspinall Unit and Dallas Creek Projects in place, the regulation on these flows seems sufficient.

**RESPONSE I-80:** Reclamation believes that, in the past, the UVWUA has shown an strong regard for impacts to the community and the environment. There is no reason to believe this will not continue. Nonetheless, the lease of power privilege would ensure compliance with environmental commitments.

## TRACY BLASHILL

**COMMENT I-81:** ...The Gunnison River did not achieve its Gold Medal status by some homogenous consistent 300-400 ft<sup>3</sup>/s flow but rather by several years of variable flows. The DEIS does not even mention what effect AB Lateral will have on the insect



populations which makes up the whole food source for the Gunnison trophy trout. Nor does the DEIS adequately investigate what effect excessive icing of the river during the winter will have on trout, otter, and bald eagle habitat and those habitats downstream.

The Gunnison Gorge is a candidate for congressional designation as a Wild and Scenic River and also the Bureau of Land Management has the gorge listed as worthy of a wilderness area designation. AB Lateral will directly threaten the rivers chances to attain those designations by greatly reducing its value as a truly meaningful wilderness experience. Reducing the Gunnison's flows will make the river far too accessible by foot, robbing the canyon and gorge of its wildness and turning the Gunnison into another stocked, over-fished, over-crowded stream. We've got plenty of streams like that. The Bureau of Reclamation's own DEIS states on page 3-135, "We can not say how Congress will react towards a designation of the Gunnison Gorge as a wilderness area if AB Lateral is completed." I can't help but draw a negative conclusion from a statement like that.

**RESPONSE I-81:** The Gold Medal fishery has developed over a time that has included low and high flow periods as can be seen from flow tables in attachment B of the FEIS. The Gunnison River is managed without stocking, and the level of flow and degree of fluctuation in the spring have the greatest influence on natural reproduction of trout as discussed in chapter 3. The FEIS compares trout habitat conditions under no-action and development alternatives. Consistent flows of 300 to 400 ft<sup>3</sup>/s do not occur under any alternative, although low flow levels occur more frequently under development alternatives.

Chapter 3 in the FEIS discusses aquatic insects and wildlife on the river. See also **RESPONSES OR-63** and **OR-70**.

The FEIS concludes that the Gunnison River would remain eligible as a wild river and the Gunnison Gorge would retain wilderness characteristics. Criteria for eligibility such as volume of flow would be affected principally during the winter season as described in the FEIS. Increased hike-in use is projected with development alternatives; however, a careful comparison of flow tables will show that this increase (due to low flows) can occur (and is occurring) under the no-action alternative. This is because diversions for hydropower through the Tunnel during the irrigation season cannot be increased substantially over existing diversion levels, especially in low water years. The exception to this is alternative C, which increases the capacity of the Tunnel.

**COMMENT I-82:** Bad environmental decisions aside, I see little or no economic reasons for a project like AB Lateral. The project is primarily to generate electricity, the Public Service Company, already bankrupt, would be obligated by the Federal PURPA Act to purchase power it can neither afford nor use. Tourism is, far and away, Montrose and Delta Counties' number one industry.

AB Lateral threatens that industry by both the Black Canyon and Gunnison Gorge losing what makes them most unique, its wild spirit.

Don't tamper with the Gunnison River!

**RESPONSE I-82:** Public Service Company is in sound financial health. Chapter 2 of the FEIS, in addition to **RESPONSE F-6**, further discusses power needs. The FEIS does not predict significant negative impacts to the overall tourism resource.

## JAMES R. CLARK

**COMMENT I-83:** ...Tourism is growing in Delta County and has the potential to become a huge part of our local economy. Last summer (when the Gunnison River was kept low to help study AB Lateral diversion impacts), we witnessed a dramatic decrease in the number of rafts, canoes and dories using the river in the Confluence to Austin reach.

The Relief Ditch Company had to go deeper into the streambed with a bulldozer to build up their weir. That weir will now present an almost impassable, dangerous obstacle to boaters. On May 29, Memorial Day just past, a group of us saw a canoe capsize at that weir....The DEIS, and Montrose Partners, underestimates the loss of revenue into our area by reduced boating activities. Boating revenue is just in its infancy.

**RESPONSE I-83:** Estimates of boating revenues presented in the DEIS were based on proposed Bureau of Land Management (BLM) management guidelines, which will be implemented whether or not the proposed AB Lateral Facility is developed. These guidelines limit the number of commercial launches to two per day and four private launches per day. The number of users per launch was based upon information collected by the Public Information Corporation (1986) for whitewater rafting in Colorado.

The river downstream from the North Fork becomes more difficult to float when the Gunnison River flows are low. The weir mentioned is dangerous and rafts should be lined through at low flows. This is difficult because the open water areas over the weir are narrow. Comparison of pre- and post-development flows show that flow changes are the least in the primary recreational season. Greatest effects in this reach of the river on boating would occur in the fall (late September into November) when flow changes increase and the weather and water clarity continue to attract river users.

**COMMENT I-84:** I am in strong disagreement with draft EIS conclusions that the projected AB Lateral diversions would have no negative effect on the Gunnison trout fishery. It has even been suggested that the fishery would be improved, which I find ludicrous given the increased river temperature fluctuations and reduced trout habitat which would result.

The biologist with the longest experience studying the Gunnison River is Dr. Jack Stanford. He has studied western river systems for 20 years and has been the Director of the Flathead Lake Biological Station associated with the University of Montana. Dr. Stanford strongly disagrees with the DEIS conclusions. He does agree with the well-done studies on fry emergence and recruitment by Barry Nehring, but believes that a more normal, 500-600 ft<sup>3</sup>/s Gunnison flow would be best when considering the entire life cycle of rainbow and brown trout. This is because a full stream channel increases populations of aquatic plant life and aquatic insects (trout's main food source). Also it creates more holding water and habitat for trout, and offers deeper runs and pools which decrease natural predation of trout species as well as fisherman impacts on a fishery.

I have fished trout streams extensively for 30 years and read hundreds of books and papers on trout streams and river ecology. I wouldn't hesitate to wager \$5,000 that the 500-600 ft<sup>3</sup>/s flow Dr. Stanford suggests is better for the Gunnison River fishery than is the 300 ft<sup>3</sup>/s flows we would commonly experience with the AB Lateral hydropower project. The optimum flow of 600 ft<sup>3</sup>/s that Dr. Stanford suggests would grow larger trout and more trout. The increased area and biomass of the Gunnison River would allow the favorable growth, reproduction and health of this world-class trout fishery.

Recent studies by Barry Nehring showed the lower Gunnison River (from the confluence to Austin) to be growing larger trout than the Gunnison Gorge. Being far more accessible than the Gorge, and being a richer fishery than most people realize, the confluence to Austin stretch represents a fabulous resource for our area. This lower stretch was impacted by warm waters last summer. We had 300-400 ft<sup>3</sup>/s flowing by our Austin home most all summer. My water temperature readings coincided with others and showed afternoon readings of 72-75°F most days during the warm part of summer. These high temperatures had a negative effect on aquatic insect activity as well as the trout fishing. In the evenings the Gunnison at Austin looked almost dead. The emergence of aquatic insects was reduced. I only saw occasional trout rising to feed on caddies, mayflies and midges. A far cry from the usual summer evening when feeding trout are everywhere dimpling the river's surface. The fishing, usually excellent at Austin, was very, very slow.

Trout don't do well when the water temperatures are in the 70's. The amount of dissolved oxygen the water can hold is reduced. The metabolism, growth, and health of cold water species are all negatively affected by these high temperatures the AB Lateral diversion would invite. I have heard two reports of fisherman catching trout last summer that had parasites on them.

Studies dealing with warm water in the lower Gunnison and its effect on aquatic life needs to be included in the EIS. I have more concerns about warm water than I do about winter icing. I feel it's potentially far more damaging to the fishery.

**RESPONSE I-84:** Please see **RESPONSE OR-23**. No significant loss of trout habitat would occur compared to the existing conditions. There is, however, a 10 to 20 percent reduction in trout habitat at the 300- to 400-ft<sup>3</sup>/s level when compared to the optimal 500- to 600-ft<sup>3</sup>/s level. However, alternative A is not optimum. The CDOW believes that adult and juvenile habitat is not limiting and the 80 to 90 percent of optimum seen at the 300- to 400-ft<sup>3</sup>/s level is adequate to sustain the existing trout populations. As discussed in the FEIS, water quality would be reduced, which would be detrimental to the fishery. Also see **RESPONSES** to **OR-24, OR-25, OR-63, OR-67, and OR-70; I-20; and I-117**.

**COMMENT I-85:** The AB Lateral hydroproject would create a loss of riparian habitat which is critical to the wildlife and plant life of areas adjacent to both the Gunnison and Uncompahgre Rivers.

**RESPONSE I-85:** Riparian habitat is affected by many variables--grazing, land use, bank erosion, river flows, and other factors. The FEIS describes changes in river flows in both the Uncompahgre and the Gunnison rivers. In some cases, a loss of riparian habitat is projected and in some cases a gain is projected. We concur with the importance of riparian habitat to wildlife. Additional information is found in **RESPONSES F-50, F-52, F-55, and F-98 through 100**.

**COMMENT I-86:** This hydropower proposal would threaten the proposed Wild and Scenic designation for the Gunnison River by diminishing the resource, and by reducing the wild, scenic, and recreational opportunities which make the river eligible for such designation. Though I have other grave concerns regarding the AB Lateral diversion, others will be discussing those topics.

**RESPONSE I-86:** The EIS states that the National Park Service (NPS) has concluded that the Gunnison River would still be eligible for designation. The EIS also discusses the impacts on the criteria used to determine eligibility.

**COMMENT I-87:** Since increased power generation is unnecessary in western Colorado, I see no need for the AB Lateral Project other than to accommodate the wish of the UVWUA to retire its debt sooner. Though their wish for a speedier debt requirement is understandable, in my opinion, the many and negative consequences of the AB Lateral Project make this an extremely risky and ill-advised price to pay. Mitigation measures, as proposed in the DEIS, fall way short of alleviating the harm and loss of priceless aquatic and riparian habitat. The long term economic losses to our communities, as priceless resources and recreation are compromised, would, in my estimation, exceed the revenue gained from power generation that appears unneeded.

**RESPONSE I-87:** See **RESPONSE F-6** regarding electrical needs. Other needs for the project include enhancements to the irrigation system and reduction of fossil fuel emissions.

## RICHARD CLINE

**COMMENT I-88:** Unfortunately, the statement did not address potential impacts on the Gunnison River below the confluence of the North Fork or above the Uncompahgre. Therefore the project implications on the trout population and eagle population cannot be ascertained with any sensible data. I would hope that such a major omission can be addressed.

**RESPONSE I-88:** The majority of effort was indeed expended on the Gold Medal trout fishery above the North Fork confluence (see **RESPONSES F-27** and **I-20**), but the potential impacts on the river between the North Fork confluence and Austin were also addressed based primarily on existing CDOW surveys and analysis. (Please see **RESPONSES F-44** and **OR-23, OR-24, and OR-63.**)

**COMMENT I-89:** It would seem entirely possible that the nature of reduced stream flows thru the Black Canyon will increase the water temperature below the confluence which currently holds an accessible and high density trout population. As the temperature increases to more days above 70 degrees, the trout population will either perish or relocate in less accessible reaches of the canyon. Not only would the tourism industry in Delta County suffer, but the County Commissioners decision to buy access near the confluence become absurd.

**RESPONSE I-89:** See **RESPONSES F-44; OR-23, OR-24, and OR-63, and I-17.**

**COMMENT I-90:** It would seem entirely possible that the increased stream flows in the Uncompahgre would have a very costly and detrimental impact on the wildlife and erosion of the streambed. I realize that the water users intend to establish a million dollar trust and include nearly 25 percent of the river initially to be channelized. It is very possible that channelization creates a domino effect whereby the entire streambed will eventually require expensive channeling well beyond the trust's capacity.

**RESPONSE I-90:** The Sponsors intend to reduce erosion along the Uncompahgre River by stabilizing portions of the river banks between Montrose and Delta using riprap revetment and streambank vegetation. These stabilization measures would reduce but not eliminate erosion. Channelization is no longer being considered.

**COMMENT I-91:** Clearly, the increased flow and velocity will inhibit duck and trout populations.

**RESPONSE I-91:** Increased flow in a stream channel devoid of any substantial structure (i.e., large rocks, large organic material such as stumps and rootballs, and bedrock outcrops) will increase velocity, which, in turn, will reduce available physical trout habitat. However, the Uncompahgre River below Montrose presently has no trout fishery so any trout population that develops would be a bonus. The EIS is not projecting any benefits for the

development of a potential trout fishery in the Uncompahgre River below the project tailrace, although a fishery of unquantified value would most certainly develop.

Water velocities in the main channel would not be optimum for waterfowl; however, pockets of suitable water would be present. The FEIS recognizes impacts on waterfowl along the Uncompahgre River. Ice occurrence also would be reduced.

**COMMENT I-92:** Further, I am dismayed that the contract between Mitex and the water users has not been made public. We have a right to know the financial implications. Finally, the Purpose/Need statement of the project clearly suggests the benefit in debt repayment which the water users need. It is questionable that our oversupplied power grid needs such additional high-priced contributions.

**RESPONSE I-92:** See **RESPONSES OR-31** and **OR-32** and **F-6**.

### STEVE DAHLMAN

**COMMENT I-93:** ...Project benefits accrue to a relative few, versus negative effects borne by the population in general...

**RESPONSE I-93:** Principal benefits, such as power delivered to the grid and emissions offsets, accrue to a very large segment of the public. In preparing the FEIS, Reclamation has tried to fairly present both positive and negative effects to the Sponsors as well as to the general public.

**COMMENT I-94:** ...I am thus adamantly opposed to Alternative C, the "preferred" alternative, because it maximizes the local benefits at the expense of the public. I would not oppose a plan that would divert what water is already being used for irrigation during the summer and that combined with some of the environmental considerations in Alternatives E and F... Hopefully, discretion will win out and a scaled down version can reap benefits without causing as much of an impact as alternative C.

**RESPONSE I-94:** The FEIS includes alternative E as Reclamation's recommended plan. See chapter 2 for additional discussions.

### RONALD DELANO

**COMMENT I-95:** ...At normal flows, there are so many waves to surf or holes to drop into that even expert kayakers are challenged. At low water they are all gone. ...

**RESPONSE I-95:** This comment indicates that the river is floatable at around 300 ft<sup>3</sup>/s; however, the quality of the whitewater experience is reduced. We agree with this observation. Flow changes are least with the project during the summer when recreation demands are highest; this reduces this

problem. Flow changes increase in April, May, September and October, months when the river can still be floated and when impacts would be greatest. See **RESPONSES OR-28** and **OR-79**.

**COMMENT I-96:** ...The sole economic justification for the project is the PURPA law which forces the power company to buy the power from the Project. As it turns out, the power company already has excess generating power and going bankrupt and laying off employees. ... In addition, the project will force power rates higher.

**RESPONSE I-96:** Power would be sold to the Public Service Company (primarily the eastern slope of Colorado), not Colorado-Ute. As mentioned previously, the Public Service Company is in sound financial health, with a demonstrated need for additional electricity. Please see **RESPONSE F-6**. Also see **RESPONSES OR-1** through **OR-3** regarding AB Lateral's effect on power rates.

**COMMENT I-97:** The backers of the project should be aware that a congressman in the House of Representatives has presented a bill which, if passed, would disallow power projects licensed after March 1, 1989, from qualifying for PURPA price guarantees. Of course, the object of this bill is to prevent the sort of abuses of the law and resulting economic and environmental damage exemplified by the AB Lateral Project. If passed, building the Project would leave the backers of the Project impoverished just like the local power company and the white water recreationists.

**RESPONSE I-97:** The Sponsors have acknowledged that they are aware of this bill and willing to bear any associated risk. It is unlikely that such legislation would force abrogation of existing contracts, should it ever be passed. Nonetheless, until legislation is acted upon, analysis would be premature and speculative.

**COMMENT I-98:** Another item of concern for the backers of the Project is the fact that the Denver Water Board is presently negotiating to buy water rights in the Gunnison watershed. If they are successful it may have an effect on flows on the Gunnison River tipping the scales of economic viability. In addition such future diversions combined with the AB Lateral diversions would paint an even more bleak future for the water flows through the Black Canyon and the Gunnison Gorge.

**RESPONSE I-98:** Proposals by the Denver Water Board are currently speculative. Those proposals that are sufficiently advanced that Reclamation considers them imminent have been considered in the FEIS. Hydropower water rights are senior to many of the transmountain diversions being considered.

**COMMENT I-99:** ...What is certain about the AB Lateral Project is that it will seriously degrade the whitewater recreation of the Gunnison River on what is truly one of the most spectacular canyons in our country, on a river that is being considered for wild and scenic designation, that is perhaps the finest whitewater wilderness in the state, on the second largest river

in the state, the only river besides the Colorado with a late boating season and a river which has already seen massive dam development.

**RESPONSE I-99:** Development of the proposed facility would reduce rafting user-days by approximately 15 percent. Rafting use on the Gunnison River is approximately 4 percent of the total rafting in the State of Colorado. Before the Aspinall Unit was completed, late season rafting in the Gunnison would not have been possible. Because of the present operation of the Tunnel, summer rafting flows would be affected the least. The late boating season mentioned in the comment would have greater flow reductions (see flow tables in chapter 3).

**COMMENT I-100:** What is certain is that if based on its own economic merit this Project would never be built. What is certain is that there is no economic benefit to the western slope of Colorado and as stated earlier a good case could be made that it would be economically damaging.

**RESPONSE I-100:** Economic and financial studies conducted by the Sponsors indicate that the development of some of the alternatives would be feasible. Economic impacts are further discussed in chapter 3 of the FEIS.

**COMMENT I-101:** ...Mr. McCall, on behalf of the people of the United States, you have been empowered to make a decision on the future of one of the country's most precious resources. Your loyalty should not be just to the Bureau of Reclamation but to the people. All I ask is that you make a sound judgment taking a fair and reasoned study of this Project's total recreational, environmental and economic impact. Please have the courage to do what is right. Please say no to the AB Lateral.

**RESPONSE I-101:** Although Mr. McCall is Reclamation's team leader for NEPA compliance on the AB Lateral Project, he is not the final decisionmaker. The decisions as to which, if any, of the construction alternatives is ultimately built lies with the Secretary of the Interior. That decision will be made based in part on recommendations from Mr. McCall, along with many other people's recommendations, and will be fair and reasonable.

## JOANNE FAGAN

**COMMENT I-102:** (1) The DEIS fails to accurately depict the economic impact on the Gunnison valley. Tourism and fishing on the river have a significantly greater economic impact than is estimated in the DEIS and are growing, but would decrease significantly if water level and fish quality decreased. Significant private and public funds have been committed to purchasing river access property as a major economic development project in Delta County. Without a healthy mature fish population that investment will be lost.



**RESPONSE I-102:** The economic discussion in the FEIS has been expanded. In summary, fishing use is expected to increase with the development alternatives, and rafting use would decline. River access was purchased with the AB Lateral Facility in mind; the access will be very valuable under any of the alternatives, including the no-action alternative.

**COMMENT I-103:** (2) The temperature rise in the Gunnison would possibly be beneficial to fish fry but would be detrimental to the mature trout population, which would translate to reduced economic benefit from fishing. The detrimental impact on mature fish is not taken into account in the DEIS.

**RESPONSE I-103:** See **RESPONSE OR-23**.

**COMMENT I-104:** (3) Long term mitigation requirements are not adequately addressed in the cost-benefit analysis nor is it economically feasible to provide necessary mitigation according to the DEIS. Damage along the Uncompahgre will be an on-going problem as will damage at the confluence of the Gunnison and below. There is no money provided for mitigation and/or repair. No damage is mentioned in the DEIS for below the confluence; with a "T" shaped intersection it is unrealistic to expect no damage below.

**RESPONSE I-104:** (4) Costs associated with the long-term maintenance and repair of bank stabilization work have been included in the estimates of annual operation and maintenance costs. Erosion-related damages below the Gunnison's confluence with the North Fork would not be expected to occur due to the reduced flows. The confluence may change in response to project flows; however, the major factor in determining the morphology in this and other sections of the river will continue to be large flood flows that will not be significantly affected by the project.

**COMMENT I-105:** No plan is provided for insuring that water rights are protected. The selected alternative calls for the use of some very junior water rights to make up the difference between the rights the UUVUA have and the diversions required to operate the selected project. With all of the diversion points and return points in the UUVUA ditch system, detailed measurements will be required to insure that the UUVUA diverts only as much water as that to which they are entitled.

**RESPONSE I-105:** Water rights would be administered by the Colorado State Engineer. Diversions to the proposed project would be made in priority and would not be made until senior water rights have been satisfied. The UUVUA presently measures diversions made from the system, and such measurements would continue even if the proposed facility is not developed. Return flows entering the system are not measured; the proposed development includes no provisions to introduce such measurements.

**COMMENT I-106:** (5) I strongly question the conclusions of the cost-benefit analysis that the Project is feasible only with minimal mitigation and 1,100 ft<sup>3</sup>/s, yet with the same mitigation and 900 ft<sup>3</sup>/s the project is not feasible. The UVWUA does not have rights for the higher flow without using the junior rights and in dry years, the flow would not be available. This means the plant would be economically unfeasible in dry years, based on the conclusions in the DEIS. I question the accuracy of the cost-benefit analysis since the developers are opting to constructing a project with a very low rate of return. A savings account in a bank would produce a comparable return to that projected for the hydroplant in the DEIS and the bank insures its deposits. Why would developers invest in the hydroproject?

I believe that the developers should be required to make the financial arrangements for the project available for shareholders of UVWUA and the public for review. It appears that Mitex gets the profit if there is any, but UVWUA will get stuck with any losses and those for suffer any damage after the initial development will incur the costs of making repairs while developers reap any profits. Developers and the Bureau should also be required to accurately inform property owners of both land and water which will be impacted by the proposed project of the impact which is projected on the short and long term and how the developers plan to compensate the property owners for this damage. This information should be detailed and comprehensive rather than in the broad generalities which have been provided to date.

There are a number of other significant deficiencies in the DEIS which have been noted by other citizens and groups, so I will not enumerate them here. I would request that the DEIS be examined carefully and the above items and other deficiencies be correctly addressed in a revised DEIS and that the DEIS again be subject to review by all interested parties. In conclusion I'd like to quote Mark Twain who upon looking at the Rio Grande in New Mexico observed that he had never realized how much water had added to the appearance of a river.

**RESPONSE I-106:** It is true that, under most scenarios, all development alternatives would probably be infeasible if all years were "dry" ones. However, feasibility is determined more on the long run average. See **RESPONSE OR-6** and text revisions in chapter 2 (costs and financing section) of the FEIS regarding return on investment. Financial impacts to the UVWUA are estimated in the FEIS. See **RESPONSE OR-31**. The Sponsors have negotiated directly with all landowners along the proposed penstock and have attempted to contact all affected Uncompahgre River riparian owners. Copies of the DEIS were also mailed to any landowners expressing an interest.

## RICHARD FRAZIER

**COMMENT I-107:** ...We are very concerned about the AB Lateral hydropower proposal, that would divert 390,000 acre-feet annually from the Gunnison River. This diversion would result in a 300 ft<sup>3</sup>/s flow in the Gunnison approximately half of the year. Last summer, such low (300 ft<sup>3</sup>/s) flows caused the Relief Ditch Company to do significant bulldozer work in the Gunnison River streambed in order to capture enough water for the 55 farms on the Relief Canal. Even at that, it became difficult at times for farmers on the downline end of the canal to obtain an adequate head of water. A tremendous amount of rock and gravel had to be moved at the weir dike and as a result, the passage of canoes and rafts during low water will be difficult if not dangerous this and subsequent years.

If the project was implemented, the quality of water downstream from the North Fork confluence will decrease. This is because a higher percentage of the Lower Gunnison (and our ditch water) will be North Fork water with its high sediment load. An increased silt load forces farmers to use more water since the silt fills in a soil's pores, reducing the water's permeation.

**RESPONSE I-107:** Hydrologic data shown in the DEIS present the flows entering the Black Canyon and do not include inflows from the North Fork. Flows leaving the North Fork system were abnormally low during 1988, which intensified the impacts to the Relief Canal system. The low flows of 300 ft<sup>3</sup>/s in 1988 and 1989 in the Gunnison River occurred because of low water years and diversions at the Gunnison Tunnel. The Sponsors have agreed to maintain a minimum of 300 ft<sup>3</sup>/s. Listed below is a comparison of the alternatives for the number of months (out of 32 years) in which the flow entering the Canyon is less than 350 ft<sup>3</sup>/s.

<u>Month</u>	<u>A</u>	<u>B, E &amp; F</u>	<u>C</u>
April	11	20	21
May	7	12	15
June	5	15	18
July	11	15	18
August	1	4	5
September	10	21	24
October	5	19	22

The average flow reduction in the Gunnison River would be 167 ft<sup>3</sup>/s and less in low flow years. See **RESPONSE 29 (Delta Public Hearing)**.

From the above data it is seen that throughout the irrigation season, development would increase the number of months in which flows entering the Canyon are less than 350 ft<sup>3</sup>/s. However, in terms of impacts to boaters using the river below the confluence,

flows from the North Fork are normally high during May through July. These high flows would reduce concerns regarding boater safety at the canal headgates.

Water quality of irrigation deliveries to the Relief Canal would be affected due to increased concentrations of total dissolved solids (TDS) and suspended solids. However, these impacts are not expected to alter the classification of the waters nor are they expected to change allowable use. See **RESPONSES OR-61** and **OR-62**.

## BETH FRENCH

**COMMENT I-108:** The entire plan appears to be based on extremely limited data and even less common sense. The Environmental Impact Statement submits that fishing will improve. Any grade schooler with an aquarium could reach that conclusion within the first few days after draining his tank to less than half. But then, what happens to a river. Obviously, the large fish are fished out leaving only smaller ones to compete for living space. The warmer, slower water encourages growth of moss which, at best annoys fisherman and at worst interferes with fish habitat. This same water becomes a haven for other fish such as mud suckers and I'm sure world-class fishermen won't travel to the Gunnison to net them.

Attracting fishermen to the Gunnison River, on one hand, appears to be something which interest the Bureau of Reclamation. After all, why would it have just committed a mere \$124,000 toward the McCluskey property. On the other hand is the infamous AB Lateral project. I seriously question the kind of investment at the same time moving "hell-bent" to devalue it by removing its assets.

**RESPONSE I-108:** No straight line correlation exists between reduced flows in a river and trout habitat availability. Please see **RESPONSE I-126**.

Should the fishing pressure and subsequent harvest on the Gunnison River below the North Fork confluence increase dramatically with increased notoriety and reduced flows associated with the AB Lateral Project, the CDOW may have to change their management plan for this reach of river if they wish to maintain the existing trout populations. This is precisely what happened to the Gunnison Gorge from 1977 to 1981 when angler use increased by 40 to 50 percent, harvest became excessive, and trout populations dropped significantly (especially fish of more than 16 inches).

Use on the Gunnison River from the North Fork confluence to Austin is predicted to remain relatively stable or increase at a lower rate than upstream in the future due to limited access (i.e., most of the bordering property is privately owned) and the closeness of the Gold Medal trout water of the Gunnison Gorge. The CDOW feels that the angler use and harvest now and in the

immediate future is commensurate with the trout population dynamics in this reach of the Gunnison River and does not warrant any major change in management strategy. Should this situation change in the future, the CDOW would have to then re-evaluate their position.

The moss referred to in the Gunnison River is really the filamentous algae Cladophora. It is annoying to the fisherman when it is abundant but is also one of the primary food sources for many of the grazing macroinvertebrates (fish food organisms) in the river including the famous "willowfly" Pteronarcys californica. It has no significant impact on the amount of habitat available to the trout in the river. Also see **RESPONSES F-27** and **I-117**.

**COMMENT I-109:** Benefits to the farming community provide only a short-term solution to their problems, yet permanent catastrophe to tourism and recreation. Electricity from the project is not needed, and is being sold at a rate the utilities cannot afford.

**RESPONSE I-109:** Benefits to the UVWUA, and by extension the farming community, actually increase with time and would thus more appropriately be considered long term. The FEIS discusses impacts to tourism and recreation. See **RESPONSE F-6** regarding need for power and **OR-1** regarding rates.

## EVERETT GILBERT

**COMMENT I-110:** ...The cost of servicing the the debt for the AB Lateral is indicated to be near the value of the power generated. Business arrangements, partnerships, etc. are set up to leave the Uncompahgre Valley Water Users holding the bag when failure becomes apparent.

Before permitting the Uncompahgre Valley Water Users to self destruct, I suggest that you ask for a financial report to be made public with an analysis of profits and losses. Otherwise, the Bureau may be responsible for giving away the Gunnison Tunnel to foreign interests.

As part of this letter of opposition, please read in the record the recommendation of the Bureau's co-generation study of 1936-1938 when 3 percent interest prevailed.

**RESPONSE I-110:** Montrose Partners would be responsible for project debt, not the UVWUA. See **RESPONSES OR-31** and **OR-32** regarding the Sponsors' distribution of profits. The U.S. Government will retain title to all features of the UVRP, including the Gunnison Tunnel.

Reclamation has been unable to locate the report referenced in the comment. We understand, however, that a project was not pursued in 1938 because financing could not be secured.

## BERNARD HEIDEMAN

**COMMENT I-111:** I feel the DEIS doesn't address the major impact the project will have on the river. Looking at the simulation data on page 3-18, we see that between 1952-1983, only 2 years would have averaged less than 400 ft<sup>3</sup>/s, and no years averaged below 350 ft<sup>3</sup>/s, but if alternative C were built, 18 years out of 32 would average below 400 ft<sup>3</sup>/s, and 16 out of the 32 would average below 350 ft<sup>3</sup>/s. The effects of the other alternatives are equally low, but not as extreme. So what all the alternatives create is 15-18 whole years out of 32 where the river rarely goes above 300 ft<sup>3</sup>/s. This means that during every other year under alternative C, there would be less than 350 ft<sup>3</sup>/s in the whole river system, and I don't think this has been adequately addressed.

I think that to analyze the data by giving averages over the 30 years is very misleading because of the nature of the river to be very high or very low. Take a highlighter and highlight all months with flows of 300-399 ft<sup>3</sup>/s on page 3-20 and what you see is 18 years with below 399 ft<sup>3</sup>/s averages. Of those 18 years, the average flow is 327 ft<sup>3</sup>/s. The total average over all 32 years is 563 ft<sup>3</sup>/s. There are 12 high flow years with an average of 936 ft<sup>3</sup>/s and two average years with 445 ft<sup>3</sup>/s. I think it is very misleading to talk of 563 ft<sup>3</sup>/s as an average flow when more than half the years have an average of 327 ft<sup>3</sup>/s. I think it is necessary to let the people of Delta County see the data in a meaningful way so that they can understand what the impact is and can then can intelligently respond to this major impact on our county.

I request that in addition to the chart on 3-8, an additional chart be added showing the flows between 200 ft<sup>3</sup> and 1,200 ft<sup>3</sup>/s since these are the crucial flows in analyzing the impacts on the river.

**RESPONSE I-111:** The primary hydrologic impacts to the Gunnison River would occur during the winter when public use of the river system is low. Impacts during the irrigation season are documented in the **RESPONSE** to **COMMENT I-107**. The anticipated impacts to the river system (morphology, biology, and sociology) have been assessed and are documented in this FEIS. The flows entering the Canyon are shown in the FEIS for a month-by-month basis and in terms of the duration of flows.

**COMMENT I-112:** As I said before, we are considering a project which will have a MAJOR impact on the Gunnison River and a potential MAJOR impact on Delta County since the river is a major resource for Delta County. I don't feel the DEIS adequately assess the economic impacts.

The rafting industry is in the beginning stages so that it is hard to say how large an impact there will be on it. It is an emerging industry, and thus difficult to accurately assess the potential losses to the economy of Delta County. It is clear

that this is an economically distressed area and it seems crazy to endanger a resource in its beginning stages...My conclusion looking at chart 3-20 is that there will be 18 years out of 32 where there would be little or no rafting. I think this would be a severe impact.

**RESPONSE I-112:** Impacts to the rafting industry are based upon the proposed management objectives of the BLM and on projected flow changes. See **RESPONSE** to **COMMENTS I-83** and **I-99**.

**COMMENT I-113:** The DEIS says that Wild and Scenic Status will not be affected. Technically this may be true but I don't believe that the river which won't be raftable MOST of the time and where the fish population face danger of warming waters and icing over will ever get wild and scenic river status.

**RESPONSE I-113:** The FEIS concludes that the river would remain eligible. Rafting is projected to decrease, while fish populations are not expected to be adversely affected. Criteria for wild and scenic river eligibility would be affected as is discussed in the FEIS.

**COMMENT I-114:** Another problem with the project is that the electricity is not needed at the present time and is only feasible at the present time because of PURPA. At the time when power is needed a scaled back version of this project which isn't as damaging to the Gunnison River might be economically feasible. Choosing one of the current development alternatives PRECLUDES making a more intelligent choice in the future.

**RESPONSE I-114:** Please see **RESPONSE F-6** regarding power need, and **OR-6** regarding PURPA and smaller alternatives.

## LEONARD HENDZEL

**COMMENT 115:** Here are my reasons for opposing construction of the AB Lateral:

1. The local Colorado-Ute Power Company is facing bankruptcy since it is overbuilt and has the capacity to produce more power than is needed in western Colorado. Why build another facility to compete for a glutted power market? The proposed AB Lateral power would just shift money from one neighbor to the next in the Montrose area.

2. Your report states the AB Lateral construction will expedite repayment of a loan for the Uncompahgre Valley Water Users. Why should they be favored by expenditure of thousands and thousands of taxpayers dollars spent by your agency studying and preparing this report? No doubt many additional dollars will be spent to supervise and regulate the facility, should it be built. I myself am a member of the Overland Ditch Company. We recently completed a three million dollar dam renovation project. No one has offered to help us expedite loan repayment!

**RESPONSE I-115:** See **RESPONSE F-6**. Project studies, construction, operation, and lease administration are funded entirely by the project Sponsors.

**COMMENT I-116:** 3. There is a major coal resource in the North Fork Valley for power generation. Most of the coal mines are either shut down or operating below capacity. Millions of dollars of facilities are already in place, so why spend all those funds to build a power facility to compete with and duplicate what is already in place.

**RESPONSE I-116:** Construction of a coal-fired plant could satisfy part of the need for power but would not fulfill any of the other needs stated in the FEIS (nor is it authorized under PL 75-698). As AB Lateral would fulfill only a fraction of the long-term regional need for power, it would not prevent construction of a coal-fired plant in the North Fork Basin.

**COMMENT I-117:** 4. Anyone who proclaims that reduced water flows in the Gold Medal waters of the Gunnison Gorge will produce more and better fishing is completely ridiculous. Can a farmer grow more corn and cattle on less acres? Can a forest and range support more livestock, elk and deer on less acres? The corollary is there.

**RESPONSE I-117:** Contrary to common belief, trout prefer relatively slow velocity water (1-2 feet per second). In many cases, but certainly not all, reducing the overall discharge (flow) in a river channel in turn reduces the average water velocity. This in turn provides more of this 1- to 2-foot-per-second water, which translates into more trout habitat if all other ecological factors are adequate. Obviously, there is a point where this trend begins to reverse itself (i.e., in the Gunnison River, approximately 500 to 600 ft<sup>3</sup>/s); see figures 3.11 and 3.12 in the FEIS.

However, a 300- to 400-ft<sup>3</sup>/s flow regime still produces 80 to 90 percent of the physical habitat produced at the optimal flows of 500 to 600 ft<sup>3</sup>/s. Nowhere in the DEIS does Reclamation state the postproject flows in the Gunnison Gorge will be optimum but rather suggests that the fishery will not be adversely affected by the project.

By far, the single most overriding factor affecting the overall trout productivity in the Gunnison Gorge is the catch-and-release regulations established by the CDOW in 1981. Before these regulations, the Gunnison River had the same set of environmental parameters that exist today, but trout populations were a fraction of today's numbers as the result of excessive harvest. Trout numbers between 1977 and 1981 in the more accessible and easily fished reaches such as the North Fork access dropped by approximately 70 percent in response to a 40 to 50 percent increase in fisherman use.



The difference in habitat availability between 300 and 1,000 ft<sup>3</sup>/s plays a relatively small role in the overall trout productivity in the Gunnison Gorge. Adult and juvenile habitat availability and macroinvertebrate habitat availability are abundant throughout this range of flows and do not limit the populations. Fry habitat and survival, however, is greatly enhanced at lower flows. Fry habitat and survival is fair at 1,000 ft<sup>3</sup>/s, and, with the special regulations in place, is generally adequate to maintain the existing trout populations if 1 in every 3 to 4 years is a low water year providing excellent fry habitat and survival. When the river sees several of these excellent fry years in a row, it simply serves to stock the downstream reach from the North Fork confluence to Austin (which has little or no natural reproduction) and has little or no adverse impact (i.e., overcrowding) on the Gunnison Gorge's trout population dynamics.

Harvest (or lack of it in this case) and fry survival are the dominant guiding forces at work creating the Gunnison River Gold Medal trout fishery, not flow manipulation. Natural occurrences such as flash floods can and do set back the fishery as was seen in 1989 and to a lesser extent in previous years. The existing CDOW management activities on the river regulate the harvest at an optimal level to maximize the production of trophy-sized fish (more than 16 inches), protect the new spawning stock (12- to 16-inch range), and maintain the excellent catch per unit of effort (angling success). These management activities have proven successful over a broad range of flows. The CDOW is confident that these regulations will continue to provide a Gold Medal trout fishery at or near its present level under the postproject conditions with its higher frequency of 300- to 400-ft<sup>3</sup>/s flows.

**COMMENT I-118:** 5. Another point regarding reduced flows through the Gunnison Gorge is increased fishing as a result thereof. This is wilderness type fishing. I believe many fisherman would shun away from a crowded river. The quality of the fishing experience certainly would be degraded. The reduced flows would also jeopardize possible Wild River classification and Wilderness designation for the Gorge area.

**RESPONSE I-118:** Angler use is predicted to increase. Low flows allow anglers to disperse more readily along the river, but increased use does diminish the quality of the experience for some anglers. The area would remain eligible as a wild river and as a wilderness as discussed in the FEIS. Criteria supporting this eligibility would be affected.

## KARL KISER

**COMMENT I-119** (paraphrased): The rationale for the project is primarily to enhance UJVUA revenues. It is inappropriate to risk impacts to public lands (Gunnison Gorge) for such benefit. Any hydrofacility should leave these lands unimpaired.

**RESPONSE I-119:** Enhancing UVWUA revenues is only one of four principal needs cited by the Sponsors. Two of the others (need for power and renewable resource/emissions offsets) would accrue to the general public. Private use of public resources is a common practice. The EIS attempts to fairly portray both the positive and negative impacts to the public resources involved.

**COMMENT I-120:** The DEIS should have contacted current members of the Colorado National delegation concerning the relationship of reduced flows in the Gunnison River to Wild/Scenic River and Wilderness Status. The NPS or BLM do not convey these national designations (see note, p. 3-135). Should this project preclude national designation, it should not be constructed! Environmental mitigation measures should be monitored and improved should future information confirm it....

**RESPONSE I-120:** The NPS and the BLM are responsible for managing these activities, and their opinions on the project were reported in the DEIS. The congressional delegations were included in project scoping and received copies of the DEIS and other information.

**COMMENT I-121:** Flexibility in powerplant operation could be accomplished by modifying the contract with UVWUA. This action would imply that the revenue allocated to UVWUA could change and would not be set at \$150,000 minimum for the early years of the project. The DEIS did not list the scenario where UVWUA would receive \$150,000 (year 1) and up to \$1,000,000 in year 2008. The project should not be used simply to offset water-user assessments which are projected to increase under the no action alternative (p. 3-148). A detailed table of projected revenues to UVWUA from project spent to 2008 is needed in the final EIS.

**RESPONSE I-121:** The \$150,000 minimum is part of the contract between Montrose Partners and the UVWUA and would in no way be guaranteed by Reclamation. The Sponsors have agreed to coordinate with Reclamation and the CDOW regarding Gunnison River flows if unanticipated impacts would occur (see **RESPONSE F-70**). In general, the higher the financial feasibility ratio, the more flexibility that would exist to cover unforeseen circumstances.

Projected revenues to the UVWUA would depend on a wide range of circumstances, including final project costs and operating expenses. The higher end of the range (\$300,000 in the first year) would be more likely under the higher financial feasibility alternatives (such as alternative C), with the lower end (\$150,000) associated with lower financial feasibility ratios (e.g., alternative F). The \$1 million plus annually in 2008 would probably be correct for all the feasible alternatives. The Sponsors consider the exact distribution of profits confidential (see **RESPONSES OR-31** and **OR-32**).

**COMMENT I-122:** Whitewater rafting releases during the summer were addressed, but determined infeasible (Alternatives F-3 through F-6). Could there instead be weekend rafting releases in

July-September rather than continuous flow? Rafting impacts should not be traded off against fishing gains, as the two are not substitutable. Whitewater areas are becoming scarce and should be more valuable in the future.

**RESPONSE I-122:** Weekend releases were discussed as a possibility in meetings held between the Sponsors and various interested parties, including spokespersons for the rafting industry, in June and July 1989. The consensus at those meetings was that short-term, periodic increases to Gunnison flows, which would be similar to "peaking flows," would present significantly more problems than they would solve. Fisheries are particularly sensitive to rapid flow changes. The available benefit to rafting would also be quite small. During the heaviest rafting months of July and September, making significant changes to Gunnison flows would usually involve curtailment of irrigation diversion, which would be unacceptable to the UVWUA. In addition, since fisherman use is inversely related to flows, weekend rafting releases would have a negative impact on recreation fishing.

Additional rafting releases may be available from Aspinall Unit storage in the future. Before this, however, new operational studies for the reservoirs would be required.

The FEIS does not attempt to trade off rafting versus fishing impacts. See **RESPONSE OR-79**.

## JESSE LANDIS

**COMMENT I-123:** ...If those waters are diverted out of Delta County the remaining waters will change. The Sucker fish population is already abundant in the warmer waters just above the confluence of the Twin Forks. The canyon keeps those waters cooled because of its natural depth and amount of flow. Decreasing the flow would cause the water temperature to rise thus allowing the suckers to control larger amounts of the waters.

**RESPONSE I-123:** Trout and native species such as suckers, dace, and sculpins do not occupy the same ecological niche and thus will not directly compete with each other for food and space unless severe overcrowding by these nongame species occurs. Sucker populations dominate the biomass in the Gunnison River below the North Fork confluence, but there is still an excellent trout fishery.

Suckers were modeled using the IFIM procedures, and the results indicated substantial habitat improvements for all life stages under the postproject flow regime. However, the overall density of these ecological generalists should stay near their existing population levels or slightly increase under postproject conditions. Overcrowding by suckers does not appear to be a potential problem. Also see **RESPONSE F-27**.

**COMMENT I-124:** Also there is natural barrier created by the size of the stream. At present it is virtually impossible to walk through the canyon, however, if the water flow is lessened to the amounts prescribed by this project that natural barrier would be eliminated. That would make those waters that contain excellent fishing because of their inaccessibility more available to the less hardy outdoorsman. That would mean that the Black Canyon of the Gunnison would become another overfished and "stocked" river...

**RESPONSE I-124:** Comparisons of flow tables and stage discharge information added to the FEIS show that the differences in flow levels (and ability to traverse the Canyon) are least during the primary recreational season. The impact described would occur; however, it would occur in early spring and fall. The CDOW believes, with adequate regulations and river flows, the Gold Medal fishery can be sustained.

### STEPHEN LEWIS

**COMMENT I-125:** ...I feel the riparian habitat would be destroyed with the channelization of the river and 25 percent estimate of channelization I believe to be too low a figure. I feel the value of my land would be lowered....

**RESPONSE I-125:** Channelization of the Uncompahgre River would not be used as a method of preventing erosion-related impacts of development. Additional information is presented in this FEIS that describes the bank stabilization measures and related impacts. The presence of additional water should enhance land values if erosion is controlled.

### GLEN MILLER

**COMMENT I-126:** ... A. Effects on the fishery in the Gunnison Gorge. This fishery apparently developed, at the time in an unpredicted and unexpected manner, in response to the dams constructed upstream several decades ago. The underlying hydrological and biological basis for the phenomenal fishery is not well understood in detail, even today. The EIS describes the current conditions reasonably well, but a fundamental factor is completely lacking in the projections. This is the effect of the project on the underlying food chain that supports the fish. The discussions on fish habitat are limited largely to the area of "good" habitat for adult fish under different flow conditions (e.g., figure 3.12) and to spawning habitat. Nowhere does the text discuss in any detail that is supportable by data the effects of the significant change in flow regime on the aquatic food chain. Thus, the decision makers are left with a very large risk factor in assessing the effects on this popular and widely renowned fishery.

**RESPONSE I-126:** Wetted perimeters were calculated for a range of flows for all the transects established for the Duncan Trail IFIM fishery habitat study site. This analysis indicated that there was an average reduction in wetted perimeter of approximately 7 percent (155 feet to 144 feet), with a flow reduction from 650 to 300 ft<sup>3</sup>/s. The wetted perimeter loss in a typical riffle section was larger at approximately 30 percent (435 feet to 305 feet). Reclamation agrees that there would be a reduction of overall area of primary (algae) and secondary (macroinvertebrates) productivity under postproject conditions, but monitoring studies at the 300- to 400-ft<sup>3</sup>/s flow level suggest that food is not limited to the existing fishery under this flow regime even with the loss of wetted perimeter. The 300- to 400-ft<sup>3</sup>/s channel produces more than enough food to sustain the existing trout densities and biomass.

**COMMENT I-127:** B. Erosion impacts in the Uncompahgre River.-- Contrary to the impression conveyed in the DEIS (e.g., p. 3-39), man's ability to predict accurately future erosion sites under the projected conditions is extremely limited. The discussion on protecting such sites before construction (p. 3-39), the monitoring proposed, the plans to apply for necessary permits for protective construction at future sites of erosion, and the description of the highly erodible river banks lead the reader to envision a progressively "channelized" river over time in the 20 to 30-mile reach below the powerplant. Two major uncertainties cloud the issue, the asked-for permits may not be granted (there is adequate precedent for this), and co-existing but probably inseparable effects of this project and the newly completed Ridgway Dam. Any legal recourse by downstream land owners is apt to be complicated, if not impossible, because of the difficulty in defining cause and effect.

Because erosion effects can be expected to persist for decades, the text is not clear on who will be responsible for "fixes" in the future. There is no analysis in adequate detail on the deposition effects that must occur farther downstream. Channel buildup by deposition of heavy sediment loads can be as damaging to some areas as is severe erosion.

**RESPONSE I-127:** Text describing the erosion-related impacts and associated mitigation in the DEIS has been clarified in this FEIS (chapter 3, river mechanics). Permits would be required before construction. Long-term maintenance of the stabilization measures is discussed in the FEIS. Please see **RESPONSE I-56**.

Reclamation concurs that the hydrologic effects of Ridgway Reservoir cannot be separated from the proposed development. Consequently, facility operations and the impact analysis are based on simulated post-Ridgway Reservoir flows, rather than post-Ridgway flows. Further, the Sponsors have agreed to mitigate impacts resulting from development of the AB Lateral Facility disregarding releases from Ridgway.

**COMMENT I-128:** C. Specific comments on text

1. Page 33, paragraph 2: The Morrison Formation is Jurassic in age, not Cretaceous. Throughout much of the canyon, the Entrada Sandstone is the "lowest formation" in the sedimentary sequence.

2. Page 3-36, paragraph 4: This discussion is somewhat misleading, if not incorrect, in that vegetation buildup in flood channels commonly causes more severe flooding because of the effects of channel restriction.

3. Page 3-36, paragraph 5: There is no discussion or evidence to support this conclusion on increased stability of the channel.

4. Page 3-37, 38: The predicted lack of erosion in the river bed is not supported by experience in areas where former sediment-laden water is replaced by clear water.

**RESPONSE I-128:** The text regarding geologic strata has been modified as suggested (see the FEIS, chapter 3). Additional information regarding Gunnison vegetation has been added to the river mechanics and vegetation sections of chapter 3. While some riparian encroachment is expected as a result of the project, it is not predicted to be enough to substantially alter floods, particularly large ones. See **RESPONSES F-32** and **F-33** for additional information on Gunnison River morphology. The Uncompahgre River channel bed is well armored with cobbles and should withstand additional Gunnison River diversions. This section of the text (chapter 3, river mechanics) has also been supplemented.

## ROBIN AND GRETCHEN NICHOLOFF

**COMMENT I-129:** Impact analysis is inadequate...the fact that the change will be detrimental to the characteristics that have been recognized by federal and state agencies as "outstanding" argues for the selection of the no action alternative.

**RESPONSE I-129:** Reclamation believes the impact analysis is adequate.

**COMMENT I-130:** The low flows through the Gunnison River during the summers of 1988 and 1989 have resulted in reduced quality of the fishing experience.. The continual and yearly low flows resulting from the project would permanently adversely affect the Gunnison River fishery, described by President Carter as one of the three best trout rivers in the United States.

**RESPONSE I-130:** The FEIS addresses the effect of various flows in the Gunnison River on the fishery. There is no evidence that the quality of the fishing declined; data collected in 1988 showed that it improved. Fishing declined in the second half of

1989 due to large flash floods discussed in the FEIS that resulted in fish kills and turbid water conditions.

### JAMES RITKIN

**COMMENT I-131:** ...I feel that it is a good idea that must be studied by the three sides--environmental, agricultural, and recreational. Perhaps with all of the sides present, there might be some issues which can be examined and cultivated. I would hope stipulation would be attached to the proposal such as the requirement of commercial fish hatcheries and some new environmental concepts. I would like to see meetings and information gathering from all three and others where the issues can be fully examined.

**RESPONSE I-131:** Negotiations occurred in the summer of 1989. Chapter 4 of the FEIS summarizes this process. Stipulations or environmental commitments have been modified and are presented in the environmental commitments section.

### LEE SAYRE

**COMMENT I-132:** ...How is funding set out, and who is responsible for liability and debt? It is stated that UVWUA plans to use revenues for accelerated debt retirement. Is this plan flexible? CAN IT BE CHANGED???? Is it possible that immediate and future power needs within Colorado and the immediate regions could be met with surplus power already available at Colorado-Ute?...

**RESPONSE I-132:** See financial discussion in the EIS regarding liability and debts. The UVWUA's use of revenues for project operation and maintenance, repairs, and construction would be outlined in the lease of power privilege. Please see **RESPONSE F-6** regarding power needs.

### JOHN WELFELT

**COMMENT I-133:** ...On page 3-39, it was estimated that approximately 24 percent of the streambanks would need protection from erosion due to increased flows. Where did this information come from and how was it obtained? The report is not clear on this matter. I am very familiar with this river near Delta and I feel that the 24 percent figure is not even close. The actual figure will be closer to 75 percent.

**RESPONSE I-133:** The estimated needs for bank protection were based upon study of aerial photographs of the river, bed and bank sampling, cross-sectional surveys, landowner interviews, and engineering analysis. Additional information is included in the FEIS in chapter 2, which clarifies the bank stabilization program.

**COMMENT I-134:** The cost in dollars for bank stabilization was not estimated; the DEIS only stated that a sinking trust fund would be established to pay for damages. What will happen if there is not enough money in the account to cover the damages?

**RESPONSE I-134:** The initial cost for bank stabilization was estimated to be \$1.4 million and is included in the FEIS as part of the cost estimates for each development alternative. Annual maintenance costs were also included. The purpose of the sinking fund is to establish an account for both annual maintenance and continued installation of stabilization measures. Monies apportioned to this account will be derived from plant revenues from the sale of project power and energy.

**COMMENT I-135:** The quality of the Uncompahgre River should not be underestimated. Between November and March, about 1,000 to 1,500 ducks use the one mile of river that I own for feeding and nesting. That is more ducks per mile than anywhere on the Gunnison River that I know of. In contrast, just below my land the river has been channelized and straightened, and only 10 to 15 ducks use this mile of river. I feel that channel straightening and bank riprap destroy riparian habitat.

**RESPONSE I-135:** Reclamation concurs that channelization would result in subsequent environmental damage; this alternative would not be used as a means of bank stabilization. Riprap would be used primarily in areas of current development, e.g., urban areas and along cultivated fields. Less damaging measures (vegetation) would be used primarily in rural areas. However, in areas where riprap would interfere with existing wetlands, the Sponsors have planned for mitigation of wetland habitat losses due to riprap placement. The FEIS recognizes that increased winter flows would cause a redistribution of waterfowl along the river. Increased flows would reduce habitat in some areas (due to deeper water and increased velocities) and increase habitat in others.

## JOHN WOOD

**COMMENT I-136:** ...The increased flows on the Uncompahgre River would be accommodated by extensive stream channelization which could cause faster water flows with a greater chance for flooding; it would interfere with the water table and it would destroy existing riparian habitat and wetlands. The proposed mitigation for the river does not even have a cost projection! This is a conclusive study?

**RESPONSE I-136:** See **RESPONSES I-133** through **I-135**.

**COMMENT I-137:** The Black Canyon of the Gunnison River is Gold Medal water now and considered by Congress to have a Wild and Scenic designation. The Gold Medal designation and the Wild and Scenic consideration were based on water flows the past decade of



around 600 ft<sup>3</sup>/s, not the 300 ft<sup>3</sup>/s flow seen last year when the DEIS was prepared. If built this project will jeopardize the Wild and Scenic designation.

**RESPONSE I-137:** The wild and scenic rivers studies were conducted in the 1970's when minimum flows in the Gunnison River were maintained at 200 ft<sup>3</sup>/s. Overall flows in this period can be seen in attachment B. Concerns with the wild and scenic designation are also addressed in **RESPONSES I-81, I-86, and I-113** and in the FEIS.

**COMMENT I-138** (paraphrased): Why is the UVWUA/Mitex contract not public? Mitex does not care about our environment, and PURPA would force Public Service of Colorado to buy power while Colorado-Ute has 40% excess power they cannot sell.

**RESPONSE I-138:** See **RESPONSES OR-31 and OR-32; I-80, and F-6.**

### MARK SILVERSHER

**COMMENT I-139:** The EIS fails to adequately consider viable alternatives which are financially viable and do considerably less damage to the environment in that three sites along the South Canal originally identified by BOR in their report of July 1980, entitled, "Report on Assessment of Small Hydroelectric Development at Existing Facilities" have not been analyzed in the EIS. BOR identified these sites as among the best in the nation for hydropower development considering their economic benefit and environmental impact. They are sites UC 28, 31, 32 as shown on the map enclosed herein along with the cover sheet of said report.

**RESPONSE I-139:** These sites have been evaluated in the DEIS and FEIS (alternative G). The reasons that the sites were feasible in 1980 and are not in 1989 are enumerated in the FEIS (chapter 2). See **RESPONSES OR-8, OR-9, and OR-84.**

### GARY AND SYRIL WHITLOCK

**COMMENT I-140:** We oppose the construction of the AB Lateral hydropower facility in Montrose. The project would significantly alter stream flows in both the Gunnison and the Uncompahgre River. The reduced flow through the Gunnison gorge - 300 ft<sup>3</sup> for approximately half the year (no real guarantee that it won't fall below even that low figure) will have a number of negative effects:

(1) Significant alteration of the riparian zone in the gorge, representing (as yet inadequately studied) changes in habitat for insects, plants, and animals, including river otter, bald eagle, and deer;

(2) Degraded scenic beauty of the gorge, with resultant threat to "Wild and Scenic" designation of the Gunnison;

(3) Probable deterioration of the Gold Medal fishery;

(4) Poor rafting conditions with resultant decrease in rafting by both professional and independent rafters.

**RESPONSE I-140:** These are significant issues and were identified in the scoping process for the DEIS. The concerns are addressed in the DEIS and the FEIS.

**COMMENT I-141:** The Uncompahgre River will be drastically altered. For most of the year, the "river" through Montrose will be a polluted trickle of irrigation runoff hardly deserving the designation of "creek," let alone "river." This miserable flow may serve the needs of mosquitoes, but it will certainly put a damper, so to speak, on plans for an in-town fishery and river park. North of Montrose, from the hydropower facility outlet to the confluence with the Gunnison at Delta, the river will be swollen to about 4 times its current volume. The negative consequences of this increase include significant bank erosion and need for bank stabilization, destruction of riparian zone, and bridge and irrigation system damage.

**RESPONSE I-141:** See **RESPONSES OR-20** and **I-133**, through **I-135**. Damage to bridges and irrigation structures are not predicted to occur.

**COMMENT I-142:** ...Without seeing the Mitex/UWVUA contract, it is uncertain whether the UWVUA will receive all the promised benefits. It is also unclear who will pay for project cost overruns, bank stabilization, and farmland destruction that will occur. Regardless, it is certain that all area residents will pay for environmental degradation as it results in a less desirable place to live and in a less scenic area to visit.

**RESPONSE I-142:** The FEIS has been clarified regarding Montrose Partners and UWVUA obligations. See also **RESPONSES OR-31** and **OR-45**. The FEIS attempts to fairly portray all significant impacts to area residents.

## GENERAL COMMENTS

This section contains letters with concerns or comments that were common to many letters. Some are also general letters of support or opposition to the development alternatives. The primary topics covered in these letters are listed below:

- Alternatives
- Bank stabilization on the Uncompahgre River
- Fisheries
- Gunnison River corridor management
- Need for power
- Riparian vegetation
- River otters
- Wild river
- Wilderness designation

Please see the contents at the front of this volume for reference to responses on these and other specific topics.





# United States Department of the Interior

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IN REPLY REFER TO:  
L7619 (RMR-PP)



## F-1 -- F-70

Memorandum

To: Regional Director, Bureau of Reclamation, Upper Colorado Regional Office, Salt Lake City, Utah

From: Regional Director, Rocky Mountain Region

Subject: Draft Environmental Impact Statement, Uncompahgre River Hydropower Project, AB Lateral Facility, Montrose County, Colorado

We have reviewed the subject document, in particular those sections that relate to the effects on the Black Canyon of the Gunnison National Monument. We have also reviewed those areas about which we commented in our January 24, 1989, memorandum on our review of the preliminary draft Environmental Impact Statement (EIS).

### General Comments

As noted in our previous memorandum, the minimum release of 300 cubic feet per second (cfs), used in these analyses, should not be considered as quantification of a Federal reserved water right for Black Canyon of the Gunnison National Monument. The United States, National Park Service, was granted Federal reserved water rights for Black Canyon, which remain to be quantified. The Federal reserved water right would be senior to the hydropower rights and could, when quantified, impact the operation and economics of the proposed project.

Of major concern to the National Park Service (NPS) is the effect the proposed water diversion will have on the natural resources and processes in the monument. Data supplied throughout the EIS has been primarily collected outside of the monument, and that data is then extrapolated to the monument. This may be inaccurate; effects of the increase in the frequency of 300 cfs minimum flows may not be fully realized at sites outside of the monument due to the fact that additional water is placed into the river system at Red Rock Canyon and other points downstream.

We are concerned that there is no detailed analysis of the impacts of scouring caused by increased ice buildup due to decreased winter flows.

Copies of the correspondence with the U.S. Fish and Wildlife Service under section 7 of the Endangered Species Act should be included in the document. Should public disclosure of that information jeopardize species locations, then at least a summary including the correspondence dates and substance should be included.

This document does not list how each of the alternatives will impact the existing Uncompahgre River banks. The draft says the project will be responsible for bank stabilization to reduce erosion as a general statement. It does not appear the commitment has gone as far as evaluating the different increased flow levels that will be two to three times larger than the historic flows and then incorporating this data into the cost-benefit analysis for each alternative. This cost-benefit analysis for bank stabilization should be added to the EIS.

### Specific Comments

Page S-1: The purpose of the project is cited as "(1) generating electrical power; (2) developing a renewable resource." Many of the economic impacts of the project are presented in this document. One item that is not addressed is how the purchase of this amount of power production will affect the already beleaguered Colorado Ute Company. It appears that power production facilities in the region are much greater than power demands and reasons for adding yet another power production facility that might further jeopardize the utility company should be well-documented. Implementation of the preferred alternative has been justified on the basis of a positive cost-benefit ratio. This ratio does not appear to take into consideration the effects of adding more power to an already overloaded system. The EIS should evaluate the effects of adding more power to the system.

Page S-4, paragraph 4: The last sentence in this paragraph suggests a positive effect from power production. We again suggest that, due to the surplus power production facilities and the economic conditions of Colorado Ute, the power production from this proposal may be an adverse impact. This should be addressed here and in the appropriate impact section.

Page S-5, paragraph 2: An overall percentage of river flow increase and decrease is listed for the Uncompahgre River. We could not find a similar paragraph for the Gunnison River in the EIS. We suggest that a paragraph be added that summarizes the chart information for the Gunnison in the same detail as that for the Uncompahgre River.

Page S-9: The effects on the established wilderness at Black Canyon of the Gunnison National Monument should also be summarized.

Page S-10, paragraph 5 and page 1-14, paragraph 1: As mentioned in these paragraphs and others throughout the document, future river operations and proposed operations of the Ridgway reservoir have been taken into account in the evaluation of impacts. This may be true for the effects of the Ridgway reservoir but not on the Gunnison River. The Bureau of Reclamation has proposed operational changes at Glen Canyon Dam. Any change of operation at Glen Canyon may impact the operational aspect of the Aspinall unit since it is part of the same operational system. We feel that the proposed operational changes at Glen Canyon must also be evaluated in this EIS and as part of a simulated flow data chart for inclusion in this document.

Page 1-4, paragraph 3: Are the facts contained in this paragraph accurate considering the present condition of Colorado Ute? Furthermore, should the Bureau of Reclamation Institute operational changes at Glen Canyon Dam for

peaking power, the power grid to which Bureau of Reclamation (BOR) will be selling that energy should be identified and the economic effects analyzed.

Page 2-3, paragraph 5: While it is true that flows in the Gunnison River occasionally fell below 100 cfs, as the paragraph states, it is equally true that flows commonly exceeded 8,000 cfs in the spring runoff season. This high flow information should be presented as well as the low flow information.

Pages 2-3 and 2-4: In the description of Alternative A (No-Action), it is stated that the BOR has controlled releases from Blue Mesa Dam to meet irrigation demands at the tunnel, as well as to allow a minimum instream flow of 200 cfs to protect the downstream fishery and to meet downstream water rights. It is also stated that, in recent years, "the goal has been increased to 300 cfs when available." The basis for this minimum instream flow and its availability should be clarified. Specifically, the arrangement (e.g. Memorandum of Understanding) under which this flow is provided should be presented and the conditions under which the flow is "available" should be discussed.

Page 2-22: In the section on water supply allocation, the minimum flows in the Gunnison River are described as "values stipulated in the environmental commitments for each alternative." It should be noted that instream flows for Black Canyon of the Gunnison NM represent recognized water rights and should not be considered simply as "environmental commitments."

Page 2-23, paragraph 4: "... the development would operate continuously ... Would there be peaking power operation of the plant or steady flow? If peaking power, how will that affect hourly flows of and consequent diversions from the Gunnison River?

Page 2-24, paragraph 2: We feel that the twice daily checks of flow measurements are inadequate. Twice daily is 12 hours apart and a great deal of flow change and possible damage can result in a 12-hour period. Not only are there the impacts to the wildlife and natural resources but also to visitor safety. The potential of flow fluctuations within the 12-hour periods could trap hike-in fishermen or leave rafters unexpectedly stranded. We believe hourly checks are necessary to insure adequate flow.

Page 2-25: Alternative A says that flows may occasionally be reduced below 300 cfs during extremely dry periods. How often might this occur, based on past history? This same type of information should also be included for each of the development alternatives. We are concerned that it's difficult to tell, based on the information provided in this document, what lowest level flows would be. It is important for us to know when, how often, and how long these low flows would occur, so that effects on the monument can be better understood.

In the section on specific water supply considerations, the current operating procedure for the Gunnison River is described (i.e., minimum flow of 300 cfs downstream from the Gunnison Tunnel) and it is stated that this procedure "would be expected to operate this way in the future." Again, it should be noted that the Federal reserved water right at Black Canyon of the Gunnison NM remains to be quantified. Such quantification could influence

future project operation. This quantification, and any modification in operating procedure that might result, will occur with or without the proposed hydropower project.

Listing for alternatives: Under each of the alternative listings there should be a figure of the overall flow removal from the Gunnison River. We suggest that the figures of flow removal be listed in acre feet and a percentage figure.

Page 2-26, Tables 2.4-2.7: Our previous concern about how the information in these tables was generated has been dealt with, but our entire comment was not addressed. These tables should reflect data through 1988 or explain why this data was not included.

Page 2-30, paragraph 2: The EIS states that the environmental commitments would be included in the lease of power privilege, ensuring compliance. How does this ensure compliance and who is the enforcing Agency? Is the lease of power privilege broken if compliance is not gained and would the hydropower plant be shut down from non-compliance of these "environmental commitments?"

Page 2-33: Bald eagle surveys should include the Black Canyon National Monument area as well as the area below the monument. The reduced flow area extends all the way to the confluence of the Uncompahgre and Gunnison Rivers and the entire impact area should be surveyed.

There is no mention of cooperation with NPS should adverse icing conditions develop. We would request that such a statement of cooperation be added.

Our previous memorandum (January 24, 1989) indicated our concern about lack of data within the monument that could verify many of the conclusions reached in the draft EIS. Those few follow-up studies proposed for Sponsor funding are all targeted for locations outside of the monument. Sponsor-funded studies should include Black Canyon of the Gunnison NM and be designed to identify any and all changes in the existing conditions below the Gunnison Tunnel. Methods of study should follow NPS policies and respect the wilderness values in the monument. These studies, some of which should be conducted before any permits are granted, should include:

Water quality: Although not proposed for follow-up study in the EIS, water quality studies should be conducted within the park to monitor effects; particularly in light of the claim that there will be no adverse effects. Also related to water quality will be the sediment load changes, evapotranspiration changes and the effect of river flows resulting from expected changes in plant composition along the riparian zones, and water quality standards maintained at the level required for endangered species of fish possibly found in Black Canyon.

Endangered species: Although no known endangered plant species have yet been found in the monument, many plant species (particularly in the riparian zone) are endemic to Black Canyon. Follow-up studies of these plants should be included. The competition effects the expected

changes in riparian species will have on those endemic species should be reviewed.

Surveys for native and endangered fish species to establish the validity of some of the claims made in the impact analysis should be performed prior to project implementation.

Additional studies need to be performed on the effects of the project on the reintroduced river otter and any displacement of den sites that increased sustained flows of 300 cfs will have on the population.

Are you requiring 14 workdays in each year or 14 days over a 3-year period? Is it a large enough sample size to be statistically significant so as to provide confidence in the data supplied?

Page 2-34: With Alternative F, the Project Sponsors would "bypass a minimum flow in the Gunnison River of 500 cfs when and if ice buildups occur to eliminate such buildups as may happen in the reaches downstream of the tunnel." This commitment to release "de-icing" flows needs further clarification. For example, how much ice buildup at which sites would be allowed before the de-icing flows would be released? Further, what is the basis for selecting specific amounts and sites? Specifics regarding how this commitment was modeled should also be provided.

Page 2-40: This section describes the analysis of varying instream flows in the Gunnison River. The results are assessed only in terms of economic impact and average annual flow. This assessment should be expanded to include a discussion of the environmental benefits that can be attributed to the increased flows, especially during critical periods. Recreation factors should be included in the cost-benefit analysis. Also, if an increase in minimum flows would render the project economically infeasible, should not greater emphasis be placed on the possibility that quantification of NPS reserved water rights could jeopardize the project?

Page 2-42, paragraph 5: While the statement is basically true that the flow is returned to the river, it is also true that the area of return is many miles downstream. This paragraph should include the information that the water is diverted at the Gunnison tunnel above the monument boundary and returned to the Gunnison via the Uncompahgre River at a point (exact mileage) downstream from where it was diverted.

Page 2-43: This section includes a discussion of Federal reserved water rights and the additional constraints these rights could impose on project operations. It should be noted that Federal reserved water rights are not limited to instream flows as implied in the EIS. It is correct that the Federal reserved water rights claimed by NPS for Black Canyon of the Gunnison NM are presently unquantified. These reserved water rights would be senior to the hydropower rights and could, when quantified, impact the operations and economics of the project. The dates of monument enactment (1933) and wilderness designation (1976) should also be shown in this section.

Page 2-44: The rationale used "because the development does not involve Federal expenditures, the analysis does not incorporate other benefits or

costs. . ." is flawed. The proposed project will affect Federal lands, and that effect must be analyzed. Although these effects are not Sponsor costs, they are costs due to the project. Cost of measures to mitigate those effects are also important. The table shown should be expanded to include those aspects not quantified, such as impacts on wilderness and rafting.

Page 2-46, Alternative cost data chart: The preferred alternative C shows a cost-benefit ratio of 1.051. We question this figure because alternative C includes an increase in size of the Gunnison Tunnel, and we can find no construction costs presented as a factor in determining this value.

Page 3-1: We note that this chapter repeatedly refers to the low flow year of 1988. However, no flow data (simulated or otherwise) is available showing monthly cfs from 1984-1988.

Page 3-3, figure 3.2: The boundary shown for Black Canyon of the Gunnison National Monument is not accurate. The enclosed boundary map should be used in depicting the correct monument area for this figure.

Page 3-4: It is important to describe impacts on the entire fishery, including native species, and not just the sport fishery.

Page 3-6: This section describes the computer model and input data that were used to simulate flows in the rivers and irrigation canals. This model and its underlying assumptions should be reviewed for completeness and accuracy. Attention should be given to the discussion of daily flow fluctuations that would occur. These fluctuations are important in assessing the impact from short-term events.

This section also refers to the input data for the model that was developed by Reclamation and the Uncompahgre Valley Water Users Association. These data were simulated using historical flow data and current and proposed operations plans for the Aspinall Unit reservoirs and Dallas Creek project. Additional information regarding the rationale and procedures used to develop this input data should be provided. This information should include a discussion concerning how well the simulated "post-Aspinall" flows compare with the actual "post-Aspinall" flows.

The simulated data supplied for this study begins after the last "no flow" in 1950 and ends in December of 1983; making it difficult to fully review data that has been referred to throughout the document. One benefit frequently mentioned for the project is the reduction of the historically devastating low flows of 100 cfs or less. Yet, the simulated records supplied for the study do not show any flows less than 300 cfs in the Gunnison River even prior to the development of the Aspinall Unit. Another benefit to be realized from the project involves the development of an improved fishery. The flow data most often quoted in that analysis is from 1986 through 1988, for which no flow data at all is supplied. These omissions should be rectified.

Page 3-7, first paragraph: Without further clarification, this statement is misleading. Daily flows may be less than 300 cfs in low flow periods. A qualifier to this effect should be added.

Page 3-10: In the section describing existing conditions in the Gunnison River, the decision to use 300 cfs as the assumed minimum instream flow in the Gunnison River below the tunnel, for study purposes, is presented. Selection and use of this value is based on increased fishery habitat and water availability (i.e., "except during drought periods"). The section should include information regarding the type of agreement that currently exists for providing instream flows and the criteria that is used to determine "drought" conditions.

Page 3-35, paragraph 1: The Uncompahgre River transports gravel and cobbles up to six inches in diameter, according to this document. On page 3-33 the document states river cobbles rarely move in the Gunnison. Is it possible that the Uncompahgre, a very flat slow moving river, has a greater capability to move material than the steeply graded Gunnison? This document is incomplete unless it includes a study of the Gunnison's ability to move materials at the present flow levels and how that ability will be altered (decreased) with a corresponding decrease in flow. This decrease should be listed as a negative impact.

Page 3-36: "The overall effect of the proposed development would be to hasten the stability of the Gunnison River below the North Fork." What does stability mean in this context? Is it a negative or positive impact? How would this stability affect other components of the ecosystem?

This section discusses impacts to the morphology of the Gunnison River and concludes that there would be no change with the development alternatives. This discussion and conclusion require greater substantiation. Specific issues that should be addressed more fully include:

- the quantity and significance of sediment from the "local tributaries" on the Gunnison channel within the monument
- the effect of more frequent and longer periods of low and intermediate flows on riparian vegetation encroachment (including exotic species) and establishment
- the effect of less frequent and lower magnitude high flow events on sediment entrainment and transportation

Page 3-50, paragraph 1: Alternative A indicates no change in temperatures of the Uncompahgre River. Why will there be no changes in water temperatures due to the Ridgway reservoir? Will the omission of this water temperature change effect the analysis of water temperatures under adoption of other alternatives?

Page 3-53: Reliable data cannot be obtained from a sample size of one.

Page 3-67, paragraph 2: The items listed for decreasing salt loading could, and should be done separate from the power production proposal. This work should not be listed as a beneficial impact resulting from this project. We did not see in this EIS an answer to the suggestion that the increased flow in the Uncompahgre River will expose the water to higher salt levels and add to

the salt loading over the next few years. This negative effect should be addressed in the EIS.

Page 3-68 through 3-75: There is no mention of the stocking of fish in the Gunnison River and that will be a continuing practice by the Colorado Division of Wildlife (CDOW) until 1990. Information on numbers of fish stocked, average lengths, and date of release should be provided, and these figures should be compared to the date of research data collected on fish densities. How much is the supportable fishing hours tied with continued stocking?

Page 3-68: This section should mention that Fish and Wildlife has said that there are no endangered or threatened fish species, if that is indeed the case. We are concerned that there is no mention of surveys for native or endangered species. Lack of this data means that statements such as that made on page 3-85 "although trout species may become more important numerically than non-game species such as suckers, a decline in sucker numbers or biomass would not be anticipated" hard to accept. There have been no surveys to confirm extirpation of the endangered fish species that were once present at Black Canyon (Colorado squawfish, razorback sucker, and bonytail chub).

"The extremes of high spring flows and low summer and fall flows were believed to contribute significantly to poor salmonid reproduction and survival prior to Aspinall construction." The assumption being made in this statement is contradicted by the simulated flow data found in either tables 3-1 or 3-6, where *all* of the lowest flows during the summer months have occurred since the development of the Aspinall Unit. We realize these studies probably used the actual U.S. Geological Survey flow data in arriving at these conclusions. However, the simulated flow data supposedly is representative of actual flows. If not, then their use in support of this study is suspect.

Paragraph 2: This statement may be true for the exotic species of trout introduced in the Gunnison, but the native Colorado River cutthroat trout had evolved over time to compensate for these flow conditions. The statement should be modified to show that the nonnative species experienced this poor reproduction, not the native cutthroat. The negative effects on the native species should also be addressed in this document.

Page 3-72: "The abundance of species may be represented as . . ." A statement should be added somewhere in this paragraph that this would be more normal due to the influence of the North Fork flows and may not be representative of the portion of the Gunnison River that flows through Black Canyon.

Page 3-83, Number 1: Substantial rainbow and brown trout habitat gains are made from 200 cfs level to the 300 cfs levels. Are there significant habitat gains between the 300-400 cfs and the 400-500 cfs levels? These gains should be quantified and compared in this EIS.

Page 3-84, first paragraph: In respect to the poor fishery resource, is it considered a poor fishery because of the lack of game fish over the number of non-game fish or the lack of fish altogether? Since bald eagles and river otters use the Uncompahgre, how does the fishery rate out for them -- is it good or poor?



Page 3-88: In this and other sections, conditions observed in 1977, 1981, and 1988 are used to approximate conditions that are expected to occur during similar dry periods following development. This comparison is questionable because it does not take into account the stress to the resources that would exist due to sustained dry periods as a result of development.

Page 3-92, paragraph 1: We suspect that a statistical analysis will show that there is no significant difference for alternative A. A statistical analysis with reasonable confidence levels should be done to compare the alternatives or the statement on the differences should be dropped from the EIS.

Page 3-95, paragraph 1: The statement that overcrowding may become important in regulating trout population in the Gunnison indicates that increased density may result in decreased biomass. Decreased biomass could be interpreted as a negative impact on the Cold Medal Water fishery and should be listed as such.

Page 3-97, paragraph 2: The statement that more trout will reach the Uncompahgre River due to the greater diversion of water is listed as a benefit to the Uncompahgre. It may be positive for the Uncompahgre, but it also reduces the numbers of trout in the Gunnison. Since the project lists the many positive effects on the trout population, it should also list and evaluate this negative impact. How does the increase in numbers of this exotic species affect the Uncompahgre?

Page 3-98, paragraph 3: The last sentence states that a high quality fishery may develop on the Uncompahgre River. It should also state that the general public will have no access to this resource because the banks of the river are privately owned and the adjacent landowners will control access. Contrastingly, the Gunnison River downstream from the tunnel runs through public land except for two small parcels near the confluence.

Page 3-100, paragraph 1: A weed is a plant out of place such as an undesirable plant in a garden or lawn. Annual weeds would be better defined as a specific listing of the common or scientific name in this paragraph and the fifth paragraph on page 3-101.

Page 3-101: The discussion on this section describes the present and expected changes of vegetation with the implementation of the project. What should be included in these statements is that the low flows expected would change the present open canyon bottom and the occurrence of low growing plants will be replaced with taller woody species that will be crowded closer to the river bank. Competition and subsequent replacement of low growing endemic plants can be expected. With the increase of woody species, a change in the evapotranspiration rate and water demands by the plants can be expected to increase. As a result, water table and flow rates may be affected.

Page 3-103, paragraph 2: This paragraph contradicts the contention held in this EIS that an increase in riparian vegetation as a result of decreased flows in the Gunnison will be scoured out with periodic flooding. This paragraph shows that even with occasional flooding, riparian vegetation is increasing along the Gunnison. The adoption of any alternative other than A

will only compound the situation and further reduce the scouring effects of floods. Native plant species will decrease as exotic species increase.

Page 3-104, figure 3-18: The boundary shown for Black Canyon of the Gunnison National Monument is incorrect. We also question the listing of the soil unit because the area shown (inner canyon) is basically Precambrian rock with little or no soil development.

Page 3-112: We are also concerned with the invasion of exotic species, especially tamarisk, which replace more typical riparian vegetation. The significance of this invasion appears to be down-played in the analysis of vegetation impacts. Tamarix (tamarisk) is an exotic, non-native species. As such, it has the potential for threatening the perpetuation of natural ecological communities and processes. Tamarix is not an easily controlled species. The cost of control efforts would be an additional burden on park management.

The areas of the riverbed that will be left exposed after flow reduction are more susceptible to tamarisk invasion than to native species invasion if an adequate seed source is available. The seeds are easily windblown and are available in great quantities downstream. The potential for tamarisk invasion is much higher than indicated in this document. This is an issue that needs more detailed attention as indicated earlier.

Along with the increased alluvium deposits, it would be expected that there would be a decline of water depth, and warming of the water would increase at a faster rate than present conditions. How will this affect the fishery?

The scouring potential of floods would not remain unchanged with reduced flows. The river would be emptier than before and thus able to carry more flood water before scouring would be the same as under present flows.

Page 3-113: The bed of the Gunnison River would not necessarily be covered with more grasses downstream from the portal. Tamarisk will be a major invader downstream near current seed sources. Its potential upstream is addressed above. Weedy forbs and woody species are as likely to colonize the riverbed as are grasses, at least during early successional stages. Seeding with native species would be a mitigating action, but would be costly.

"After each large flood, the river would appear the same as without the project . . ." What criteria were used to come to this conclusion? The statement may be untrue because the expected invading woody species are even less susceptible to removal during infrequent flooding. Also, it would be expected that there would be a decreased frequency of flooding occurring due to the project.

Page 3-117, paragraph 2: A better source for the occurrence of the peregrine falcon within the Black Canyon is Mr. Jerry Craig, CDOW raptor biologist in Fort Collins. Surveys by CDOW have shown there are more than a single nesting pair as this document states. The canyon should be noted as foraging habitat as well as nesting habitat.

Page 3-118, table 3.40: The area of the counts should be better defined than above and below the North Fork. How far upstream did the census go and how far downstream for each survey day listed? This is also true for the table of bald eagle counts on page 3-121. The bald eagle count table should also list the time or times for the surveys by date. This information should be added to the EIS.

Page 3-124, paragraph 1: We feel that studies financially supported by the Sponsors should be conducted in the Black Canyon to insure no solid freezing of the water occurs and identify the effects, particularly displacement, on the river otter populations.

Page 3-127, paragraph 1: This paragraph infers that cranes do not use the Gunnison River for feeding and resting. Our records show that cranes regularly stop on the Gunnison in the canyon on their spring and fall migrations. The possible impacts of reduced flow on these stopovers should be evaluated.

Page 3-133, paragraph 2: This paragraph states no construction will occur at the East Portal area, although the preferred alternative calls for increasing the size of the tunnel. This tunnel construction will impact the East Portal area because the material removed from the tunnel is usually dumped on the river bank near the tunnel mouth. It could also be hauled out, impacting the access road to the east portal area, a portion of the Black Canyon National Monument South Rim Drive, and State Highway 347 (primary monument access). These impacts should be listed and evaluated. The project Sponsors should also commit to repairing these roads if they elect to haul the material.

Paragraph 4: Altered flows will increase all hike-in use, not just hike-in fishing.

Page 3-134, last paragraph: Although we have now reviewed several versions of this section, we are still disappointed with the language stated in the document. It is apparent that the Bureau failed to understand the point that we were trying to make about increased use of the canyon bottom. The position of the sentence "Although stream fishing makes up a small portion of use in the monument (less than 1 percent [NPS, 1979]), this use would be affected" leaves the impression that this is a minor effect. Use of the canyon bottom will not be just for stream fishing, and this sentence should be deleted. As written, the document downplays what we feel will be a significant change in visitor use patterns and subsequent impact on the wilderness character of the monument.

The statement referring to an "improved" fishery in the monument should be identified as a sport fishery. As previously discussed, we do not feel that the EIS has adequately described impacts on native fish species, and therefore this conclusion is not corroborated by impact analysis. Page 3-140: "The CDOW feels that in an unusually dry year (200-300 cfs from April to September) 100,000 fisherman hours can be expected between the Gunnison Tunnel and the North Fork confluence." No mention was made as to the number of hours of fishing that could be expected between the 300 and 700 cfs levels. This raises questions regarding the 100,000 fisherman hours conclusion. How were the fishing hours determined? Is the 100,000 hours a

Limit of hours that can be expected due to resource carrying capacity or is it a result of fisherman behavior? How many fishing hours can the fish population support without detriment to the population? What is the carrying capacity, in fishing hours, at 300 to 700 cfs flow rates?

Page 3-142: "... the lower water conditions and the accompanying publicity led to an increase in private boat trips by people who thought the fishing would be much improved in the gorge." Are these people figured as fishermen or boaters when calculating economic return? To best evaluate their economic contribution, they should be broken into a separate category listed in Tables 3.50 through 3.52. Do fisher/boaters have a different behavior than hike-in fishermen in both activity hours and economic influence?

"In 1987 a major change occurred with whitewater rafting at higher flow periods early in the year to fishing-oriented rafting at lower flows later in the season... these low flows resulted in reduced day and overnight trips for both private and commercial floaters. The number of private boaters during the 1988 season decreased by 58 percent from 1987 levels and commercial boaters decreased by 27 percent... If the fisher/boater is counted as a fishing activity, that would accelerate the decline in "boaters" shown. These decreases indicate that when flows drop below 600 cfs, floating the Gunnison Gorge becomes more technically demanding, and both private and commercial rafters reduce the number of rafting trips." Yet, as was quoted above, private boating for fishing use went up. If boating becomes more technically demanding, why are fisher/boaters not affected? Some explanation to reconcile this apparent discrepancy is needed.

Page 3-148: The year dollars should be identified for tables 3.49 to 3.52.

Page 3-153: If boater/fishermen are calculated into the fisher days and their use declines on the river, an increase in hike-in fishermen may be heavily influenced by those boater/fishermen who are no longer using their boats. A net increase in hike-in fishermen may not represent a net increase in fishermen. This may affect projected economic return.

Page 3-156: The preferred alternative calls for expanding the size of the Gunnison Tunnel, which is a federally owned national historic site. Detailed impacts on this historic resource have not been provided. We can find no mention in this EIS of how requirements of the National Historic Preservation Act will be met when this historic facility is altered. The impacts on the national historic site should be evaluated and the costs of doing the required section 106 compliance should be added to the cost-benefit ratio of alternative C. The final EIS must show evidence of consultation with the Colorado State Historic Preservation Officer and the Advisory Council on Historic Preservation.

Page 4-8: The concern/response section should be expanded to show how you dealt with the NPS concerns on the effect on reserved water rights associated with the Black Canyon of the Gunnison National Monument and the existing wilderness area.

Page 6-1: Please add the following reference to the bibliography:

NATIONAL PARK SERVICE

1973 Final Environmental Statement, Proposed Wilderness Area, Black Canyon of the Gunnison National Monument, Rocky Mountain Regional Office, Denver, CO.

Page D-3, figure D.2: We cannot distinguish between alternatives on this chart. Is Alternative B missing?

Conclusions

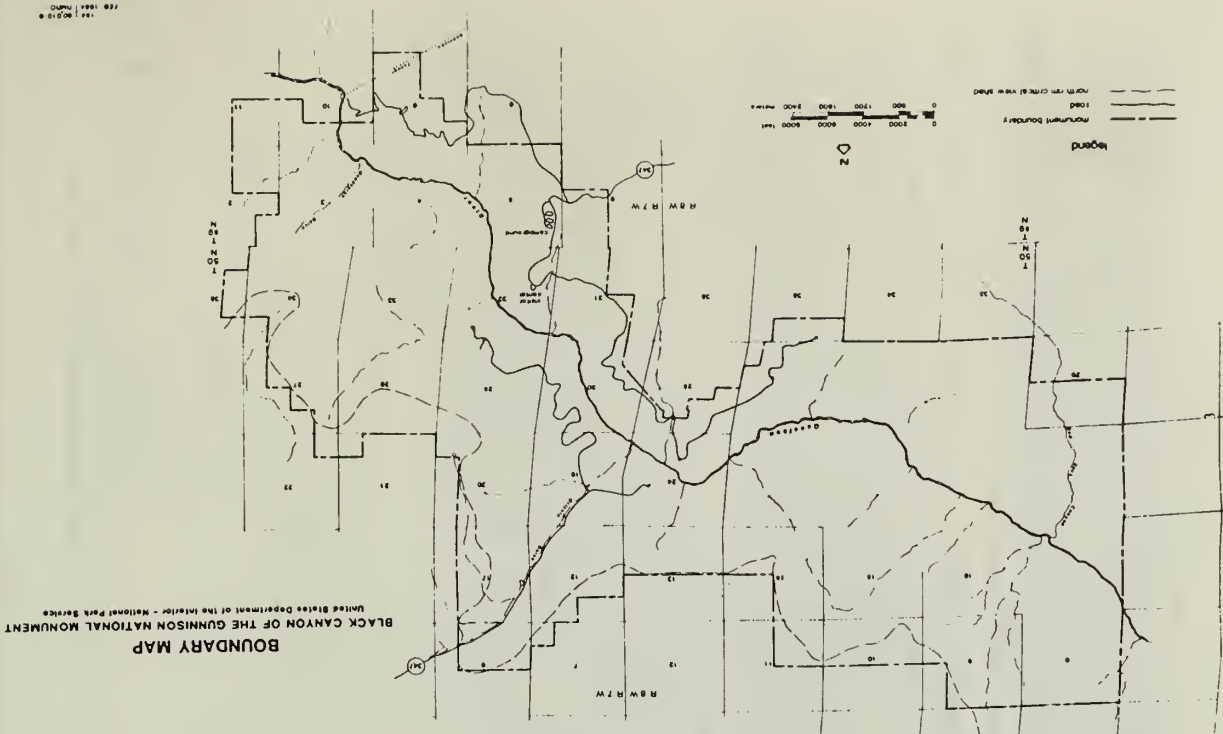
Little is known about how diverting approximately 70 percent of the total flow of the Gunnison upstream of the monument boundary will impact the resources of the monument. Because of the magnitude of this diversion there should be a commitment from the project Sponsors to increase the flows below the tunnel to correct any future identified adverse impacts to Black Canyon resources below the tunnel. The National Park Service is concerned about the effects of this project on Black Canyon of the Gunnison National Monument, and this EIS does not adequately address all of those concerns. We cannot support the preferred alternative identified until further data collection and analysis is performed that would verify and further clarify statements made in the draft EIS. These questions should be answered before permits are issued for the project.

Should you have any questions on these comments, please contact Ms. Christine Turk at commercial (303) 969-2830 or FTS 327-2830.

*Christine Turk*

Enclosure

cc: Project Manager, Bureau of Reclamation, Upper Colorado Region, Grand Junction Projects Office, Colorado, w/c enc.  
Manager, Bureau of Land Management, Montrose District, Colorado





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500  
DENVER, COLORADO 80202-2405

JUN 21 1989

**F-71 --- F-75**

Ref: 8WM-EA

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

Dear Sir:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act the Region VIII office of the Environmental Protection Agency (EPA) has reviewed the Uncompahgre Valley Reclamation Agency AB Lateral Hydropower Facility, draft Environmental Project Statement (DEIS). We offer the following comments for your consideration in the preparation of a final Environmental Impact Statement (FEIS).

EPA provided comments on a draft Environmental Assessment(EA) during 1988. At that time we expressed a number of concerns related to water quality impacts from modification of sediment loads, water temperature fluctuations, and potential salinity increases. Our water quality concerns were primarily related to missing information on proposed project flow modification to various stream segments. Our comments also noted a lack of discussion related to negative potential impacts to existing fisheries.

We are pleased to find that the DEIS presents a commendable discussion of the existing situation and probable impacts associated with the project development and probable impacts Information provided in Chapter 3 on development related sediment loading and water temperature fluctuations is most helpful. We suggest some additional clarification be included in the FEIS. For example, on page 3-61 and again on page 3-67, the statement is made that the Uncompahgre River has increased selenium concentrations in that segment between Calona and Delta. We were unable to find an explanation of what causes this increase. How will reduced flows in the Uncompahgre River above the confluence with the tailrace affect water quality in the segment from Ridgeway Reservoir to the tailrace?

Discussion on page 3-66, 3-67, and elsewhere, reveals the probability of increased sedimentation from bank erosion and/or streambed downcutting from increased flows downstream from the confluence of the tailrace and the Uncompahgre River. We note that Attachment A, Environmental Commitments, lists suggested lease commitments to mitigate for bank erosion. We recommend the discussion in Chapter 3 be expanded to refer to Attachment A proposed mitigation measures.

Information on page S-11 tells the reviewer that the project sponsor's preferred plan is alternative C. On page 2-20 we find a brief discussion of specific features, necessary under alternative C, to modify the existing Gunnison Tunnel to increase the Tunnel's capacity from 1,135 cuft/sec to 1,300 cuft/sec. We were unable to find a discussion elsewhere in the DEIS of construction impacts related to this proposed capacity modification. The DEIS does not present a strong need for the increased 165 cuft/sec diversion. Discussion in Chapter 3 shows that at certain times of the year this 165 cuft/sec could provide the margin to reduce fishery impacts in the Gunnison River below the Tunnel and above the North Fork. With this increased diversion there appears to be a potential for increased negative fishery impacts at certain times of the year. The FEIS also needs to reconcile the apparent controversy between increased fishing activity and river rafting.

In our comments on the draft EA we expressed concern with the lack of discussion of wetlands impacts and subsequent mitigation. The DEIS provides the reviewer with a detailed disclosure of the location and type of existing wetland that will be impacted, as well as proposed mitigation location and potential replacement. EPA will have the opportunity to review and comment on any Section 404 Permit issued by the U. S. Army Corps of Engineers related to this project.



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
COLORADO FIELD OFFICE  
730 SIMMS STREET  
ROOM 292  
GOLDEN, COLORADO 80401

F-76 --- F-79

IN REPLY REFER TO:

MEMORANDUM  
JUN 23 1989

TO: Projects Manager, Bureau of Reclamation, Grand Junction, Colorado

FROM: Colorado State Supervisor, Fish and Wildlife Enhancement, Golden, Colorado  
*DeWay W. Carlson*

SUBJECT: Review of the Draft Environmental Impact Statement for the proposed AB Lateral Hydropower Facility

We have reviewed the subject document and offer the following comments for your consideration.

The U.S. Fish and Wildlife Service (Service) finds that the subject Draft Environmental Impact Statement (DEIS) discloses the major impacts of the AB Lateral Project to fish and wildlife resources. We have concerns regarding wetlands, proposed bank stabilization and proposed minimum streamflows.

Wetlands

The DEIS briefly outlines the proposed wetlands mitigation on page 3-114-115. The document should explain in more detail how 12 acres of wetlands would be created. The Service finds that to accomplish "in-kind" replacement of wetlands lost, vegetation should be planted and not simply "left to grow naturally." The Service has also found that past wetland creation has not been 100 percent successful; therefore, the project proponents should plan on creating more than 12 acres to insure that there is no net loss of wetlands.

Bank Stabilization

The Service is concerned with the proposed bank stabilization on the Uncompahgre River and its impacts on wetland and riparian areas. The Service cannot support proposed channel straightening as discussed on pages 2-16 and 3-39. Shortening of the stream channel could cause subsequent erosion problems both upstream and downstream of straightening. Impacts to wetlands and riparian areas from the tailrace to Delta have not been adequately quantified in the DEIS. Bank stabilization of 24 percent of the streambanks between Montrose and Delta could cause significant impacts to fish and wildlife habitat.

We are recommending a rating of EC-2 for this DEIS. This means that our review has identified impacts that should be avoided in order to more fully protect the environment. Where it is determined that these impacts cannot be avoided, additional information as noted in our comments is requested. EPA would like to work with the Bureau of Reclamation to reduce these impacts. If you have any questions please contact Mike Hammer of my staff at (303) 293-1695 or FTS 564-1695.

Sincerely,

*for Mike Hammer*

Robert R. DeSpain, Chief  
Environmental Assessment Branch  
Water Management Division

cc: COE, Grand Junction  
Armand Labage, OFA, A-104

In Reply Refer To:  
2420 (160)

JUN 2 6 1989

# F-80 --- F-106

## Memorandum

To: Projects Manager, Grand Junction Projects Office, Bureau of Reclamation

From: District Manager, Montrose District Office

Subject: AB Lateral Hydropower Facility Draft Environmental Impact Statement

We appreciate the opportunity to review the draft environmental impact statement and submit the following comments for your consideration. General concerns are presented first, and page specific comments follow.

After considering the potential impacts of the AB Lateral, we find Alternative A (no action) most compatible with our management objectives. This alternative would assure maintenance of the wilderness, recreation and wildlife values within the Gunnison Gorge Special Recreation Management Area (SRMA) for which the Bureau of Land Management (BLM) is responsible. Of the development alternatives, Alternative F would best mitigate impacts to the aquatic ecosystem, the bald eagle and the river otter. While this is more desirable than alternatives B, C, and E, impacts to recreation and the wilderness experience would still occur.

### General Comments:

This EIS is an improvement over the preliminary draft we reviewed earlier this year. Yet many shortcomings raised in our previous comments are still not adequately addressed. This presents an incomplete picture to the public and decision makers about the social and environmental costs and benefits of this project.

The BLM is primarily concerned over the potential impacts of the proposed project on the wilderness, recreation, wildlife, fisheries, and wild and scenic river values in the BLM's Gunnison Gorge SRMA. As the EIS recognizes, 21,038 acres in this area have been recommended as wilderness and are being managed as such under the BLM's Interim Management Policy (IMP). Additionally, the National Park Service (NPS) and BLM have recommended to Congress that 26.2 miles of the Gunnison River be designated as a Wild and Scenic River.

### Minimum Flows

Based on extensive studies conducted by the Colorado Division of Wildlife (Division), the Service supports the proposed minimum flow of 300 cfs on the Gunnison River from the Gunnison Tunnel to the North Fork. However, minimum flow recommendations are not necessarily safe levels for constant low flows on a long-term basis. They are short-term flow recommendations that will adequately protect trout populations through various critical life stages. We recommend that coordination between the Division, the Bureau of Reclamation, and the project proponent be established so that any future measures necessary to protect the trout populations in the Gunnison Gorge could be incorporated into the AB Lateral Project. The Service is concerned with the reduced project flows from the Loutzenhizer Canal to the tailrace. The Service supports a minimum flow of 60 to 80 cfs from July 1 through September 30, as recommended by the Division.

### Threatened and Endangered Species

On April 18, 1988, the Service issued a Biological Opinion on the AB Lateral Hydropower Facility as described in the Draft Environmental Assessment (Bureau of Reclamation, 1988). This Biological Opinion states that the project, as proposed, is not likely to jeopardize the continued existence of the clay-loving wild-buckwheat (*Eriogonum pelinophilum*) and the Bald eagle (*Haliaeetus leucocephalus*). Conservation recommendations were proposed for these species. Other threatened or endangered species included in project analysis were: peregrine falcon (*Falco peregrinus*), black-footed ferret (*Mustela nigripes*), Colorado squawfish (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), and the bonytail chub (*Gila elegans*). A "no effect" determination was concluded for all of these species. The Service has reviewed the alternatives in the Draft Environmental Impact Statement and finds that the scope of the issued Biological Opinion adequately addresses effects on listed species.

If any changes in penstock alignment are proposed, the Bureau should reinstate consultation for the clay-loving wild-buckwheat.

We appreciate this opportunity to comment. If we can be of any further assistance, please contact Patty Schrader of our Grand Junction office at (303) 243-2778.

cc: CDOW, Montrose  
FWS/FWE, Denver  
FWS/FWE, Grand Junction  
FWS/FWE, Salt Lake City  
USDI, Office of Environmental Project Review

Possible conflicts between the proposed action and BLM plans:

The Council on Environmental Quality (CEQ) 1986 regulations for implementing the National Environmental Policy Act (NEPA) section 1502.16(c) require that environmental impact statements include discussions of "Possible conflicts between the proposed action and the objectives of Federal land use plans, policies, and controls for the area." The subject EIS should recognize that the proposed project is in conflict with the Gunnison Gorge Recreation Area Management Plan (RAMP) (1985, 1988) and the Uncompahgre Basin Resource Management Plan (RMP) (1988). Both of these documents were a result of extensive agency effort and public review. Should the proposed project be implemented, the RAMP would have to be revised to accommodate shifts in use levels and types of uses.

Our January 1989 comments to the Bureau of Reclamation state that the Gunnison Gorge SRMA is presently being managed to provide outstanding opportunities for solitude, and primitive and unconfined recreation. Management emphasis is on unique river values, pristine recreation opportunities and maintenance of natural processes where the impacts of man are substantially noticeable. These objectives are based on the Gorge's Wilderness Study Area and recommended Wild and Scenic River status.

While the implementation of the development alternatives might not change the BLM's recommendation for wilderness or wild and scenic designation, resulting impacts would impair biological, aesthetic, and primitive recreational values for which the Gunnison Gorge is being managed. The AB Lateral project would increase walk-in use in both total user days and in length of season. Associated impacts would include increased human sanitation waste, trash, vegetation trampling, and wildlife harassment. Outstanding opportunities for solitude would be decreased and the carrying capacity and limits of acceptable change established in the the RAMP for the Gunnison Gorge SRMA would be exceeded.

Not only does this conflict with the BLM's non-impairment standard for wilderness study area management, but it changes the scope and objectives of the Gorge's management plan in terms of use levels and types of uses. Necessary RAMP revisions would reduce primitive and unconfined recreational opportunities currently available in the Gunnison Gorge and result in an inflated financial cost to the federal government.

Analysis of impacts to the aquatic ecosystem and associated endangered species:

The analysis of impacts to fisheries still concentrates on game fishes and only gives cursory treatment to non-game fishes. We have consistently pointed out that the non-game fishes are critical components of the aquatic ecosystem and a linkage to the terrestrial system. They serve as the primary food source for the river otter (a candidate species for federal listing as an endangered

species) and possibly an important food source to the endangered bald eagle. Although there are data and research available for the discussion of non-game fishes, the EIS has not utilized this information.

The analysis of impacts to trout and the aquatic ecosystem does not incorporate short term peaks and valleys in water flows in the Gunnison River. Rather, it assumes more steady flows around the maximum and minimum averages. Based on other cases of hydropower projects, it is likely that extreme fluctuations would occur during short time periods. The EIS does not address how such fluctuations might affect trout or non-game fishes reproductive success and fry survival or benthic organisms and invertebrates critical to fisheries productivity. In the BLM's January 1989 comments on the preliminary draft EIS, we suggested that these flow fluctuations be addressed. The present document remains essentially unchanged.

Deferring impact analysis until after project implementation:

The EIS recognizes that impacts on the non-game fisheries, invertebrates, bald eagles, river otters, and riparian environment could occur, but they are not completely analyzed or quantified. The document attempts to resolve this inadequacy by deferring to after project implementation to monitor, assess and mitigate impacts. We question whether this is an acceptable approach under NEPA. Would it not be more appropriate to provide analysis of impacts and mitigation measures prior to project implementation?

This is particularly true in the cases of the endangered bald eagles and their prey base, the river otter (a candidate species), and channel morphology of the Gunnison and Uncompahgre Rivers. The EIS indicates that bald eagles and their prey will be monitored and mitigation measures implemented if any adverse effect is detected. Not only is the same approach taken in the cases of the Gunnison and Uncompahgre Rivers, the impact assessment is based completely on simulated riverbed cross sections rather than site specific data.

Identification of the preferred alternative:

The preferred alternative should be clearly identified throughout the document. According to Section 1502.14(e) of the CEQ regulations for implementing NEPA, agencies are required to "Identify the agency's preferred alternative or alternatives." This aids in reviewing the document and presents the public and decisionmaker with a better understanding of the EIS' focus.

Reference to the US Fish and Wildlife Biological Opinion:

There are four terrestrial species and three fish species on the federal endangered species list which could potentially be affected by this project. Only one brief reference is made of the Section 7 consultation conducted on this project with the Fish and Wildlife Service. Since this agency provides the expertise on the listed species, we suggest that specific reference to the

Section 7 consultation and biological opinion be provided both in the discussion of impacts to endangered fishes and wildlife, and in the appendix.

Discussion of cumulative impacts, unavoidable adverse impacts, and irreversible and irretrievable commitments of resources:

Discussion of all of these are required under NEPA section 102(2)(C). Such a discussion provides for the public and the decision maker a summary and broader perspective on the costs and benefits of actions being evaluated in an EIS. Cumulative impacts are given only cursory treatment in this document on page 3-163.

We think that the discussion does not adequately evaluate the impacts on the wilderness and wild and scenic values in the Gunnison Gorge. The shifts in management practices cited in this section are important, but more significant in the context of cumulative impacts is the impairment of wilderness and river values and loss of solitude and primitive recreational opportunities presently being managed for in the Gunnison Gorge.

The long term implications for the aquatic and riparian ecosystems of the Uncompahgre and Gunnison Rivers are complex. These are only briefly and incompletely discussed.

This section does not include any discussion of long term socio-economic impacts or costs and benefits. Such a discussion is necessary to place this in the regional context.

Specific Comments:

Page 2-3: The last paragraph fails to recognize that this particular wild trout fishery essentially replaces that displaced by Blue Mesa Reservoir.

Page 2-19: As mentioned in our previous comments, working maps in the document appear to indicate that more than one acre of public land would be involved in this project. The BLM suggests that the proponents include one map in the document of sufficient size to adequately show land status and other geographic features.

Page 2-22: Could irrigation demands reduce flows below the 300 cfs minimum, particularly during drought years? If it is possible that such flows would occur (Figure 3.3 suggests they would), what might the frequency be? While irrigation demands are discrete from this project, they would contribute to impacts. Such low flows are not incorporated into the fisheries and aquatic system analysis, but could result in significantly different impacts than the EIS analysis concludes.

Page 2-47: We suggest that wilderness be included as a separate category within recreation on this summary table, as recreation and wilderness are two separate

resources. Since this is ultimately a congressional designation for long-term management and the proposed development alternatives would impair wilderness values, this should be included as a separate resource value.

Pages 2-31, 2-33, 2-46: Monitoring and Mitigation: The EIS indicates that the Sponsors will conduct monitoring of the Uncompahgre River (page 2-31) as well as prey base and bald eagle populations (page 2-33). At what point will mitigation measures be implemented to assure resource integrity? Are all monitoring and mitigation costs incorporated into the estimate of project costs and the cost-benefit analysis? The cost estimates on page 2-46 should be broken down into more detailed categories to include monitoring and mitigation. This provides a clearer picture of the costs and benefits of the project.

Page 3-8: Figure 3.3 appears to have some discrepancies. What happens to the flows under alternatives A and C at the upper end of the curve? Also, the curve for alternative C indicates that the flow will remain at or above 300 cfs for 50 percent of the time. This seems to be a discrepancy with the curve representing present flows. It seems more realistic that flows would still drop below 300 cfs due to demands beyond the AB Lateral. If the flow does drop below 300 cfs, the fisheries analysis breaks down, as it assumes 300 cfs as the minimum flow.

Page 3-36: Since sediment deposits are in low velocity areas and it takes more energy to reinitiate movement of sediment, there could be an increase in bank cutting and lateral movement in reaches where alluvial material is present (e.g., downstream of the Smith Fork, and in the Ute Park area).

Since flood peaks are predicted to remain the same, it would appear that the channel's tendency to downsize during prolonged low flows would reduce its ability to handle flood flows without increased bank instability, flooding, and property damage.

Page 3-72: This may be an indication that good spawning success isn't the whole story. At low flows, as indicated, there may not be adequate habitat to support older age class fish. The last paragraph may be accurate about trout tolerance of occasional siltation and high temperatures; however, it is still questionable whether the system can sustain this condition for prolonged periods and retain healthy, robust fish.

Page 3-74: Stanford indicates that macroinvertebrates have been able to colonize the entire channel bottom under current flow conditions where flows fill the channel most of the time. At 300 cfs, more of the channel will be dry for longer periods. This would result in some decrease of forage production for fish.

Page 3-75: As previously discussed, the deficiency in swim-up fry habitat has not posed a major problem for this river's trout population. As Stanford



points out, adult population structures do not necessarily follow the success of fry recruitment in the populations. This is especially true since adult habitat conditions are optimum at higher flows. It seems ineffective to manage habitat to benefit one age class (fry) when current recruitment appears adequate and other age classes are optimized at higher flows.

Page 3-85: The discussion in the second paragraph seems illogical. How can total habitat be reduced, trout numbers increase, and non-game biomass stay the same?

Page 3-103: There is no evidence that cottonwoods have been present in the Gunnison Gorge at any time in the recent history. There are no relic stands or snags. Regeneration below the North Fork appears to be occurring normally.

Page 3-105: In Table 3.38, only the first alluvial terrace is riparian vegetation. The other terraces would not be classified as such.

Page 3-112: What is the evidence for stating that increased human use under the no action alternative would trample riparian vegetation? Significant streambank travel is not possible most of the time under present conditions. The exception occurs during low water years. The BLM expects trampling impacts to be a much greater problem if the project is constructed.

Page 3-113: The description of the riparian system within the Gunnison Gorge and its response to the project induced flows seems simplistic and speculative. Data should be available from other river systems where similar flow modifications have occurred. This would help substantiate the analysis of expected vegetation changes.

It is questionable whether riparian vegetation removal and post-flood appearance would remain the same under the development alternatives. The current flow regimes result in a stream channel and riparian community that will not react or look like the post project system. Under post-project conditions with lower base flows, portions of the stream channel will no longer be covered with water.

It is possible that sediment contributed to the system by storm run-off will no longer be moved through the system as rapidly. These sediments result in the formation of point bars and instream gravel bars, especially downstream of large boulders. This could reduce fishery habitat quality by increasing the width-depth ratio in the active channel. This aggradation could increase lateral instability in segments of the river where stable alluvium currently exists.

It appears that this project, which will not reduce peak run-off events but will reduce average annual flows, would shift this system back toward the type of flow disparities that existed prior to the upstream regulation. Available data suggest that the Gunnison Gorge system was far less stable and productive at that time.

We seriously question the analysis of salt cedar establishment and its removal by periodic flooding. A citation should be provided for the statement that this species inhabits less disturbed sites than coyote willow. Observation and monitoring in Canyonlands National Park along the Colorado and Green River corridors suggests that salt cedar is as competitive as coyote willow, if not more so, in sandbars and along terraces which are scoured annually by high water flows (personal communication with Tim Graham, PhD.). Furthermore, studies in Glen Canyon National Recreation Area and Grand Canyon National Park show that salt cedar can withstand being completely submerged for over two weeks (personal communication with Larry Stevens, PhD.).

Salt cedar is a highly invasive undesirable non-native species which has significantly altered riparian environments throughout the southwestern U.S. The discussion of the potential for its invasion along the Gunnison and Uncompahgre Rivers is questionable and frequent disturbance and fluctuating flows may favor the establishment of this species.

Page 3-122-123: The river otter is now a candidate for listing under the Endangered Species Act, and the project has the potential to adversely impact populations in the Gunnison Gorge. Baseline studies should have been initiated on this protected species, at least in the Gunnison Gorge where they are known to occur. This would provide data to determine the effects of the alternatives on this species. Studies should use the best available procedures rather than waiting for new procedures to be perfected.

Increased bank travel by humans and the use of a larger number of campsites could create new conflicts with other habitat.

Page 3-150: Under 1000 cfs and especially under 600 cfs, there is a marked downward trend in the quality of float boating. Float fishing quality decreases significantly below 600 cfs.

Page 3-151: The table show that the higher flows are associated with lower boater use. It should be reversed to indicate that higher flows correspond to higher boater use.

Page A-3: On page 2-33, the EIS indicates that a prey base and bald eagle monitoring program will be conducted to evaluate impacts of the project on the endangered species. At least the specific reference to page 2-23 should be included in this section.

Ken  
ACTING



June 21, 1989

Regulatory Section

**F-107 --- F-117**

Mr. Walter Fite, Projects Manager  
Bureau of Reclamation  
Post Office Box 1889  
Grand Junction, Colorado 81502

Dear Mr. Fite:

The Corps of Engineers (COE), Sacramento District has completed review of the AB Lateral Hydropower Facility, Uncompahgre Valley Hydropower Project Draft Environmental Impact Statement (DEIS) and specific comments follow for your consideration. These comments are most specific to wetland impacts/mitigation and impacts associated with increased flows in the Uncompahgre River and resulting streambed and streambank stabilization measures. We have continued concern over the capability of the Final Environmental Impact State (EIS) to adequately provide the information required to facilitate preparation of the COE decision on a future Department of the Army permit application.

We appreciate past considerations given to COE issues and look forward to continued cooperation and involvement in preparation of the EIS.

The following comments represent Sacramento District, COE response to the DEIS (Comment numbers 1-8 are specific to our regulatory concerns and comments 9-12 were provided by Sacramento District, Planning Division):

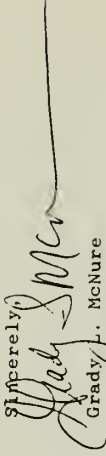
1. Page 2-12, last paragraph - Lateral erosion is expected to occur therefore, critical areas will be riprapped. Considering the additional water introduced to the Uncompahgre River is clean and sediment "hungry", vertical degradation of the channel can be expected. If physical and environmental changes would ensue, more discussion on why vertical degradation will not occur would strengthen the EIS.
2. Page 2-16, second complete paragraph - We note that you did not include a figure illustrating the canalization proposal. Figure 2.7 does not illustrate canalization even though a reference is made to it. Generally, we do not favor channelization or as termed in the EIS, canalization. We presume the terms are synonymous. Channelization which essentially results in shortening the stream length, increases the stream gradient, flow velocity and erosive forces and generally, degrades instream and wetland habitats. Assuming that channelized stream banks would be riprapped, the concerns about vertical degradation (noted in a previous comment above) in any channelized stream bottom would be even more applicable.
3. Page 2-32, fifth paragraph - The final wetland replacement plan will also require COE approval prior to construction of project features and the development of replacement wetlands would have to be accomplished concurrent with project construction. The replacement plan referenced in chapter 3 is insufficient in describing what will physically occur at the site to develop wetlands.
4. Page 3-39, fourth paragraph - We need elaboration on locations of the various stabilization techniques. All of the areas requiring stabilization should be identified with an intensive mapping effort to provide a prediction of impact and alternative methods that would minimize impact. The wetland mitigation plan should be developed in advance of the EIS publishing date and should be incorporated in or appended to the EIS. The adequacy of mitigation is key to obtaining a Department of the Army permit and the preponderance of coordination should occur in advance of our receipt of a permit application. We do not see any avenue for predicting impacts to wetlands or for minimizing impacts without the aforementioned mapping effort.
5. Page 3-108 - Wetlands - Your definition of wetlands does not accurately reflect the information in the reference. We define wetlands as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Essentially, three parameters (vegetation, soils and hydrology) are used to define wetlands. Saturated soil conditions is not the only determining factor in wetland delineation. We suspect that much of the wetlands currently identified in the EIS are not

considered jurisdictional by the COE. We have previously provided guidance to the proponent and the Bureau of Reclamation on wetlands subject to our jurisdiction. This delineation also needs to include any wetlands adjacent to the Uncompahgre and Gunnison rivers which may be affected by the project.

6. Page 3-110, second paragraph - Because of the stated instability of the Uncompahgre River and proposed stabilization necessary to accommodate higher flows, the need for wetland mapping is again recognized at this juncture. The wetland acreage identified by Rector, et al, 1979 could be significantly different due to extremely high flows experienced in the early 1980's. Is there any specificity in Rector's findings i.e., locations, types or functions of the approximately 5,000 acres identified?
7. Page 3-114 - The wetland mitigation plan should be described in greater detail. Appropriate figures and illustrations should be included in the EIS to reflect the location and display the proposed mitigation wetlands. You should also address the numbers and species of plants to be used. The schedule of implementation should be given in the description. You should also give the proposed monitoring and reporting program for assessing the success of the mitigation and describe what methods will be used to safeguard the mitigation area from future adverse impact.
8. Page 3- 137, fourth complete paragraph - If vertical degradation of the channel occurs then wetlands may not be enhanced. Again, the concern regarding vertical degradation needs more discussion.
9. The specific sites for erosion protection along the Uncompahgre River are insufficiently addressed in the report. Identified sites should be listed. Sites to be monitored but not immediately protected should also be listed.
10. A more durable material than sandstone should be used for bank protection. Some sandstone used in fast flowing and fluctuating streams on the western slope have evidenced rapid deterioration.
11. The report should show how monitoring flows in Colona for diversion adjustment during high flows in river will be a valid prediction of flows to be expected at Delta, almost 40 miles distant.

12. Monitoring sites for sediment deposition should be listed. The mitigation planned for dealing with excessive sedimentation (if found) should be described. The confluence of the Gunnison and Uncompahgre rivers should be one site of concern.

Thank you for the opportunity to comment on the DEIS. If you have any questions, please contact Ken Jacobson or me at telephone (303) 243-1199.

Sincerely,  


Grady L. McNure  
Chief, Regulatory Unit 4  
764 Horizon Drive, Room 211  
Grand Junction, Colorado 81506-8719

Copy Furnished:  
Regional Environmental Officer, Upper Colorado Region, U.S.  
Bureau of Reclamation, Post Office Box 11568, Salt Lake City,  
Utah 84147



United States Department of the Interior  
BUREAU OF MINES

P. O. BOX 25086  
BUILDING 20, DENVER FEDERAL CENTER  
DENVER, COLORADO 80225



Intermountain Field Operations Center

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F-118

Memorandum

To: J. Arthur Burke, Acting Deputy Commissioner, Bureau of Reclamation,  
P. O. Box 25007, Building 67, Denver Federal Center, Denver, Colorado  
80225-0007

From: Chief, Intermountain Field Operations Center

Subject: Draft Environmental Impact Statement for the AB Lateral Hydropower  
Facility, Uncompahgre Valley Reclamation Project (DES 89-08)

As you requested, personnel of the Bureau of Mines reviewed the subject DEIS to ascertain effects of the proposed project on mineral resources and related facilities. As we understand it, the document describes five alternative plans (including a no action plan) for the construction of a hydropower facility near Montrose, Colorado, using existing infrastructure of the Bureau of Reclamation's Uncompahgre Valley Reclamation Project. Major elements to be constructed that would involve commitment of additional land include a 38,380-ft penstock, a 1/2-mile transmission line connecting the powerhouse to an existing line, and 1,000 feet of new transmission line connecting an upgraded section of transmission line to the North Mesa Substation.

Several mineral resources occur in the affected area including sand and gravel, placer gold, clay, coal, and sandstone. In addition, a pipeline owned by Rocky Mountain Natural Gas Co., Inc., crosses the project area north of Montrose and could be affected by construction of the proposed penstock. Several sand and gravel plants and pits operate in the vicinity of Montrose supplying the area with aggregate dredged from the Uncompahgre River. Several small placer gold deposits (Colorado Bureau of Mines Annual Report for 1935, 1939) operated prior to World War II in the Uncompahgre drainage, and clay from the Mancos Shale was mined for the manufacture of fire brick (Bureau of Mines, RI 5553). The clay mine, located about five miles southwest of Montrose, was abandoned during World War II because of the wartime labor shortage and a diminishing market. Additionally, there is reportedly an old

sandstone quarry located a few miles southwest of Montrose (Mining and Minerals Deposits of Colorado, compiled by Mardirosian). Our records also show that minor coal production has come from the Tomahawk Mine located in the Montrose area. Apparently, the proposed project would not affect any of these inactive or abandoned properties.

Although the report notes (page 3-139) that operating sand and gravel pits occur near the proposed powerhouse, it is doubtful these operations would be adversely affected by powerhouse construction. Sand and gravel resources, however, probably occur in the entire floodplain near Montrose, and on the property selected for the powerhouse site. Therefore, the report should note that these resources would become irretrievable if the powerhouse is constructed on the floodplain. A short visit to the area by Bureau personnel confirmed that no active sand and gravel operations occur in the proposed powerhouse area and no other mineral resources occur along the proposed penstock route.

We recommend that the final version of the EIS incorporate the above mineral resource information. If any mineral resources would be affected by the selection of the penstock or transmission line routes, the final document should detail the mineral resource impacts and any planned mitigation procedures. In particular, if the proposed penstock would cross the natural gas pipeline, the final EIS should include a discussion of the measures to be undertaken to protect or relocate the pipeline.

*William Cochran*  
William Cochran

United States  
Department of  
Agriculture

Soil  
Conservation  
Service

Room 129, BLM Bldg.  
764 Horizon Drive  
Grand Jct., CO 81506-8720

Page 2

Project Manager  
Bureau of Reclamation  
P. O. Box 60340  
Grand Junction, CO 81506

May 22, 1989

## F-119 --- F-121

A review of the Uncompahgre Valley Reclamation Project was made by the Soil Conservation Service on April 28, 1989. The following comments are made in relation to the proposed action on the following resource items: Soil Erosion, Water Quality and Quantity, Prime and Unique Farmland and Existing Soil and Water Conservation Management Systems.

Each will be addressed individually.

1. Soil Erosion - Erosion should be minimized if proposed action items are truly followed as described in the draft environmental impact statement. All disturbed areas such as laterals, facilities, etc., are planned for critical area planting. If performed, soil erosion should be short term.

Streambank erosion due to increased stream flows down stream may be another matter. The proposal is to use bank revetments, jetties and realignment of the river channel to control this erosion. Definitely this needs to be done if alternatives other than "A" is performed.

Everyone needs to thoroughly understand that the intent to protect the streambank is good, but actually accomplishing this task may be hard to do. Past tract records on doing this type of work by others have been often less than successful. Accounting for all aspects of the increased flow as well as the increased water velocity is very complex. Patching here and there often creates water quality problems and soil erosion further down stream.

This should be a major area for concern.

2. Water Quality - There should be minimal effect here. The areas of concern would be sediment loading from stream bank erosion, if proposed stabilization along river fail.

There could be also a slight increase in salt loading, pesticide contamination and nutrient loading of surface or ground water. Especially if both new ground and existing cropland receive more water and is mismanaged.

Also, if streambank erosion is controlled, increased downstream channel erosion might occur. If this reaches shale layers, there is a possibility of increase salt loading.

3. Water Quantity - Minimum stream flows are proposed. If followed, adjacent vegetation and fisheries should not be affected to a great extent, but close monitoring is suggested; especially if alternative "C" is chosen.

One other aspect of this resource item is the possible increase of ice build up along specific areas of the river. This could be a concern in respect to property damage and accelerated streambank erosion. (At this time no definite conclusion can be made to its potential vegetative extent.)

4. Prime and Unique Farmland - No adverse effect on loss is expected.

5. Existing Soil and Water Conservation Management Systems - Only moderate changes should be expected. Some will be positive, others negative if increased management is not applied along with possible changes in cropping systems due to the increase in available water.

Irrigation water management will be the key component in most resource management system changes.

*Charlie A. Holcomb*  
Charlie A. Holcomb  
Area Agronomist

cc: Sheldon Boone, State Conservationist  
David L. Doty, Area Conservationist



U.S. Department of Transportation  
Office of the Secretary of Transportation

MAY 8 1989

400 Seventh St., S.W.  
Washington, D.C. 20590

OFFICIAL FILE COPY INFORMATION	ROUTE TO	INSTR.	DATE	REPLY
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	FILES			2

Mr. Joe D. Hall  
Deputy Commissioner  
Bureau of Reclamation  
United States Department of the Interior  
P.O. Box 25007  
Building 67, Denver Federal Center  
Denver, CO 80225-0007

Dear Mr. Hall:

We appreciate the opportunity to review the Draft Environmental Impact Statement for the AB Lateral Hydropower Facility, Uncompahgre Valley Reclamation Project, Colorado.

This office has no comment. We note that there may be minor traffic problems during the construction phase. It is unclear whether increases in flows downstream from the proposed tailrace will have any effect on highways or highway structures. We have therefore referred a copy of the statement to the Office of Environmental Policy at the Federal Highway Administration Headquarters.

Sincerely,

*Eugene L. Lehr*  
Eugene L. Lehr  
Chief, Environmental Division

DEPARTMENT OF HEALTH & HUMAN SERVICES



Public Health Service

Centers for Disease Control  
Atlanta GA 30333

June 22, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, Colorado 81506

Dear Sir:

We have reviewed the Draft Environmental Impact Statement (EIS) for the AB Lateral Hydropower Facility. We are responding on behalf of the U.S. Public Health Service. We found the documentation for this project to be well done with a thorough analysis of potential impacts. This project, to develop hydroelectric power from the Gunnison River, appears to be a well justified project with minimal impact on the environment. Our review was limited to those impacts which could adversely affect public health and safety. In our review, we did not identify any significant hazards to public health or safety. Since the project will involve construction, we do advise close adherence to provisions of the Occupational Safety and Health Act.

Thank you for sending this document for our review. Please insure that we are included on your mailing list for the FEIS for this project as well as future documents with potential public health impacts which are developed under the National Environmental Policy Act (NEPA).

Sincerely yours,

*David E. Clapp*  
David E. Clapp, Ph.D., P.E., CIH  
Environmental Health Scientist  
Center for Environmental Health  
and Injury Control

**COMMENTS FROM STATE AGENCIES**







**S-1 --- S-4**

Steve McCall  
Page 2  
June 29, 1989

2300 South Townsend  
Montrose, Colorado 81401  
June 29, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, Colorado 81506

Attention: Steve McCall

Dear Mr. McCall:

The Colorado Division of Wildlife has reviewed the AB Lateral Hydropower Facility Project D.E.I.S. We offer the following comments on the project and document.

A. Alternative E, with a modification to provide minimum instream flows (60-80 cfs), on the Uncompahgre River between the Loutzenhizer Canal and Gunnison River confluence, is the Division's recommended alternative. This alternative allows greater flexibility for fine tuning the area's water system, while providing good benefit/cost ratio for the project proponents. The Lower Gunnison Salinity Project may have dramatic impacts on the hydraulic functions of wetlands, springs, and surface water flows in the Uncompahgre River. Flexibility to manage the AB Lateral Project in concert with the Dallas, Uncompahgre, Aspinall and Lower Gunnison Salinity Projects is an invaluable tool.

Development of a 950 cfs penstock would leave an additional 185 cfs, from the preferred action, which can be used to maintain minimum flows on the Uncompahgre River or enhance recreational uses on the Gunnison River during the peak summer use months. These additional water flows might also be used to maintain a fisheries in the South Canal, mitigate wetland losses associated with the lower Gunnison Salinity Project, or supplement agricultural or domestic uses as the Uncompahgre Valley continues to develop. The flexibility and cooperation of the Bureau of Reclamation and Uncompahgre Valley Water Users over the past decade is an excellent example of how the Division would like to see water management in the area continue.

B. The Division continues to be concerned about fish losses through the Gunnison Tunnel. Further discussion is necessary on what measures will be taken during the winter months to prevent fish losses when the South Canal is shut down. A sustained public beneficial use of trout passing through the Gunnison Tunnel is desirable. The Division also suggests further discussion on establishing safe, public fishing along designated areas on the South Canal to expand recreational areas and economical opportunities in the area. We will continue to work with B.O.R. and U.V.W.U.A. on these issues.

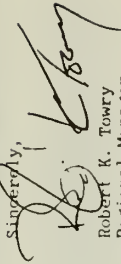
C. This project has potential to enhance fisheries, waterfowl and other riverine related wildlife values below the tailrace. Further

discussion of how the potential might be developed and managed are necessary. For example, if a good trout fisheries becomes established in the Uncompahgre River between Montrose and Delta, what steps will be taken within the confines of the project to maintain this fishery during the down time month when water won't be diverted through the tunnel?

D. River morphology below the tailrace needs further discussion. Project impacts on wetlands, riparian systems, overflow channels and stream bank stability are important issues. We recommend the river channel be maintained as natural as possible, emphasizing stream bank stability by maximizing management techniques which enhance riparian vegetation, overflow channels, and wetlands. Riprapping should occur only in sensitive agricultural areas and developed areas. This project provides an excellent opportunity to cooperate with landowners in the development of river management tools which will enhance wildlife habitat and land values.

E. There are many minor issues that will evolve as the project unfolds. The Division will work closely with the project proponents, B.O.R., and interest groups to resolve these issues.

Thank you for the opportunity to review and comment on this project. Please feel free to contact us if you have any questions on our comments.

Sincerely,  
  
Robert K. Towry  
Regional Manager

RK/RS/hb  
cc: B. Clark  
D. Langlois  
J. Olterman  
M. Stone  
Habitat Resources

# STATE OF COLORADO

## DEPARTMENT OF HIGHWAYS

222 South Sixth Street, P. O. Box 2107  
Grand Junction, Colorado 81502-2107  
(303) 248-7208



May 1, 1989

### S-5

Projects Manager  
Bureau of Reclamation  
P. O. Box 60340  
Grand Junction, Colorado 81506

Dear Sir:

The District III office of the Colorado Department of Highways has reviewed the proposed AB Lateral Hydropower Facility Draft EIS and we have the following general comments.

We request that the project continue to be coordinated with the Department of Highways office at P.O. Box 2107, Grand Junction, Colorado 81502 and that when plans for crossings of state highways in the area are developed we be given the opportunity to review those plans prior to our actually permitting the crossing areas.

We have no serious problems with the proposed project and will become involved in the project only during the permit/plan review of highway crossings by pen stocks or lateral channels.

We appreciate the opportunity to review this document and provide these comments. If there is a question concerning these comments, please give me a call here in Grand Junction at 248-7223.

Very truly yours,

R. P. MOSTON  
DISTRICT ENGINEER

BY: LAURENCE R. ABBOTT  
DISTRICT ENVIRONMENTAL MANAGER

LRA/rff  
cc: Siebels  
Barry/Cutler  
Moston/Perske  
File

## COLORADO DEPARTMENT OF NATURAL RESOURCES

### STATE SOIL CONSERVATION BOARD

DANIEL O. PARKER, Director  
Room 129, Horizon Building  
764 Horizon Drive  
Grand Junction, CO 81506-8720

Roy Romer  
Governor

### S-6 --- S-8

May 30, 1989

U. S. Department of Interior  
Bureau of Reclamation  
Project Manager  
P. O. Box 60340  
Grand Junction, CO 81506

Dear Sir:

Thank you for the opportunity to comment on the AB Lateral Hydropower Draft EIS.

We view this project as having--and feel it will have--a serious detrimental impact on the soil and water resources in the area for which we have been given partial responsibility to protect by the State Legislature. This project poses to be much more environmentally damaging than hydropower generation when done without using transtributary diversions.

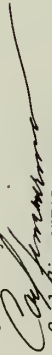
Streambank erosion is a serious problem that development alternatives will certainly perpetuate. Much of the Uncompahgre River channel consists of sand and gravel deposits which are very erosive when subjected to continuous flows that this report cites will take place. These alluvial materials will be deposited at bridges, irrigation facilities, or in the channel, causing further migration of the channel. These conditions will cause higher maintenance costs to land owners along the river, as well as higher costs to the public in added maintenance costs to public facilities along the river.

A marine formation known as Mancos shale underlies much of the Uncompahgre River. This formation is very high in salt and is a leading contributor to high salt levels in the Colorado River. In areas where lateral movement of the river is eliminated and water velocities are increased by pinching the channel with riprap, the streambed will degrade. As this occurs, water quality will also degrade from salt as well as from sediment. Deepening of the channel will impact riparian areas by lowering water tables, which, in turn, will reduce vegetation. As this riparian vegetation is reduced, the soil will become more subject to erosion. Wildlife habitat will be reduced, and the general health of the riparian area will be degraded as the water table is lowered through channel degradation.

We are also concerned that sustained lower flows in the Gunnison River will not maintain an adequate channel. Vegetation will encroach into the channel causing excessive scouring when high flows do occur.

The increases in salt and silt loading from high flows in the Uncompahgre and the impact they will have downstream are our main concern. Channel stability needs to be more adequately addressed before the project proceeds.

Sincerely,

  
Carl Zimmerman  
West Slope Representative

cc: Dan Parker



Roy Romer  
Governor  
Tom S. Hilly  
Executive  
Director

150

DIVISION OF LOCAL GOVERNMENT

Harold A. Knott, Director

June 19, 1989

Regional Environmental Officer  
Upper Colorado Region  
U. S. Bureau of Reclamation  
P. O. Box 11568  
Salt Lake City, Utah 84147

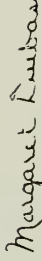
SUBJECT: Uncompahgre Valley Reclamation Project  
AB Lateral Hydropower Facility  
Draft Environmental Impact Statement

To Whom It May Concern:

The Colorado State Clearinghouse has received the above-referenced Draft Environmental Impact Statement and has notified interested state agencies. No comments have been received as of this date. However, should there be any late comments, we will forward them to you for your information.

Thank you for the opportunity to review this matter.

Sincerely,



Margaret Dubas, Staff Assistant  
Colorado State Clearinghouse

/md

ROY ROMER  
Governor



JERIS A. DANIELSON  
State Engineer

**OFFICE OF THE STATE ENGINEER**  
DIVISION OF WATER RESOURCES

1313 Sherman Street-Room 818  
Denver, Colorado 80203  
(303) 866-3581

June 20, 1989

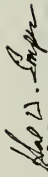
Mr. Rick L. Gold  
Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

Re: AB Lateral Hydropower Facility  
Draft Environmental Impact Statement

Dear Mr. Gold:

We have reviewed the above referenced document. Our comments in a letter dated April 19, 1988 concerning the draft Environmental Assessment still apply. We have no additional comments at this time.

Sincerely,

  
Hal D. Simpson, P.E.  
Deputy State Engineer

HDS/JCM:32621

cc: Tom Kelly, Division Engineer

**COMMENTS FROM PRIVATE ORGANIZATIONS**



Western Colorado Congress

Main Office  
7 North Cascade  
P.O. Box 42  
Montrose, Colorado 81402  
(303) 249-1978

Field Office  
1911 Main Ave.  
Suite 234  
Durango, Colorado 81301  
(303) 259-3583

21 June 1989

OR-1 --- OR-33

Steve McCall  
Projects Manager  
U.S. Bureau of Reclamation  
P.O. Box 603 40  
Grand Junction, CO  
81506

Dear Mr. McCall:

Western Colorado Congress (WCC), a grassroots citizens organization with over 1,000 members, submits the following comments regarding the Draft Environmental Impact Statement (DEIS) on the proposed AB Lateral hydropower project. These comments were prepared by many WCC members, including Steve Hinchman, Ginny Brannon, Scott Jorgenson, Stuart Krebs, Fred Wetlaufer, John Baldus, and Marv Balliantyne, and represent the official position of WCC.

Western Colorado Congress and two of its community groups --- Western Slope Energy Research Center (WSERC) and the Uncompahgre Valley Association (UVA) --- have thoroughly studied the AB Lateral DEIS. We have serious reservations about the project and are greatly concerned about the data included in the DEIS and the data not included. Given these concerns, we are supporting Alternative A, the no action alternative, and oppose any other alternatives outlined in the DEIS.

It is clear that the DEIS was prepared in great haste, leaving much important information poorly covered, undocumented, unstudied, unattributed, or just plain missing. No worst case analysis has been done for any part of the DEIS, despite large chunks of missing information. Numerous statements of opinion appear throughout the document, without any mention of their source or documentation. Any such statement must be disregarded, since the authors of the DEIS have much to gain from approval of the project and therefore cannot be regarded as impartial researchers.

PURPOSE AND NEED

The DEIS claims the purpose of the project is to produce electricity, develop a renewable resource, improve the UVMWA irrigation system, and pay off UVMWA debts.

To document need for electricity the DEIS cites a 15-year contract with PSCo to buy the power, beginning in 1992, and also cites figures and studies detailing PSCo projected needs for the

next ten years.

The DEIS, however, does not mention the fact that regionally there is a glut of surplus power which could be used to meet PSCo's needs, and that the need for AB Lateral power reflected in the contract with PSCo is artificially created by the Public Utilities Regulatory Policies Act (PURPA) of 1978. PURPA guarantees the sale of power from cogeneration projects such as the AB Lateral at rates equal to the cost a utility avoids by not having to build a new, large power plant.

After receiving the AB Lateral application for power sales under PURPA, PSCo asked the Colorado Public Utilities Commission (PUC) for a moratorium on PURPA contracts, stating that it did not want and couldn't afford all these new projects. PSCo specifically requested that the PUC not require PSCo to purchase power from the AB lateral project, and four others. That moratorium was granted for large projects. Mitex was originally included in this moratorium, but petitioned to be excluded and eventually was. A new system to regulate PURPA projects is now in place, but because PSCo had already received the AB Lateral proposal, it was forced (by the PUC) to continue negotiations in good faith, resulting in the cited 15 year contract.

A. The need for electricity cited in the DEIS is artificial and taken out of context. A broader look at the situation would show that the ability to meet all regional needs for electricity in the next 15 years already exists.

B. Furthermore, the Bureau's narrow analysis of need ignores the impacts the project would have on local electric utilities, power costs to the consumer, or conservation. While such an analysis is not required to be tied to each alternative (Bureau NEPA Handbook Section 4-8), it is required as an analysis of project impacts in section 4-10.F, "Energy requirements, conservation potential and effects on natural or depletable resources should be a part of the impact analysis."

1. Production of the 48-38 megawatts of power from the AB Lateral, with its guaranteed sale in a glutted market, would displace the same amount of power from elsewhere on the grid. That amounts to unfair competition with existing utilities. One of those, Colorado-Ute Electric Association, headquartered in Montrose, has substantial surplus capacity which it is offering for sale at discount rates.

Colorado-Ute's manager of electrical engineering, Raymond Keith, stated in the Grand Junction Daily Sentinel of May 29, 1989 that the 45 to 50 megawatts of power produced by the AB Lateral and sold to PSCo would displace about half of Colorado-Ute's present 10-year sales contract with PSCo. That contract expires when the AB Lateral is scheduled to go on line.

In the meantime, Colorado-Ute's surplus capacity and poor management have recently forced the utility into Chapter 11 bankruptcy. This is a substantial and significant impact to the region. While rejecting the AB Lateral project would not prevent the bankruptcy, it may aid in returning Colorado-Ute to solvency.

2. Another potential source of new power is conservation. Forced purchase of new capacity by PSCO or any utility delays the moment when the utility can economically institute reforms or measures aimed at conserving energy, or encourage its customers to build disincentives to conservation into the system, resulting in increased consumption of natural, non-renewable resources.

Relief we request:

1. A revised DEIS purpose and need section that discusses the need for electricity based on a larger regional context, present regional surplus capacity, and the need to keep utilities solvent.
2. A revised DEIS that includes in the impact analysis a section on how selling AB Lateral at high prices to a guaranteed market will impact other regional power suppliers, the future of regional utilities and the costs to consumers of this power.
3. If PSCO purchases Colorado-Ute its needs for power in the future will change significantly. That change must be reflected in a revised DEIS section on purpose and need.
4. A revised DEIS must take into account the project's impacts on conservation and depletion of natural resources.

#### SELECTION AND RANGE OF ALTERNATIVES

The Bureau of Reclamation (Bureau) National Environmental Policy Act (NEPA) Handbook and the Council on Environmental Quality (CEQ) NEPA regulations describe the alternatives chapter of an EIS as "the heart of the environmental impact statement."

CEQ regulations (1502.14) require federal agencies to rigorously and objectively evaluate all reasonable alternatives, including those not within the jurisdiction of the lead agency, in order "to provide a clear basis for choice among options by the decisionmaker and the public."

However, (with the exception of the No Action Alternative, A) the AB Lateral DEIS includes only alternatives (B,C,E,F) that are clustered on the high end of the scale of proposed actions. All divert large amounts of water year-round, generate substantial income for the project's sponsors, and have similar, significant

negative environmental, economic and social impacts to the surrounding region.

Reasonable alternatives that divert less water and subsequently generate less income but have fewer and less significant environmental, social and economic impacts are either not included in the DEIS or were dropped from study (F-3 through F-6, G, and H).

Only one alternative (F) proposes to mitigate some of the environmental impacts. However, its mitigation measures were vaguely and incompletely presented, and no studies were made of the effectiveness or viability of those measures. Meaningful analysis of this alternative in the DEIS is thus impossible.

A. The similarity of alternatives described in the DEIS and the lack of small scale project alternatives violates CEQ regulations requiring all reasonable alternatives be considered (1502.14). It further violates the Bureau's NEPA Handbook section 4-9B., which states: "Each alternative should be a distinctly different approach, and may emphasize the achievement of some objectives at the expense of others."

The current selection of alternatives doesn't allow for adequate analysis of the project by the reviewing public, which is being asked to comment on the diversion of a public resource for private gain. In fact, the skewed range of alternatives prejudices the DEIS and consequently the public and federal decision makers in favor of a large project with substantial and widespread impacts, even if the least damaging alternative is selected.

B. Alternatives dismissed from further study were eliminated based on secret economic data and an arbitrary and undisclosed determination of what amount of profit is acceptable to project sponsors.

1. The method of determining economic feasibility was presented in the DEIS as a benefit-cost ratio. Any alternative rating 1.00 or higher was considered feasible and retained. Those below 1.00 were considered infeasible and eliminated.

However, with a benefit-cost ratio of only 1.056 for the sponsor's preferred alternative (C), it seems obvious that there is a hidden margin of profit embedded in the numbers. No prudent investor would sink \$63 million in a project that only returned five cents on the dollar -- you can get a better return at the bank. The sponsors admitted in private communication with representatives of Western Colorado Congress that there is indeed an undisclosed figure in the benefit cost ratio on the cost side that represents the acceptable rate of return on the sponsor's investment.



Thus, the DEIS benefit-cost ratio does not represent a true benefit-cost ratio or even the actual economic feasibility of any alternative. Instead it represents the amount of guaranteed profit the sponsors desire before building any alternative.

2. Nowhere in the DEIS is this fact disclosed, even though the benefit-cost ratio used is described in summary on page S-11, and in extensive detail on pages 2.40 and 2.44. Instead, as on page 2.40, the benefit-cost ratio is represented as a strict comparison of the costs of building the project versus benefits to the sponsors: "The benefit/cost ratio for each of the alternatives (F-3 through F-6) is less than 1.0, implying that the costs of development incurred by the Sponsors are greater than the benefits."

The actual numbers remain unknown, as does the Sponsor's acceptable rate of return.

3. Because the benefit-cost ratio was used to determine which alternatives were included in the DEIS, because it was used to eliminate alternatives with lesser negative impacts from consideration as uneconomical; and because it can be further construed to mean all smaller scale projects are uneconomical and therefore infeasible; the omission of a description of the "acceptable rate of return" component of the benefit-cost ratio in the DEIS significantly influences the public, elected officials, and federal agencies' ability to review the project adequately.

This omission violates the Bureau's NEPA Handbook section 4-12: "The NEPA is not interpreted as requiring the release of proprietary information; however it is a full disclosure law and Federal agencies are expected to have and report sufficient information on the project to allow informed public review, and be able to make a responsible decision."

Instead, as presented in the DEIS, the benefit-cost ratio smacks of disinformation tactics. Moreover, the use of the word "implying" on page 2.40 is unusual in describing a factual statistic, and indicates that the Bureau, as author of the DEIS, knowingly covered up the true nature of the benefit-cost ratio.

C. The alternatives selected in the DEIS ignore proposals by outside entities to develop a profitable hydroelectric project on the Uncompahgre Valley Water Users Association (UWVUA) system. The alternatives also ignore the Bureau's own studies which have determined that a small scale project on the UWVUA South Canal is economically viable and attractive. This is a blatant violation of NEPA and CEQ NEPA regulation 1502.14.

1. The town of Norwood's current proposal to build a 900 cfs

project on the Uncompahgre Valley Project's South Canal was not considered. This proposal is smaller than the smallest alternative included in the DEIS (alternative E, a 950 cfs project on the AB Lateral), and is proof that small projects are economically feasible and should be included within the range of reasonable alternatives.

2. A 1980 report by the Department of Interior's Water and Power Resource Services, now the Bureau of Reclamation, titled, Report on Assessment of Small Hydroelectric Development at Existing Facilities, found the South Canal hydroelectric project (project #UC283132) to be among 37 highly attractive and economically feasible projects out of 159 sites studied nationwide.

D. The lack of medium and small scale alternatives has made it extremely difficult for the public, local governments and federal and state agencies to hold meaningful discussions about ways to lessen negative impacts while still generating revenue for project sponsors.

During an informal meeting of several parties participating in this NEPA process (Bureau, Mitex, UYVWA, DOW, WCC, and rafters, June 1, 1989 in Montrose, Colorado), talks were initiated to find such common ground. These talks, however, have been delayed because no such alternative is in the DEIS. It is likely that if a compromise agreement were reached, it would be for an alternative not covered in the DEIS, thus requiring the Bureau to revise and re-issue the DEIS.

We ask that the DEIS be revised to remedy current inadequacies. Specifically, we request:

1. Inclusion in the selection of alternatives examples of small scale projects that balance electricity and revenue generated against lesser environmental, social, and economic impacts.
2. Inclusion in the selection of alternatives existing proposals from outside entities, or:
3. Exclusion of those alternatives in a revised DEIS, but inclusion of a comparison of the Sponsor's proposed alternatives with those proposed by other entities, detailing power and revenue generated, and environmental, social, and economic impacts.
4. Use of benefit-cost ratios where 1.0 represents break even, or where the investor's acceptable rate of return and the difference that represents from break even is explicitly mentioned.

## IMPACT ON IRRIGATION SYSTEMS

In a discussion of the impact of construction alternatives on irrigation systems, the DEIS states on page 3-31, "the source of flows [referring to proportions of Gunnison and Uncompahgre water] would affect water quality considerations."

Since this statement is made in the context of irrigation systems which are specifically intended to serve cropland, the impact of these water quality considerations on cropland should be addressed. Yet nowhere -- not in this section, nor in the section on soils and vegetation -- is this done.

An adequate analysis of environmental impacts would at a minimum address the questions: Are the growth and yields of any of the usual or probable agricultural crops affected by these water quality deteriorations? Is the edibility or toxicity of any of these crops affected -- in the short term or in the long run?

The toxicity of Uncompahgre water has been reduced by the Ridgway Reservoir, but the dependence of the Uncompahgre Valley Water Users Association (UWVWA) irrigators on Ridgway Reservoir water will increase with the AB Lateral project. What is the net effect of this shift on irrigation and fisheries in the Uncompahgre?

## SOIL IMPACTS

Pages 3-98 to 3-101 of the DEIS include descriptions of the soils in the penstock area, but there is no mention of soils in either the Gunnison or Uncompahgre corridors. We assume that some soil does exist in these areas. Later reference in the soil section of the DEIS on vegetation is inadequate. These are important areas of concern, deserving serious attention. What soils are found in these riparian areas? What depth are they, and what underlies them? How many acres of each type? At what slope angles? At what elevations from the riverbed?

What are potentials for erosion under changed flow conditions? What changes may occur in soils productivity as a result of changes in water tables and river flows? What salts, minerals, and heavy metals do these soils contain? What is the potential for leaching?

Answers to these questions are critical to understanding impacts to the rivers' ecosystems. Since these questions were not studied, any conclusions drawn about impacts may be erroneous. These questions must be studied and documented by qualified scientists.

## VEGETATION, WETLANDS AND RIPARIAN HABITAT

### A. Gunnison River

The DEIS's analysis of Gunnison River vegetation is completely inadequate. A simple list of species is not considered scientific study. What amounts of what species are found, in what areas, in what ages, in what state of health, at what levels from the river, etc? What is the importance of these plant communities to mammals, birds, insect life, and endangered species?

The "inventory" of vegetation in the Black Canyon discussed on page 3-113 should not be confused with a true study, and cannot project impacts.

Page 3-113 mentions that "occasional high water would flood out certain areas." How often? How many acres? What changes would this cause in vegetation?

On the same page, it is stated that "reduced flows will not impact vegetation on the second terrace." However, according to Dick Guadagno, an engineer hired by Western Slope Energy Research Center to study the effects of the AB Lateral on riparian habitat, reseeding will be impacted. (His study is attached to this document). Guadagno states that as the riparian water table drops, "the greatest effect will be the inability of the vegetation to regenerate." (Guadagno, p.3). Some trees may adjust, but not all. Seedlings will never start. Changes in vegetation will then affect the area wildlife.

Data on the Gunnison below the North Fork is inadequate. ONE SENTENCE of the DEIS is devoted to discussion of vegetation in the lower Gunnison area! Again, what amounts? What species? What importance to wildlife? How will low flows affect the vegetation? What effect will a higher concentration of sediments and pollutants have? What effect will concentrated irrigation return flow have?

Assessment is also needed of the problem of winter kill (see Guadagno, page 3).

It is painfully obvious that no study of wetlands was done for the Gunnison, either above or below the confluence of the North Fork, since it is not even mentioned. We have the same questions about wetlands as we do about vegetation --- how many acres, how important to wildlife, etc.

### B. Uncompahgre River

Wetlands in the Uncompahgre River corridor are described in two sentences on page 3-110. To state the problem in the understated

style employed in the DEIS, more study is needed. Again, any conclusions about impacts drawn from such inadequate information cannot be considered reliable.

The National Environmental Policy Act (NEPA) requires full study of all impacts of all alternatives in the DEIS, in order to allow the public, local governments, and state and federal agencies to fully evaluate the proposed project. The AB Lateral DEIS was released, however, with only preliminary study of impacts to the Uncompahgre River corridor, and before in-depth studies on erosion, wetlands, and mitigation were completed.

This is a clear violation of NEPA and section 4-12 of the Bureau's NEPA Handbook: "Bureau policy is not to move ahead on proposals where relevant information is lacking so as to preclude the meaningful analysis of alternatives, impacts, or the means to mitigate impacts."

Overall, the Uncompahgre River is inadequately studied. Of course there are cottonwoods! But what else? How many acres? How close to the river, what elevation above the riverbed, for what percent of the river's course, in what areas, continuous or discontinuous, and of what importance to wildlife? A botanist should have been hired to study these issues.

On page 3-114, the description of impacts on the Uncompahgre lacks documentation and quantification. How many acres? How much erosion? Losses must be quantified. What species will be affected? Estimates cannot be reliable if based on inadequate studies. The information included in this portion of the DEIS is simply a set of opinions, not ascribed to any source.

1. Above the tailrace: On the same page, the discussion of the Uncompahgre River corridor lacks proper documentation and fails to mention drastic changes in wetlands from the South Canal to the powerhouse. How will it affect riparian vegetation? What subsequent changes in wildlife use will occur? In waterfowl?

2. Below the tailrace: Western Slope Energy Research Center (WSERC), a community group of the Western Colorado Congress, hired engineer Dick Guadagno to study the effects of the AB Lateral project on the riparian habitat along the Gunnison and Uncompahgre Rivers. His analysis is enclosed, as part of WCC's official comments. The DEIS failed to cover the issues Guadagno explored.

3. Tailrace to Delta: The DEIS identified erosion along the Uncompahgre River corridor below the tailrace as a significant problem, while at the same time it also says only preliminary studies have been made: "Preliminary studies conducted by the Sponsors indicated that about 25 percent of the river banks between the tailrace and Delta (26 miles) may require

treatment." (underlining and parenthesis added; page 2-16).

Bureau and DOW officials have said in private communication with members of WCC that contractors are currently in the field quantifying baseline conditions, wetlands, problem areas for erosion, bank stabilization methods, potential loss of wetlands from bank stabilization work, and mitigation. Information will be released in a report this summer.

The DEIS contains proposed bank stabilization measures, as well as a monitoring and future stabilization work program. The adequacy of these measures is suspect, but impossible to assess without information from ongoing studies. That information is also necessary to assess potential impacts to private lands, irrigation systems, public roads, bridges and parks, wetlands, riparian habitat and wildlife, mitigation for all of the above, project costs, and the benefit-cost ratios for each alternative.

No information is included regarding potential loss of wetlands due to canalization, concrete and rock rip-rap, the cutting off of meanders, revetments, etc. While the DEIS estimates that there are 5,000 acres of wetlands along the Uncompahgre corridor between the tailrace and Delta, no estimates of impacts or proposed mitigation for loss of all or part of these wetlands is included. Because the Clean Water Act 404 regulations require replacement of wetlands acre-for-acre, this is a substantial omission, affecting both the scale of negative impacts created by this project, estimated projects costs and the benefit-cost ratio of each alternative.

The DEIS also contains no mention of contracts for rights of way agreements for bank stabilization work on private property. Because such work will entail extensive construction and alternation of these private lands, this is a substantial omission which could affect the costs of each alternative.

No analysis was made in the DEIS of impacts to private and public lands, wetlands, riparian habitat and wildlife resulting from the construction phase of bank stabilization work. This work will require bulldozers, trucks, back hoes and other large equipment, which means temporary road construction and large work crews. If more work is required in the future, this could be an ongoing impact. Failing to address these impacts is a violation of the Clean Water Act 404 regulations governing impacts to wetlands and of NEPA. It could also substantially impact estimated project costs and the benefit-cost ratio for each alternative.

No details were included in the DEIS regarding a proposed sinking fund, which would cover the costs of continued monitoring and stabilization work on the Uncompahgre. It is likely such work would be extremely expensive. The cost of bank stabilization was

listed in the DEIS as one of the reasons for eliminating alternatives G and H from the DEIS as uneconomical. Moreover, considering the cost of such work from past floods in 1983 and 1984, it is important for the community to know how large the sinking fund would be, how long it would last, and who would be liable for damage and lawsuits from damage to property in the event the fund was depleted.

Guadagno suggests that the only way the AB Lateral could be constructed without destroying the Uncompahgre would be to build a concrete canal from the tailrace to Delta, to carry all excess flows in the Uncompahgre (Guadagno, page 6).

Relief we seek:

The above list of concerns on the Uncompahgre and Gunnison River's vegetation represents a massive body of information missing from the DEIS that is critical to public perceptions and ability to adequately evaluate the project. Moreover, the DEIS overlooks potential negative environmental impacts to wetlands, and threatened and endangered species habitat -- both impacts that must be quantified and mitigated according to Congressional policy and federal laws. It is unconscionable and also illegal to omit such information from the DEIS.

Further studies may result in significant changes in the proposed alternatives. Attempting to release the above information in a Final EIS or independent report without allowing public comment would also be illegal. A revised DEIS is necessary.

#### WILDLIFE IMPACTS

The assessment of wildlife (page 3-177) should include documentation of how many of each species are found in each area. Waterfowl on the Uncompahgre and lower Gunnison are not even mentioned. However, they do exist and will be impacted by the project.

More study is needed of the river otter (page 3-123). Quantification is lacking. According to the law, a "worst case scenario" must be studied.

The impacts of development alternatives (pages 3-124 to 3-128) on wildlife is not documented. The loss of wetlands estimate is an opinion based on inadequate study and therefore inadequate. Documentation is needed. Inadequate study of wetlands leaves us wondering what the impacts on wildlife will be.

For all endangered species, plans should be developed to mitigate impacts. No worst case analysis has been done for any wildlife, even though information on impacts is sketchy guesswork

at best.

#### Bald Eagles:

Page 3-121 does not mention how many eagles inhabit the river ecosystem below the North Fork. How many are on the Uncompahgre? More study is required by both NEPA and the Threatened and Endangered Species Act.

The DEIS points out on page 3-49 that the potential for ice development and formation exists with flows below 500 cubic feet per second (cfs). On page 3-48 it states that ice bridging and anchor ice will begin to form as far upstream as the Black Canyon National Monument.

Last winter, the Gunnison River below the North Fork confluence froze from bank to bank, severely restricting the amount of open water available for wintering bald eagles and waterfowl. Bald eagles primarily prey upon fish and waterfowl. With ice bridging the river bank to bank, the hunting and foraging area for bald eagles became extremely limited.

On page 3-12, the proponents suggest that below the tailrace of the AB hydro facility, the discharge of water from the hydroplant will keep the Uncompahgre River free of ice, providing potential habitat for waterfowl and eagles. But page 3-98 states the velocity of the discharges from the power facility will be too fast to support fish.

Also, ducks common to the area don't like fast water. If the water velocity below the tailrace won't support fish, it stands to reasons that duck usage will be minimal.

What is it that the project proponents suggest the eagles eat? With the Gunnison River frozen and no forage available in the Uncompahgre River, substantial negative impacts on the eagle seem assured.

On pages 3-120 and 3-121, the DEIS states that the Gunnison River is a high use wintering habitat for eagles, and that preservation of habitat is the key to the preservation of the bald eagle. To maintain the habitat, we need to maintain the flows of the regulated Gunnison River. The DEIS 3-121 states that little is known of the bald eagles' wintering habitat along the Gunnison River.

On page 2-33, the project sponsors propose to study the bald eagle after the AB Lateral project is built. Isn't this somewhat backwards? Shouldn't eagles and eagle habitat and usage be studied prior to the development of the project?

Also, the sponsors wouldn't study beyond the North Fork

confluence. Last winter, ten eagles wintered below the North Fork. Six bald eagles wintered near Austin and four more eagles wintered near Delta in the area of the Camel Switch Bridge. Any study must include these areas.

What will be done if the project Sponsor's surveys of the bald eagle show population decline? What studies are planned for other species, such as otters?

#### IMPACTS ON THE UNCOMPAGHRE RIVER

Although on page 3-67 the DEIS considers the improvement in water quality resulting from the Ridgway Reservoir when discussing the impacts of development alternatives, it does not consider these improvements when discussing either alternative A or existing conditions as they are evolving. As a consequence, the DEIS underestimates the impacts of development and underestimates the potential for a fishery in the Uncompahgre River above Montrose.

The average annual flows of the Uncompahgre River will be reduced to 65 cfs from 263 cfs under all the development alternatives. Average monthly flows will be reduced to as low as 24 cfs. This has a negative economic and aesthetic impact on the Uncompahgre River through Riverbottom Park in Montrose. None of the development alternatives alleviates this problem. We find this to be unacceptable.

#### IMPACT ON GUNNISON "WILD AND SCENIC" DESIGNATION

The Gunnison River is recommended for Wild River designation. All of the development alternatives have a negative impact on the two major criteria that make the Gunnison eligible for this designation. WCC has been advocating Wild River designation for eight years, and we feel that this project presents an unacceptable hurdle to that process.

#### STATISTICS

The Bureau's model estimating flows in the Gunnison River downstream of the point of diversion for the AB Lateral may have numerous errors. It has resulted in significantly different numbers for flows in the case of the no action alternative A, when compared to the historical numbers as read in the actual United States Geological Survey (USGS) measurements.

The effect of this is to make impacts of the project appear significantly less when compared to the no action alternative A than when compared to the real numbers in the USGS records.

Considering this difference -- which is important to the perceptions and ability of the public, local governments, and

state and federal agencies to evaluate the project -- the Bureau must list the model's assumptions and methodology in the appendix of a revised DEIS as required by the Bureau's NEPA Handbook section 4-4.

#### EFFECT ON FISHERY IN THE GUNNISON RIVER

The existing fishery in the Gunnison River is of extremely high quality. Of particular concern to us is the effect the project would have on the Gunnison River from the Smith Fork to Delta, because it is the most accessible stretch of river and will be most affected.

It has been well documented that rainbow trout become stressed above 70 degrees Fahrenheit. Below the North Fork, temperatures exceeding 70 degrees will be reached regularly, as a result of low flows caused by the AB Lateral diversion.

For the trout, trouble starts somewhere between 68 and 75 degrees, depending on the species of trout, how active it is, and how turbulent the water is (that is, how many white water bubbles there are). The frothier the water, the more oxygen is getting into it.

As the temperature climbs, two things happen: the amount of oxygen the water can hold decreases, and the trout's metabolism increases at a furious rate. He's burning up that precious oxygen that gets scarcer as the sun gets higher. If the temperature gets too high, he'll suffocate. Trout react to this danger first by decreasing their activity levels. You'll most often see this in the dog days of summer when daytime temperatures climb into the 70's -- the fish will sulk on the bottom, and nothing will induce them to feed.

It is suggested on page 3-49 of the DEIS that minimum flow periods of 300 cfs would increase with the project and temperatures could increase to approximately 68 degrees at the North Fork. At this temperature, growth potential begins to decline. The summer of 1988, a 69 to 70 degree temperature was reached at the North Fork confluence, though the highest monthly average at the confluence was 64 to 65. The highest daily temperature at Austin was 77 degrees. The highest monthly average was 68 to 70 at the Austin bridge. These figures are based on information obtained from the Colorado Division of Wildlife (DOW).

On July 31, 1988, the river had reached 72 degrees. The river remained in a temperature range of 68 to 72 throughout the month of August.

Carp have been referred to as being detrimental to many game species. They're capable of living in warmer, and less

oxygenated water than can be tolerated by game species. They require less oxygen than bass and trout, and with other rough fish, they may be able to crowd the water and consume much of the remaining oxygen. Will these creatures browse in the North Fork to Austin section of the Gunnison River contentedly, while the trout die of suffocation? Are we upsetting the checks and balances of the river -- sufficient predators and competition among species, fewer consumers of oxygen, appropriate water temperature, flow rate and nutrients that now exist in the Gunnison?

Rocky Mountain Streamside, a publication by Colorado Trout Unlimited, featured an article by Bob Behnke called, "Hooking Mortality: Thoughts on the Barbless Hook." Dr. Behnke comments, "Factors that increase mortality of released fish include water temperature. When water temperatures warm to 60 degrees and above, mortality of released fish can be expected to significantly increase."

Low flows will stress these fish.

The trout fishery in the Gunnison Gorge and the North Fork sections have good to excellent wild trout populations. There are now 600 fish per mile, 16 inches or better, in the Gold Medal waters of the Gunnison Gorge. Below the confluence of the North Fork and Gunnison Rivers, the trout population has 10 times the number of 16 inch trout as there were in 1981. In this nine mile section of stream, the wild trout population has dramatically increased. In 1982 there were 5,000 trout. In 1986 there were 5,493 trout. In 1987 there were 11,700 trout.

In 1988 The Colorado Division of Wildlife sampled the trout population in the Gunnison from the confluence down to Austin, as they have done since 1981. This information is being compiled by Barry Nehring of the DOW.

In this analysis, the DOW states the total trout population for the North Fork to Austin section of the Gunnison River is at an all time high. They estimate it to be as high as 14,600 fish. That's an increase of 2,000 fish in 1988.

The average size and age data for Rainbows and Browns indicate the average size of Rainbow and Brown trout in this section of river are larger on average at every age in 1988 than their counterparts upstream in the Gold Medal waters. This indicates that these trout downstream are growing faster than the trout in the Gold Medal Waters.

In a story in the Denver Post (Thursday, August 20, 1987) by Charlie Meyers, Mr. Meyers interviewed Barry Nehring of the DOW. The article states that the DOW expects the Gunnison to keep improving, particularly if the Bureau cooperates in regulating

flows from the three reservoirs upstream. Improved hatches of Rainbows in 1986 and an excellent reproduction in the spring of 1987 were viewed as a portent of grand things to come.

Nehring adds, "The Bureau of Reclamation's attitudes are changing with the realization that in the years ahead, outdoor recreation will be a bigger factor in the economy of the Western Slope than agriculture. We're making great strides in flow management."

In correspondence with the Bureau of Reclamation in 1988, Nehring stated, "Since 1986, the United States Bureau of Reclamation has minimized flow fluctuations during the emergence period. As a result, the Gunnison River presently has the three strongest successive year classes of trout (1986, 1987, and 1988 observed since 1981)." These years had high and fluctuating flows.

Again, these strong classes of trout in 1986, 1987 occurred in flows above 300 cfs -- so it is clear that successful recruitment class can occur above 300 cfs with minimized flow fluctuations.

However, as evidenced in the discussion above, numerous stress factors are created by 300 cfs flows. Western Colorado Congress questions the overall longterm impacts to the Gunnison Gold Medal fishery -- especially the section below the Smith Fork -- from the project.

It just doesn't make sense to base flow levels for the entire population of trout on the physical analysis for fry. It is clear in the environmental assessment released last Spring that optimum adult habitat occurs at around 600 cfs (figures 11 and 12, Chapter III, pages 14 and 15), based on models weighted usable area. Page 16, Chapter III of the environmental assessment (figure 13) demonstrates habitat availability at various flows on the Gunnison River near the North Fork is optimum at 500 cfs.

Gunnison Toxics:

A flash flood somewhere in the drainage could transport some toxic substance into the drainage and there will not be enough water to dilute the toxicity of the substance. There was once such an incident in the Chukar Trail section of the river. A tremendous flash flood which had occurred in a side drainage entered the river at the Chukar Trail, depositing logs and debris six feet above the trail in the draw entering the river. As a result, there was a great number of dead fish along the banks of the Gunnison above the Ute trail. To this day, you'll see the evidence of this flow out at the Chukar Trail where the earth has been washed into the stream bed, narrowing the river channel and creating a rapid at the base of the Chukar Trail. All kinds of

heavy metals can be carried into the river in these washouts. And we won't have adequate stream flow at 300 cfs to dilute these toxins.

#### ECONOMIC IMPACTS

According to an article in the Grand Junction Daily Sentinel, \$108,936,000 was spent on hunting and fishing in the Gunnison River area of our state (Gunnison, Mesa, Delta, and Montrose Counties) in 1988. In that article, Dennis Luttrell of the Colorado Wildlife Commission said, "What is more cost beneficial, bringing in money each year from hunting and fishing, or building a subdivision and destroying that habitat?"

The Montrose Daily Press Friday January 27, 1988 headlines that tourism is the brightest spot in the local economy. The Gunnison River is a critical part of our tourism and recreation future.

Christopher K. Blackwood, Director of Economic and Financial Research for Kircher Moore and Compact stated that, "Tourism is the brightest spot in the local economy. Counties in southwestern Colorado should nurture the growing industry. Steady growth in retail sales throughout Region 10 is fueled mainly by increases in hotels and lodging. Sales in hotels and lodging have increased between 9 and 17 percent annually since 1985. The sales in hotels and lodging increased from \$11.8 million to 29.3 million dollars. The tourism effort locally has really begun to pay off. The prospects in the future are for a larger market share of tourists, if it's marketed correctly."

Recreational use of the Gunnison is on the upswing. Jerry Mallett, Executive Director of the Western River Guides Association, has said of the Gunnison Gorge, "I watched river traffic double every year for more than a decade."

Jon Sering of the Bureau of Land Management commented at a Region 10 meeting Wednesday, January 20, 1988 that, "recreational usage of the Gunnison Gorge is increasing more in usage than any other river system in the state of Colorado. In 1986, about 2,400 visitor user days were recorded in the Gorge, and in 1987 user days increased to 3,500."

The Gunnison River is so popular that in the Spring of 1988, the Bureau of Land Management announced a moratorium on commercial outfitter use in the Gunnison Gorge. The moratorium is the result of what the Gunnison Gorge Advisory Group (made up of outfitters, conservationists, environmentalists, and recreational users of the Gunnison) saw as over-use of the area.

The AB Lateral poses long term economic disaster. The long term economic costs associated with the AB Lateral have not been adequately addressed by its proponents. Further, most of the economic costs which are outlined in the DEIS are underestimated and unsubstantiated.

1. Costs which have not been addressed:

liquid gold for a seemingly ever-expanding commercial, tourism and service market." (anonymous forest researcher. Source, HDR Engineering).

Costs to Montrose and Delta in terms of the effect of a deteriorated Uncompahgre on economic development are not assessed. When new businesses contemplate moving to an area they often look at the overall environmental appeal of the community. The severely reduced flows in the Uncompahgre through Montrose (at best, 25% of present flows) and much higher flows below Montrose near Delta (350% increase) will serve as more a deterrent than an attraction for prospective new businesses. We need to implement economic development strategies that will sustain long term economic development.

The long term potential costs could be much more severe than the EIS indicates. If the Gunnison's resources are further taxed, the scarcity of water ten or more years down the road could lead to economic hardship for the region.

The costs of business losses from those that are located in the area designated for construction have not been addressed. Also, home owners who have to endure the unattractiveness of the construction have not been mentioned. Will there be compensation?

## 2. Costs which are underestimated/unsubstantiated:

The costs which the DEIS does address comprise the products of expenditure days and user days of anglers and rafters. Most of this data is underestimated and was not generated through scientifically designed samples. For example, boater day totals were obtained from registration and observation. Unfortunately, most private rafters do not register and observation is not accepted as a method of obtaining a statistically significant sample. Without confidence levels and error estimations the numbers are meaningless since there is no way to ascertain their accuracy. For another example, the expenditure data for lodging, transportation, and food was supplied by the Public Information Corp. When asked for statistics and sampling methodology for their seemingly low numbers they responded that the files from that survey (which was state-wide and not site specific) were closed and they did not know where they were. Also, the survey was conducted three years ago and the numbers were inflated to 1988 values using the GNP Implicit Price Deflator. However, given the Fed's sensitivity to inflation, national price increases have been moderate. Therefore, given the increased popularity of the Gunnison, it is possible that local prices for lodging, transportation, and food have increased faster than the national rate of inflation. More research is needed here to ascertain at what rate prices have increased locally.

There are intrinsic costs embedded in water diversion from the Gunnison and the resulting deterioration of the river which cannot necessarily be detected through direct dollar outlays. Many environmental economists employ contingent valuation methods (CVM) using willingness to pay (WTP), and willingness to accept (WTA) inquiries to capture consumer surplus. For example, a tourist comes to the Montrose/Delta area to raft the Black Canyon of the Gunnison and spends \$250 for a weekend. However, when asked how much he/she would be willing to pay to raft the river in its present state the tourist responds, "\$400". Given the tourist's demand for the activity, he/she is enjoying a consumer surplus of \$150 which would be lost in the event of water diversion. Instead of an open ended question, an iterative approach may be utilized where respondents answer yes or no to a series of stated dollar amounts until their maximum WTP/WTA is obtained. Regardless, a comprehensive economic cost analysis should include consumer surplus' as well as direct outlays. Presumably, the cost estimates in the DEIS are low since they do not assess the former.

Alternatively, travel costs methods (TCM) can be implemented to more accurately assess the costs associated with the deterioration of a recreation area. In this case the surveyor asks the recreationist what costs were incurred in travel to the specified site. The assumption here is that the area is worth at least as much as that spent in travel. Presumably, the travel costs associated with the Gunnison are significant since at least half of the area's users are non-local and the Gold Metal Trout Fishery has been awarded national acclaim.

CVM's and TCM's have been aggregated from 120 outdoor recreation studies to derive an estimate of nonmarket demands by type of activity. Cold water fishing carries a national mean value of \$30.62 per user day and ranges between \$24.27 and \$36.97 within a 95% confidence level (Studies from 1968 to 1988, adjusted to third quarter 1987 dollars. Source, HDR Engineering).

The importance of recreation to Montrose and Delta relative to the large scale tourism losses associated with the water diversion from the Gunnison are inadequately addressed. Tourism in Montrose County is expected to generate \$21.343 million and \$22.497 million in 1989 and 1990 respectively. Delta county is expected to enjoy revenues of \$10.394 million and \$10.956 million in 1989 and 1990 respectively (Colorado Tourism Board). Clearly, a significant portion of these revenues are due to fishing and rafting activities on the Gunnison. In addition, as free flowing water becomes more of a scarce resource and the Gunnison's national acclaim and popularity become more widespread, rafting, lodging, and food will command much higher prices, suggesting even higher revenues. "Water is a magnet for recreation and



Bureau officials and the Interior Department's Solicitor's office stated that the document was mistakenly referenced in the 1988 EA and cannot be released because it contains trade secrets of a proprietary nature associated with Mitex being able to negotiate in good faith with UVMWA. The Bureau withheld portions of the document that included reference to two alternative hydro sites, all financial considerations, descriptions of planning studies, hydrologic analysis, description of design elements, and descriptions of contractor services.

Portions of this information are necessary to determine if smaller projects with less damaging environmental, economic, and social impacts are economically feasible, and at which locations; to compare alternatives; and to determine the potential of and liability for cost overruns and project delays, which in turn will affect the economic feasibility of the Sponsor's contract with Public Service Compact (PSCO), the purchaser of power produced by the contract.

C. Lease of Power Privilege (Bureau) and Distribution of Profits:

The project is labelled a "money-maker" by the Sponsors and Bureau, and in the DEIS alternatives were rated based on maximization of profit.

While the Sponsors have actively campaigned for this project by stating it will earn a substantial amount of money for the UVMWA farmers and benefit all local businesses, the DEIS does not indicate how much money will be made, how profits will be distributed and among whom. All documentation detailing such information has been kept confidential, except for the generic statement in the DEIS that income generated will go to Mitex, UVMWA, and the U.S. Treasury.

As this is a public resource, the public has a right to know approximate amounts and division of income. Indications are that the bulk of revenue this project will generate will go to Mitex. Not only is this money going out of the region and out of the state, but since Mitex is owned by a French corporation (Sith-Energies, Inc.), it will go out of the country. The degradation of a local and national resource of significant value for the benefit of a foreign investor is a significant issue about which the public has a right to know.

Furthermore, while it is not stated in the DEIS, the portion of the money that goes to the U.S. Treasury goes to the Reclamation Fund (this is a result of a lease of power privilege that must be granted by the Bureau, which still owns the UVMWA system). The Reclamation Fund is an account set up by Congress where income from existing Bureau projects is deposited to fund future Bureau

projects.

There is some question as to the objectivity of a lead agency (in this case, the Bureau) in an EIS process which stands to benefit materially from development of the project, yet has not publicly disclosed, or even discussed, that gain.

WCC requests the following relief for the aforementioned shortcomings:

1. Publication in a revised DEIS of the elements of the Mitex-UVMWA contract regarding the source and method of project financing, division of profits, and liability.
2. Release of the relevant portions of the Sponsor's Proposal for Development Services of January 3, 1986; and inclusion in a revised DEIS of descriptions of project financing, alternative project sites, project costs, and contractor services.
3. Publication in a revised DEIS of detailed estimates of the revenue the project will generate and how that will be distributed, including estimates of the share going to the Reclamation Fund.

#### DEIS PARTICIPANTS

A. The DEIS list of preparers does not include the names of employers of people listed.

There is a possible violation of the CEQ NEPA regulations section 1506.5.c, which requires contractors participating in a DEIS to be hired by the lead or cooperative agency; and to sign a disclosure statement specifying that they have no financial or other interest in the outcome of the project.

It is of great concern to us that Mitex, the project sponsor, was mandated to select the contractors for the work of the DEIS. The Bureau of Reclamation seems to have undue faith in Mitex's commitment to ensuring accurate, unbiased studies and findings in the DEIS. Allowing Mitex to select the DEIS contractors is like letting the fox design the henhouse.

HDR Engineering Inc., a contractor hired by the Sponsors, was a major contributor to both the Environmental Assessment and the DEIS. The company was also the contractor that wrote the January 3, 1986 Proposal for Development Services, which contained the initial proposal and details for the AB Lateral project. That document states that HDR will design plans and specifications for intake works, penstock, powerhouse and electrical systems, and serve as the consulting engineer for the selected general contractor.

Low numbers included the angler day estimate, lodging, transportation, and commercial rafting. The footnote associated with the angler days suggests the data is from 1988 but it is really from 1982-83 and the actual estimate is 14% higher (it is 13,055 obtained by dividing 52,219 angler hours by 4 rather than 11,286).

The mean lodging costs for Delta and Montrose, one person, one bed is \$30. The average is only around \$19 (EIS estimate) if two people are sharing the same room. The question is to what extent do tourists share rooms or prefer their own rooms. Transportation expenditures are thought to be \$2 in the EIS. Since approximately 50% of the Gunnison's users are non-locals, we can assert with great confidence that this estimate is low. \$69 for commercial rafting is low. According to Jon Serling of the BLM, commercial fishing trips cost \$150-200 per person per day, and average two to three days. The average cost of a one-day whitewater trip is \$90. These figures do not include the cost of shuttle drivers, take-out fees, etc that both private and commercial rafters must pay.

In addition, because of the distance most users of the Gunnison travel, these rafters stay in the area longer than just the time they spend on the river. For instance, a rafter probably spends at least one night in the area before and after the trip. Extra time involved should have been included in the economic survey.

Another problem with the economic data presented on rafting in the DEIS is its assumption that boater days will remain at the 1987 level under the No Action Alternative. 1987 was a truncated season, as the river was cut to about 600 cfs in August of that year. Even if the season had not been cut short, it is not appropriate to assume that rafting is a no growth industry. Rather, we should assume that rafting will increase as years pass, so that the 1987 boater days will be lower than those of future years.

Additional questions surround the RIMSII multiplier used in the EIS, 1.6284, to generate total regional sales estimates from total expenditures. Is the data in RIMSII disaggregated by type of tourist? I don't know but the question came to mind since it has been estimated that angling expenditures produce a multiplier effect which ranges from 1.7 to 2.6 (HDR Engineering).

At any rate, the economic analysis presented in the DEIS is sloppy and incomplete. We need to assess all the costs in a coherent and meaningful fashion in order to evaluate the AB Lateral's legitimacy. Moreover, we must carefully guard Montrose and Delta's primary assets, the Gunnison and Uncompahgre, if we wish to support and maintain long term, stabilized economic growth.

## FINANCIAL INFORMATION

The financial information necessary for the public, local governments, and state and federal agencies to adequately evaluate the proposed AB Lateral project and its various alternatives was not released in the DEIS and has been kept confidential despite repeated requests from citizens and public interest groups.

Such information includes portions of contractual agreements between Mitex and UJVWUA, project costs (design/construction, land acquisition, environmental mitigation, financing, legal fees and administrative costs), economic liability, and division of profits.

Without this data it is impossible to fully analyze the adequacy of the Sponsor's proposal or comparable alternatives, as well as to evaluate the potential for cost overruns, the adequacy of proposed environmental mitigation, economic liability and the value of this project to the local and regional economy. As mentioned previously, the need for this information is addressed in section 4-12 of the Bureau's NEPA Handbook.

Lack of this information has triggered FOIA requests and a Congressional inquiry from Representative George Miller (D-CA), Chair of the Subcommittee on Water and Power Resources of the House Committee on Interior and Insular Affairs.

### A. The contract between Mitex and UJVWUA:

The Sponsors and Bureau have refused written requests by public interest groups as well as members of UJVWUA to review this contract.

While the AB Lateral project is being touted as a major economic benefit to the local community which entails no liability for the local water users, the Sponsors have refused to release the one document that details the method and ability of Sponsors to fund the project; how much revenue will be generated; who gets it and how it will be divided; and who is liable if the Sponsors default on loans in the case of cost overruns, natural disaster or lawsuits stemming from damage to private property.

B. Proposal for Development Services, submitted to the Bureau by the Sponsors on January 3, 1986:

Even though this document was referenced in the 1988 Environmental Assessment (EA) of the AB Lateral project, and therefore legally must be released if requested, the Bureau and Department of Interior have withheld the bulk of this document from several FOIA requests by Mr. Mark Silversher and a written request from Western Colorado Congress.

HDR contributed to the EA and the DEIS any studies other than the design elements of the project. This constitutes a violation of NEPA regulations 1506.5.G.

There are similar questions about EMANCO, a contractor apparently hired by the Sponsors which has contributed numerous studies to the EA and DEIS.

Western Colorado Congress cannot support any of the development alternatives in the DEIS, and we remain greatly concerned about the improprieties and clear violations of the law which have taken place in the preparation of the DEIS. We respectfully request that the Bureau of Reclamation release a revised DEIS which addressed the concerns we have outlined above.

Sincerely,

*Fred Wetlaufer*  
Fred Wetlaufer  
President  
Western Colorado Congress

Enclosure as stated

cc:  
Environmental Caucus  
Colorado Environmental Coalition  
Sierra Club Legal Defense Fund  
Trout Unlimited  
Senator Armstrong  
Senator Wirth  
Representative Campbell  
Governor Romer  
Division of Wildlife  
U.S. Fish and Wildlife Service  
U.S. Army Corps of Engineers  
Environmental Protection Agency  
Colorado-Ute Electric Association

## Environmental and Economic Analysis of AB Lateral Project

The following report is the result of a study made by James R. Guadagno (Colorado Professional Engineers' License No. 13854) under contract to the Western Slope Energy Research Center. The study was restricted to the potential effects of the construction of the AB Lateral Hydropower Facility on riparian habitat along the Gunnison and Uncompahgre Rivers, and manifestations of these effects on the economic feasibility of the project.

### A. The Present Riparian Environment

The character of the plant growth which occurs along stream-sides, commonly known as riparian vegetation, together with the nature of the wildlife which exists in such habitat, is determined by a complex interrelationship among such parameters as the type and depth of the soil found along the streams, periodic replenishment of this soil by floods, ambient temperatures, precipitation, supplemental ground and surface water supplied to the soil by the stream, and the seasonal variation of all of these parameters.

In the portions of Delta and Montrose counties which would be affected by the construction of the proposed AB Lateral Hydropower Facility, annual rainfall is quite sparse, ranging from about seven inches per year to no more than twice that amount. Thus the existence of the riparian habitat along both rivers is dependent almost entirely upon both soil and water supplied by the streams themselves. For centuries in the past, this soil and water supply was very reliable, and when combined with the effects of a relatively long growing season in the area, it led to the development of riparian growth which is quite rich in both the variety and abundance of plant species. This, in turn, has led to a parallel development of an equally rich animal community, particularly with regard to the numbers of birds.

While many types of plants grow in riparian areas along these two rivers, the dominant species, and an obvious indicator of the health of such habitat, is the Fremont cottonwood. It grows naturally everywhere, with two exceptions: areas where soil is too thin, too dry, or too rocky, and other areas where a surplus of water has created wetlands instead. A survey of the pattern of this indicator species along the streams shows that it is found in quantity only where soil deposition, rather than erosion, is taking place. This occurs where the stream gradient is relatively low, and where the flood plain is relatively broad. In most of the Gunnison Gorge, where the canyon walls are made of rock or steep clay cliffs, and where active erosion is occurring, riparian habitat is scarce. The soil being deposited in other areas is washed down from the high mountains by the steep, fast-flowing Gunnison and Uncompahgre rivers and their tributaries. Without this erosion and deposition, riparian habitat along the lower stretches of the rivers could not exist.

During the last century, however, the equilibrium conditions which led to the creation of this rich habitat have been upset by man. Earlier diversions from the two rivers for irrigation had minimal effect on the soil regime, since the deposition which took place during the April-June runoff season occurred at a time when diversions were relatively low; this deposition was easily able to replace any soil lost to erosion. With the construction of Paonia Reservoir, the series of dams along the main stream above Black Canyon National Monument, and the Ridgway Reservoir, however, the amount of sediment has been greatly reduced. This has been in part counteracted by lower flows in the rivers due to increased diversion, thus maintaining a kind of uneasy equilibrium which has allowed the riparian habitat to survive, at least in the short run. But there can be no doubt that this riverine environment has already been severely stressed, and is subject to drastic alteration by any new changes in flow pattern, regardless of the direction of these changes.

The El Nino years of 1983-84 taught us much about the nature and needs of riparian vegetation. The unprecedentedly widespread flooding during this period demonstrated that the bulk of the streamside soils which nourish such vegetation are deposited during only a small fraction of the time. It also showed us that periodic recharging of these deposits with water during peak runoff is critical to the maintenance of healthy riverine growth. During this period, millions of new cottonwood trees sprouted and grew, whereas virtually none had successfully taken root for many years previously. This explains the growth pattern of many cottonwood groves throughout the region: a staircase pattern of clusters of even-aged trees, with few others with ages in between these. It is obvious that nearly all of the cottonwoods have taken root during such rare years of heavy runoff, whereas few of them can sprout in an ordinary year.

Since the effects on the two rivers due to the construction of the proposed AB lateral power project will be so different, they will be treated separately.

#### B. Effects on the Gunnison River

The area of greatest concern if the proposed power plant is built is that stretch of the river between its confluences with the North Fork and the Uncompahgre (while the effects described here will also occur above the upper junction, it will be lesser in extent, since less riparian habitat exists there). Unfortunately, any effects on this section of river have been overlooked in the Bureau of Reclamation's Draft Environmental Impact Statement.

Because of the storage and diversion of water upstream in the Gunnison Gorge, the riparian habitat along this stretch of river is now largely dependent on flows from the North and Smith Forks for both soil replenishment and sediment recharge water during the spring and early summer months. During the remainder of the year, and particularly in winter, the higher flow from the main stem is critical to the maintenance of some semblance of health of this growth.

It is probable that some damage to the water supply of these

riparian groves has already been done, especially since the construction of the Aspinall series of dams. Such damage is very difficult to measure, however, since many years may elapse before it becomes evident. As the riparian water table drops, the larger trees can send their roots down deeper in search of water, and will thus be able to maintain themselves for a long time before drying out and dying. Ironically, the younger and smaller cottonwoods (together with smaller trees and shrubs of other species) are likely to be the first to succumb to the deficiencies of a lowered water table. In the long run, however, the greatest effect will be the inability of the vegetation to regenerate. Existing groves may persist for several decades after such an event, not showing much visible change, until the largest specimens finally begin to die. When this finally occurs, however, the grove is gone forever; the microclimate which has fostered its existence has been irretrievably altered, and the environment has been permanently altered toward a more arid regime.

There is no doubt that lowering the flows of the Gunnison River still further through the additional diversion of upstream water for power generation will severely aggravate an already critical situation. Moreover, the proposed seasonal power production pattern will also introduce another factor which is likely to accelerate this deterioration greatly: winter kill. When the state of Colorado was first settled by people from the eastern United States, the immigrants tried to bring part of their heritage with them by planting many varieties of deciduous trees native to their previous homes. They soon found that these trees were prone to die during the winter months. At first, they attributed this mortality to some vague "severity" of the western winter climate. It was only a few decades ago that it was determined that "winter kill" was due instead to a drying out of the roots of the trees, and not to cold temperatures, and that it took place more often after the milder winters.

Cottonwoods and other riparian plants are also subject to winter kill. They need moisture in the soil surrounding their roots even during the period of dormancy. The persistent lowering of the winter flow of the Gunnison River due to power plant diversions will inevitably result in a concurrent lowering of the riparian water table. Trees -- even large ones -- growing now at the upper edges of the riparian habitat zone will feel the effects of this much more quickly than they will the effects of summertime water shortages. Thus the disappearance of the existing riparian vegetation could be greatly accelerated, as well as aggravated, by the proposed diversion of water out of the Gunnison River for power generating purposes.

The Bureau's DEIS states that the riparian zone will merely be displaced toward the smaller stream which will remain in the former river bed. But this is not strictly true. While some riparian habitat will remain, it will be far more restricted than that which exists today. The new streambeds will be lined with cobbles instead of the rich alluvium which characterizes today's river groves. This is not an attractive environment for the growth of trees or shrubs. Moreover, it is likely to take many decades before any significant alteration of these conditions

will occur due to the deposition of sediment along the new stream boundaries. This is due to the reduction in sedimentation which has already resulted from the construction of upstream reservoirs and which will be even further aggravated by the additional power diversions. The primary source of sediment, in fact, is likely to come from erosion of the desiccated banks currently occupied by riparian vegetation. Then many additional decades -- or perhaps even centuries -- must elapse before plants growing on this narrowed verge can attain the state of growth achieved by those of the present riparian zone. And the extent of the growth could never reach that which exists today. Thus it is inevitable that the construction of the power project will result in the permanent decimation of the rich riparian habitat which now exists along the Gunnison River.

#### C. Effects on the Uncompahgre River

The situation regarding changes along the Uncompahgre River would be quite different; here we are dealing with the effects of greatly increased flows, rather than reduced ones. The Uncompahgre River between Montrose and Delta, while appearing to traverse a flat plain, actually has a very high hydraulic gradient for a river of its size. This high gradient has been maintained in the past because of a state of equilibrium which has been achieved between the large amount of sediment brought down by the river from its headwaters in the San Juan Mountains to the south and the relatively small flow of the river.

Events of the past few years, however, have upset this equilibrium in a number of ways. First of all, the construction of the Ridgway Reservoir has interrupted the supply of sediment, excepted for that furnished by Cow Creek and a few smaller streams. This change alone would have resulted in increased net erosion below the reservoir, for two reasons. First of all, clarified water has a greater ability to erode sediment than that which is loaded with silt. Secondly, the sediment which is being eroded away today below the reservoir will no longer be replaced by other sediment brought down from above.

Considering the effects of the Ridgway Reservoir alone, however, we find compensating factors at work. The intended purpose of the reservoir was to provide additional water for increased demands due to projected growth in the downstream area. These increased diversions would have reduced flows in the stream, counteracting to a certain extent the effects of the smaller sediment loads and clarified water, and resulting in a lesser alteration of past patterns.

It is now becoming apparent that this projected demand for water has failed to materialize, and that these diversions will not occur. Downstream erosion can indeed be expected to increase as a result of the construction of the Dallas project alone, an effect which has been overlooked in the Bureau's analysis. This erosion would be multiplied many times over with the drastically increased flows in the river resulting from the construction of the AB Lateral power project. Because of the low resistance to erosion of the unconsolidated sediments making up the bed of the river in this area, this process would proceed quite rapidly and

virtually unchecked, unless severe countermeasures were to be taken.

The Bureau of Reclamation appears to have greatly underestimated the potential effects of this increased erosion, and has proposed minimal measures to compensate for it. Stating that the "channel bed is well-armed with cobbles", the agency has limited their measures solely to the prevention of lateral erosion of the river banks. Moreover, it claims that no more than 25 percent of the river's length need be so treated.

Three types of erosion control have been proposed. The first of these consists of bank revetments made up primarily of riprap materials placed along the top of the banks, depending on erosion by the river itself to place these materials in the proper position. The second is the construction of rock jetties designed to divert the flow of the stream away from vulnerable bank sections. The third is the channelization of river meanders into better defined channels. The Bureau estimates that 25 percent of the river's length would be modified by one or another of these techniques, and they state that no significant alteration of the riparian habitat or wetlands along the river will result.

First of all, the proposed method of building revetments, while it may be inexpensive, is also inherently unpredictable, and whether or not it will work in this area, especially in light of the greatly altered flow conditions, is quite uncertain. But even if all three methods should prove to be successful, they would still alter the hydrological nature of the sections where they were installed. Each of them would inevitably withhold the water supply from the existing riparian habitat and wetlands wherever they were installed, with effects comparable to those outlined in the previous section of this report. And twenty-five percent of the river's environment cannot in any case be considered to be insignificant.

The total effect will be much greater than this, however, due to some very important factors which the Bureau's analysis has failed to take into account. First of all, experience with other channelization projects elsewhere, especially those built by the U.S. Army Corps of Engineers in the Midwest and South, shows that this technique, while reducing flooding and erosion in the channelized sections, invariably increases the potential for more severe flooding and erosion in areas downstream from the treated portions of the rivers. In many cases, these sections have also had to be channelized for their own protection, leading to even further danger to the remaining natural portions. Channelization cannot be thought of as a final solution to problems of either flooding or erosion, since it results only in relocating the affected area from one spot to another, and very often aggravates the very problem it is intended to solve. This fact is now becoming quite clear; the state of Tennessee recently passed a law prohibiting any further stream channelization within its borders.

The gradient of the Uncompahgre is already extremely high, and the shortening of the river's length due to channelization would raise it even more. The downstream erosional effects of channelization are thus likely to be more severe than they would be elsewhere. Moreover, this effect has already been compounded

by the recent loss of the river's sediment supply. A tripling of the river's flow, when added to all of these other factors, is likely to lead to increased erosion everywhere along the river's length, including places where no problems exist today. It would not be surprising, in fact, to see demands for channel stabilization gradually extended to cover the entire length of the river from the power plant to the Gunnison River, and not just the 25 percent cited in the DEIS.

But even this drastic step is not likely to check erosion in the river. We must remember that the combined effects of the Dallas and AB Lateral projects would create a totally new situation along the Uncompahgre: a new river three times the size of the old one, traversing unconsolidated sediments which are no longer being renewed, carrying water which has been deprived of the moderating influence of its normal sediment load, and flowing through a channel with an extremely high hydraulic gradient. This new environment would be completely out of harmony with the equilibrium conditions which exist today. The new river would follow the laws of nature in seeking its own balance. And this balance would include the carving of a canyon along the present river bed until a new equilibrium state is achieved.

The Bureau's proposed mitigation measures -- riprap, jet-ties, and channelization -- are all designed to check lateral erosion. None of them, however, would be in the least effective in preventing the headward erosion which the new river would pursue in trying to attain its own balance. There is nothing in the nature of the river bed which would offer much resistance to this erosion; the cobble bed cited in the DEIS as an erosion preventative would be removed almost as fast as the finer sediments when attacked from below. The resulting headward erosion would proceed fastest at the lower end, near Delta, but would quickly move upstream until the entire channel became entrenched, scores of feet below its present level.

All the riparian habitat along the Uncompahgre River at present would completely disappear if this were allowed to happen. The five thousand acres of wetland would go first, but they would soon be followed by the cottonwood groves, left high and dry by the lowering of the river and the water table supports. Nor would this loss of riparian habitat be the only effect. The dropping water table would dry up many of the shallow wells now found along the river. And the irrigation ditches taking water from the river between Montrose and Delta would find their head-gates suspended high above the river's new channel. These changes in the Uncompahgre's streambed would occur much faster than the previously cited alteration of the riparian habitat along the Gunnison, and would thus be far more obvious. And none of the mitigating techniques cited by the Bureau would be effective in halting the process, even if their magnitude were to be multiplied many times over.

The only steps which could prevent these changes effectively would be a dividing of the waters coming from the tailrace of the power plant. An amount commensurate with the needs of the riparian habitat and the downstream irrigation demands would be allowed to flow into the present bed of the river. The remainder, which would constitute at least two-thirds of the tailrace flow,

is stated, however, that these losses, due to a decrease in boating activity because of insufficient flow of the river, would be balanced by a concurrent increase in hiking along the river banks. The river bed exposed during low water, however, would consist largely of boulders and sand. Such an environment is no more conducive to hiking than it is to riparian plant growth, and many decades would elapse before the newly exposed terrain became sufficiently natural to attract hikers. But there are other differences as well. Most of the land along the Gunnison below its confluence with the North Fork lies on private land and is closed to hiking, while the river running past these same lands is open to all who might use it. Even more important from an economic standpoint is the fact that boating is a cost-intensive activity, wherein the average person can participate only by contracting for equipment (and perhaps guides as well) from a commercial supplier. Hiking, on the other hand, is a less costly and more personal pursuit which generates little revenue. This fact is borne out by the number of commercial boating firms which are able to subsist on their customers' willingness to pay for their services, while few if any hiking guides can do the same. Thus the two activities are in no way comparable economically; the trading of the one for the other would inevitably result in a significant and rapidly growing loss of local revenue.

Delta County, and to a lesser extent Montrose County as well, is just now beginning to recover from the severe economic depression left by the collapse of the energy boom. The new economy, which all concerned hope to prove more stable, is based largely on tourism and an influx of retirees. Both of these potential sources of revenue are dependent in turn on the natural scenery of the area, which is a harmonious combination of the pastoral and the spectacular. The valleys of both the Gunnison and Uncompahgre Rivers, located as they are along the principal travel routes, play a central role in the attractiveness of the region, and the future economic health of the area cannot be guaranteed if significant damage is done to these resources. There is no question but that the construction of the AB Lateral power facility with its attendant effects on these valleys would produce such damage. It should be carefully quantified and included in any objective economic analysis of the project.

The costs of a concrete-lined tailrace channel leading from the proposed powerhouse to the Gunnison River, as described above, must also be included among the unavoidable costs of the project. So must the increased cost of power which would be absorbed by all the customers of the Public Service Company. Even though this utility company is quite large, and can therefore spread out these added costs among its many customers, the fact still remains that they must pay more for the power generated by the proposed hydroelectric plant than they would if it came from other sources instead. Among these potential sources is the Colorado Ute power company, which has recently filed for bankruptcy because it cannot sell enough power to meet its costs. The customers of this utility, which include most of the people living in the area to be directly affected by the project, can expect their electric bills to rise as well as the company tries to compensate for the loss of a portion of its potential market.

These costs, too, must be taken into consideration.

Nor have right-of-way costs been adequately assessed. The total acreage of right-of-way which must be purchased will be much greater than that which has been estimated, due to the incremental need for the additional facilities along the Uncompahgre River, as described in a previous section. Moreover, these added facilities, especially the long tailrace canal, would be located in areas away from the river where a great deal more development, such as roads, houses, and farmland, is located. Right-of-way costs here will be much higher than those in undeveloped areas. Another important factor which has not been adequately considered is the difficulty of obtaining rights-of-way. Unwillingness to sell, which has already been expressed by some of the landowners, is likely to generate prolonged and costly negotiations and even lawsuits. The probability of this happening, and the possible legal costs involved, must be incorporated into any realistic cost analysis.

Finally, there is the matter of selling the power produced by the hydro plant after the contract with the Public Service Company expires. A market for this excess power is not likely to be found unless it is sold at a considerably lower rate. This deficit must be subtracted from the potential revenues to be derived from the project.

When all of the above economic factors are added in, it is quite likely that the benefit-cost ratio of the proposed project will fall far below the 1.0 break-even point. Thus if the normal procedure of considering all of the costs and benefits, direct and indirect as well, is followed, the project will be found to be economically infeasible.

The importance of this factor cannot be underestimated, since it could have a profound influence on the economic well-being of the people of the affected area for a long time to come. The cost-benefit ratio of the total project, even when calculated by the unrealistic methods employed, is quite marginal. Consideration must be taken of the possibility that even those costs which were considered may easily have been grossly underestimated. A good example of just such an occurrence can be found in the Bureau of Reclamation's recently completed Dallas project. In this case, costs were underestimated by approximately a factor of three, while the predicted revenues have almost entirely failed to materialize. As a result, the residents of Ouray, Montrose, and Delta counties have seen their water bills increased enormously in an attempt to compensate for part of the cost overruns. And they still face the prospect of even greater future deficits which must be made up somehow.

The economic prospects of the AB lateral project could be even more bleak. In the case of the Dallas project, the majority of the unforeseen deficit was absorbed by the federal government itself. But the AB lateral project is supposed to be financed without government funding. If a comparable deficit occurs here, the burden of paying for it will fall directly on the local population, and especially on the members of the Uncompahgre Valley Water Users' Association. It would be grossly unfair if they were not warned of the high probability of such an occurrence.

#### F. Summary

The Draft Environmental Impact Statement prepared by the U.S. Bureau of Reclamation for the proposed AB Lateral Hydropower Facility is incomplete because it does not properly address the severely damaging effects that the project would have on riparian vegetation along the Gunnison and Uncompahgre Rivers.

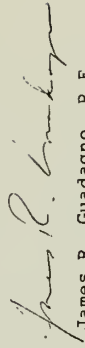
The DEIS exhibits further inadequacy in its failure to address the effects on wildlife which would result from the above effects on riparian habitat.

The benefit-cost analysis accompanying the DEIS is inadequate because it omits the costs of a concrete-lined channel between the proposed power plant and the Gunnison River, a facility which would be necessary to prevent damage to the natural channel of the Uncompahgre River.

The benefit-cost analysis is further lacking because it does not include indirect costs which would be occasioned by construction of the project. Nor does it address the issue of selling the power produced after the current contract with the Public Service Company expires.

In order that a true evaluation of the economic and environmental feasibility of the project can be made, a new analysis should be conducted which incorporates all of these matters. If the resulting benefit-cost ratio does not exceed the break-even value of 1.0, the Bureau of Reclamation should reject the proposal.

Respectfully Submitted,



James R. Guadagno, P.E.  
Colorado Professional Engineers'  
License No. 13854  
P. O. Box 208  
Paonia, CO 81428

**Mesa County Water Association**  
P.O. Box 572 Fruita, Colorado 81521

June 28, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, Colorado 81506

Re: AB Lateral Projects

**OR-52 -- OR-54**

Users are promoting a project with marginal economic justification, benefiting a few, at the expense of a growing recreational opportunity benefiting the region as a whole.

In conclusion and in addition to the above summaries, we express the hope that the Bureau of Reclamation will be able to negotiate and assist in reconciling the interests of those affected by this project as a neutral party.

Dear

The purpose of this letter is to provide comment on the AB Lateral Project.

After review of the DEIS and documents developed by the United States Environmental Protection Agency, we are in the position to provide comment on the above referenced project.

1. Water Quality

Since Redlands Water and Power and City of Grand Junction are holders of substantial decrees on the Gunnison River used for both irrigation purposes and municipal use, we reiterate the comments of USEPA concerning water quality degradation in the Uncompaghe River due to increased flows: increased stream bank erosion and sedimentation. The fluctuating regime on the river, potential down cutting, and increased sedimentation creates the need for further description of the downstream impacts and, if appropriate, provisions for mitigation including but not limited to cost for increase treatment to meet Safe Drinking Water standards.

2. Market For Power

We feel that the DEIS does not adequately address the economic justification for the project. The existing depressed market for power throughout the West does not justify the creation of increased capacity, the effects of which are detrimental to downstream users. The questions needing an answer should be: Is there a need for the power? This question was answered by the Bureau of Reclamation in its final feasibility report for the Dominguez Reservoir. In that report it was concluded that there was not a need for the power and, without that need, the project was not economically justified. The same conclusions can be made for the AB Lateral Project.

3. Recreation

With the region promoting itself as a destination recreational opportunity, we find it difficult to understand the desire of the project to reduce flows in the Gunnison River, given the doubtful economic need for this project. Mitek (the "French connection" ), the Boston partners and the Water

Sincerely,

  
Greg Trainor

Mesa County Water Association

cc:Campbell  
Wirth



Colorado Wildlife Federation

OR-55 --- OR-57

June 21, 1989

150

We also understand that the primary justification for this project is the production of electric power -- despite the fact that there is already surplus electricity in the region. We question whether this kind of justification for the project is sufficient to warrant the Bureau in assuming the risks of harm to the environment and to wildlife that the project will pose.

Thank you for the opportunity to comment.

Sincerely,  
*Paul Zogg*  
Paul Zogg

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- Colorado Springs, CO
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- Administrative Coordinator
- Robert K. Kline
- Western Field Representative

Comments on Draft EIS for Proposed AB Lateral

Dear Sir:

On behalf of the Colorado Wildlife Federation, I would like to submit the following comments on the Draft EIS for the Proposed AB Lateral Project. CWF is the state's largest sportsmen's/conservation organization with 16,000 individual members.

We are extremely concerned at the importance and sensitivity of the wildlife habitat and recreational areas that may be impacted by the AB Lateral project.

The Gunnison River, downstream from the Gunnison Tunnel, contains a truly outstanding Gold Medal fishery. Endangered bald eagles winter in this area in numbers so significant that the habitat has been designated "essential" for eagles. A pair of endangered peregrine falcons nest in the Black Canyon. River otters have been transplanted into the area at significant expense. Elk winter in the canyon, and there are resident populations of mule deer and bighorn sheep.

Additionally, the affected area includes the Black Canyon National Monument, presently under consideration for National Park designation, and a designated wilderness study area downstream. The Gunnison River, itself, has been determined to be eligible for designation as a wild river under the Wild and Scenic Rivers System.

Obviously, the environmental sensitivity of these areas is so significant that the Bureau of Reclamation should exercise the most extreme caution before deciding whether to permit projects that may potentially damage them. Wildlife biology is far from an exact science, and we are skeptical that impacts to wildlife from this project are fully known and accounted for.

We are also concerned over the impacts to floating and rafting the Gunnison River if the project is allowed to reduce flows and the potentially adverse impacts on designation of the Gunnison River for protection as a wild river.

UNIVERSITY of COLORADO WILDERNESS STUDY GROUP

To: Projects Manager, Bureau,  
P.O. Box 603340  
Grand Junction, CO  
81506

From: Greg Seelason  
CUWSG Director

OR-58

Attention: Projects Manager,

The University of Colorado Wilderness Study Group is an organization composed of about fifty students concerned with public lands management in Colorado. The A B Lateral project has recently been brought to our attention and I hope that our comment has not come too late.

We are concerned with and stand opposed to the A B Lateral project. The diversion of 390,000 acre-feet of water annually from the Gunnison River through the U.V.W.A.'s irrigation tunnel to be released into the Uncompahgre River is certain to have irretrievable impacts on the ecology and recreational environments of both. Both rivers are ecosystems. This region of Colorado is especially valuable for its natural scenic and recreational attributes. There is not a shortage of power in this region, so there is no reason to so dramatically alter the natural Rocky Mountain environment for hydropower.

Aside from the unforeseeable impacts this project will have on migratory waterfowl there will be a great deal of pressure put on riparian habitat and fish populations including Gunnison's highly prized trout. Reduction of water flows from 1,000 cfs to 300 cfs for 50% of the year would cause Gunnison fishing industry to suffer dramatically. The current rafting industry would become non-existent for most of the year. The Gunnison River's potential for wild and scenic river designation would also be threatened.

The A B Lateral project has no foreseeable benefits for Colorado. It has certain negative impacts. Help preserve the beauty which has made Colorado renowned throughout the world, literally. Please stop the A B Lateral. Sincerely, Greg Seelason

UNIVERSITY MEMORIAL CENTER BOULDER, COLORADO 80502 (303) 492-6870



Colorado Environmental Coalition

777 Grant Street, Suite 606  
Denver, Colorado 80203-3518 • 837-8701

OR-59 -- OR-87

Regional Environmental Officer  
Upper Colorado Region  
U.S. Bureau of Reclamation  
P.O. Box 11568  
Salt Lake City UT 84147

June 9, 1989

Dear Environmental Officer:

I would like to make comments on behalf of the Colorado Environmental Coalition in regards to the AB Lateral Hydropower Facility Draft Environmental Impact Statement (DEIS). The Colorado Environmental Coalition was formed in 1965 to work for protection of Colorado's environment. The organization has 40 member groups with a combined membership of over 35,000 people.

Generally, the DEIS fails to adequately address several critical concerns including: 1) violations of the Federal Land Policy Management Act of 1976 (FLPMA); 2) water rights violations; and 3) the economic impact of the proposal on the local economy including the real need for the facility.

1. The Federal Land Policy Management Act Section 603 (a) states that "During the period of review (for Wilderness designation) of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness. Provided that in managing the public lands the Secretary shall by regulation or otherwise take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection." We maintain that all of the UFWUA proposals except Proposal 'A' (no action) violate the intent of that legislation because the Wilderness Study Area along the Gunnison River, the Black Canyon of the Gunnison National Monument, and the Gunnison River itself will be negatively impacted by the proposed hydroplant in several ways that the DEIS either inadequately addresses or ignores completely, to wit:

June 23 '89

reduced significantly due to the decreased flow, plant life in the river would be affected, completely altering the composition of the river. Why hasn't the DEIS discussed this? This would seem to be a flagrant violation of the spirit of FLPMA Section 603 (c).

F. What evidence supports the DEIS assumption that the Uncompahgre can handle the increased flow proposed by the developers? The DEIS fails to address the problems resulting from erosion such as destruction of riparian habitat. What corrective measures will the developers take to reduce and control erosion along the Uncompahgre, especially since the DEIS suggests the increased water flow downstream from the tailrace would improve the river's water quality (3-66)?

G. The DEIS' assertion that "water quality impacts caused by the reduced flow would be evident only during the irrigation season" (3-66) is like saying "it only hurts when I breathe". If true, this would increase competition for the water at a time when it is dirtiest and least available. Such flippancy doesn't address real concerns that the water will be unsafe for drinking or insufficient for irrigation. The loss of approximately 123,460 acre-feet of higher quality Gunnison River water during the irrigation season is mentioned but the impacts are not discussed (3-66). This is inconsistent with prevention of unnecessary or undue degradation as charged by FLPMA Section 603 (c).

H. The near doubling of dissolved solids near South Canal will supposedly be remedied by the settling process at Ridgway Reservoir. What evidence supports the contention that "although (the development alternatives) would represent a significant increase in concentration, it would not result in an increase of total salt loading to the Colorado River system" (3-67)?

I. The DEIS discussion of the effect of water quality and temperature on trout populations is incomplete. The DEIS admits there would be a decrease in trout density and biomass (3-72) and acknowledges that suitable habitat for trout reproduction and spawning, a function of flow may be the most important factor affecting trout populations in the Gunnison (3-75) but doesn't fully explore the repercussions of reduced flow. In an obvious attempt to justify the 300 cfs flow, the DEIS dances around what is a critical question in terms of the river's ecosystem and the region's tourist-based economy. Although the DEIS admits that a flow of 500-600 cfs is optimum for adult trout, it never explores any alternative allowing a flow of 500-600 cfs. This lack of moderate proposals violates the intent of FLPMA Section 603 (c) and The National Environmental Policy Act of 1969 (NEPA) Section 1502.14 (a) by its elimination of less extreme proposals. It also raises questions of below what profit margin the developers began asking sound alternatives which allowed a higher cfs flow in the Gunnison River. (This sneakiness, intended to lull readers into passively approving the least offensive proposal (probably 'E') instead raises suspicions that profit is guiding

A. The DEIS fails to discuss the effect on riparian habitat, particularly insect life, of the concrete lining and rip-rapping of 60 miles of canals and 195 miles of laterals east of the Uncompahgre Valley (1-15). We are especially concerned about the long-term damage that will result from altering the river's ecosystem this drastically.

B. The DEIS casually acknowledges that a degree or two temperature difference with the reduced winter flow to 300 cfs is sufficient to freeze substantial areas of the Gunnison River (3-49), yet neglects studying the impact of the freezing on trout survival rate and reproduction.

C. The DEIS suggests that the increased flow in the Uncompahgre River diverted from the Gunnison River combined with the settling process of trace minerals in Ridgeway Dam will dilute the mine tailings and heavy trace metals already present in the Uncompahgre River (3-61). Will this process sufficiently improve the quality of the water, making it potable and more suitable for aquatic life and irrigation? What studies support such a finding? The DEIS never addressed the long-term problem that as the Gunnison's flow decreases, less water will be available to dilute the highly polluted Uncompahgre should more need arise, for future irrigation off the North Fork and Smith Fork of the Gunnison River, and the possibility of reduced crop yields from the contaminated water of the Uncompahgre and reduced flow of the Gunnison downstream from the North and Smith forks.

D. The DEIS states on page 3-65 that turbidity beyond the North Fork inflow and total dissolved solids concentrations in the Gunnison would increase. However, the DEIS disregards the impact this would have on the ecology and irrigation. Furthermore, how does this fit in with Colorado's priority system of allocating surface waters for "beneficial use" (2-42)? The DEIS seemingly interprets "beneficial use" as beneficial to private investors, who are also non-Coloradoans instead of the Coloradoans who fish, raft, hike, and draw their livelihoods from this public resource. "Beneficial use" can easily be interpreted as actions protecting public waters to ensure their continued availability for a broader spectrum of the population, including commercial, recreational, and aesthetic interests--beneficial in terms of an investment in the future rather than an immediate, short-term financial gain.

E. The DEIS seriously lacks citations to any studies backing its position that "development would not change the species presently inhabiting the river, and water use presently allowed would not be affected" (3-64). How can BuRec know this when the developer's proposal is junior to the state's unqualified water rights? Since the DEIS cites absolutely no studies on the impact development would have on insects, the mainstay of brown trout, how can BuRec claim the species presently inhabiting the river would not be affected? For instance, if insect quantities are

the project rather than true need for electric power to the detriment of the environment, the local economy, and common sense. (The economic aspects of the proposal are discussed in section 3 of this document.)

J. Likewise, the cavalier treatment of the destruction of trout eggs and larvae due to siltation from reduced flows in the Gunnison (3-85) confirms suspicions that the developers are determined to reduce the Gunnison to the lowest flow it can withstand. Why?

K. With continued arrogance the DEIS dismisses its own observation that colder temperatures resulting from the reduced flow will negatively affect the Gunnison's microinvertebrates, biomass, and fish. Ice jams resulting from the reduced flow and presenting a formidable threat to the trapped trout are similarly dismissed as "occasional high winter mortality of trout populations" somehow justifiable because of the great need to reduce the flow to 300 cfs (3-88). This alleged need is just not demonstrated in light of the environmental and economic havoc the proposal will wreak.

L. What tests substantiate the assertion that macroinvertebrate populations were not affected by changes in water temperatures and reduced flows (3-89)? It's a bold assumption that any affects would have strictly shown up as increased fish mortality (3-89).

M. The DEIS dwells on the acceptability of a 300 cfs for trout fry (3-93), while dismissing the fact that up to a 600 cfs is the best flow for trout reproduction, again raising questions of why a less extreme proposal wouldn't be acceptable to the developers.

N. The developer's preferred alternative, 'C' also involves the greatest habitat decreases (3-95), conflicting with FLPMA Section 603 (c).

O. Increased hiking and decreased raftability resulting from reduced flow will have a significant ecological impact on the Gunnison River which the DEIS only superficially addresses (3-133). This 35% increase in human use (3-136) would not be so drastic under a more moderate proposal with less flow reduction but the developers refuse to entertain any such moderate proposals. In Colorado, opportunities for rafting are limited to just a few waterways in the state. Hiking occurs over a much broader area. The DEIS fails to analyze the effects of losing another river in Colorado to rafting activities. By BuRec's own estimates rafting has grown in popularity by sevenfold within the past six years (3-141) while many rivers have reached their rafting capacity, necessitating regulation of rafting.

P. BuRec is completely sanguine about the potential loss of wilderness designation of the Gunnison Gorge posed by all the development alternatives (3-135) in flagrant violation of FLPMA

Section 603 (c) and NEPA Section 1502.14. This irreverence convinces us that that BuRec has no environmental interest whatever in the Gorge and is solely interested in profits generated by the project to retire its own debts sooner. The cumulative reduction of values that make the area attractive leads BuRec only to the conclusion that more restrictive management practices may be instituted by the NPS and BLM to preserve natural values (3-163). BuRec itself seems callous to the legitimate fears that all of the development proposals will permanently and irreversibly alter the ecosystem of the Gunnison River.

Q. The DEIS list of preparers should include the names of employers of preparers to assure readers that no conflict of interest exists under Section 1506.5(c) of NEPA.

2. The DEIS raises several unanswered questions concerning Federal water rights:

A. The DEIS provides no information about the plans by the three groups holding senior water rights for irrigation in the area of the proposed hydroplant as to whether or when they will develop their rights (2-43).

B. According to Colorado water law, the UVMWA's water rights (1982 & 1987) are also junior to the unquantified federal wilderness and National Monument water rights of the Black Canyon of the Gunnison, commensurate with Congress' intent to reserve enough water to accomplish the original purpose of creating the special management zone of the Black Canyon (2-43). Without some assurance that all of these senior rights will continue to lie dormant, the MITEIX proposal is premature. BuRec gives no assurance that MITEIX won't contest Federal Reserved Water Rights for the Monument.

3. The hydroplant proposal raises several grave economic concerns which the DEIS wholly ignores or arrogantly glosses over:

A. The DEIS doesn't demonstrate a genuine need for electricity that can't be provided by other suppliers already in the region. The 48-38 megawatts of power the AB Lateral would produce would have to be purchased by PSC under PURPA for 15 years but the PSC could buy the power from the near bankrupt Colorado-Ute Power Co. in Montrose, thereby eliminating the need for the new hydroplant, eliminating unfair competition with existing utilities, and perhaps helping return Colorado-Ute to solvency. In fact, Colorado-Ute is already selling its surplus power at discount rates, further eliminating the need for the hydroplant

B. Even if BuRec could demonstrate a real need for the electric power, the cost of building the hydroplant is prohibitive in light of all hidden costs the DEIS fails to mention. Who will finance the acre-for-acre replacement of lost wetlands required

in the Clean Water Act 404 regulations and where will that money come from--private or federal money? Who will fund rights of way agreements for bank stabilization work on private property and where will this money come from? Why isn't it itemized in the cost of the alternatives? All the development alternatives increase the risk of flooding in the Gunnison Gorge and downstream reaches since no diversions would occur as a way of controlling flooding in the Uncompahgre (3-15). Where will flood control and liability money come from?

C. The DEIS doesn't take seriously the real impact of the hydroplant on the regional economy:

i. Although the DEIS admits in several places that commercial rafting in the Gunnison River will be reduced, it continually treats this factor as a fair tradeoff for the increased power and supposed profits to the region. However, since tourism is the region's primary source of income, and since rafting contributes significantly to that revenue, the DEIS should no more dismiss the loss of rafting due to reduced flows than would any of the people who depend on the river's rafting attraction for their bread and butter. It's not a fair tradeoff. Furthermore, rafting opportunities statewide are limited, while the power facilities can have more flexibility in where they are located and how they operate. The DEIS mysteriously assumes that the money lost from rafting can be made up by increased fishing opportunities (3-138). But fishing opportunities are more abundant statewide than rafting so the anglers may simply go elsewhere. The loss of commercial rafting could totally crush the fragile economies of towns along the river, already suffering from high unemployment and a statewide depression from the loss of oil revenue. When the rafters stop coming to the Gunnison, other tourist support services will crumble.

ii. Furthermore, since the reduced flows will affect established trout patterns (3-76-79), walk-in angling may never become the substitute to the economy the developers hope it will.

iii. The DEIS suggests the hydroplant will create construction jobs but later admits rather lamely what a gamble the project in fact represents (3-146). It merely presents short-term employment possibilities because it will be automatically operated (3-147) and there is no guarantee it will attract other industry as the developers assure it will (3-147). Given the lack of attention to costs in the DEIS, the real question is whether the hydroplant will bring any financial windfall to the region after all the environmental, recreational, and economic sacrifices it will entail, or whether it will simply bring new debt to the region.

iv. The DEIS states the environmental impact will likely incur new management costs to protect the area from increased accessibility on foot. Who will pay this bill?

D. The DEIS's handling of profits and financial disclosure about

profits (or more appropriately, lack thereof) is so crafty it defies the imagination. This directly violates several sections of NEPA.

i. The DEIS relies on cost-benefit analysis to justify its alternatives. Buried on page 2-44 the DEIS discloses in passing that it prefers alternative 'C', which happens to be the most environmentally offensive alternative. It's annoying that the DEIS makes the reader hunt for this important information. Still, since the alternatives all represent similar proposals (or more correctly, slight variations on the same proposal), in violation of NEPA Section 1502.14, it's almost a moot point.

ii. The developers cost-benefit analysis is strictly in terms of the monetary cost to them weighed against the profits they will net. But this balancing should include the cost to the environment in terms of lost recreational revenues and the lost, irreplaceable aesthetic value, though difficult to gage.

iii. The lack of intermediate, less drastic alternatives suggests that there is no room for compromise in this project. Yet the town of Norwood has proposed a similar hydroplant that would displace far less water from the Gunnison, allowing commercial rafting to remain a viable industry in the region. Why doesn't the DEIS reveal Norwood's proposal? The lack of disclosure leads us to suspect there is a minimal profit margin below which the developers won't consider reasonable alternatives. This lack of disclosure violates NEPA Section 1502.14.

iv. As a full disclosure law, NEPA requires the Federal agency to "report sufficient information on the project to allow informed public review and be able to make a responsible decision." If material based on proprietary data (which doesn't necessarily have to be disclosed according to NEPA) is referenced in the DEIS, it must be disclosed. However, the developers have not disclosed their cost-benefit calculations after referencing them, thereby violating Section 4-12 of BuRec's NEPA Handbook.

v. All rudimentary information about how the profits will be dispersed are missing from the DEIS. The public is being asked to approve the project without knowing who will benefit from this public resource. Estimates by Mark Silversher, a Norwood resident and supporter of Norwood's hydroplant proposal indicate that area water users will gain only 4% of the profits and no reduction in water charges. The rest of the profit will leave the state and the country. The sponsors have refused to release information detailing their ability to fund the project and what would happen in the event of loan defaults and cost overruns.

vi. There may be a conflict of interest when BuRec received profit from the project since it is the lead agency in the EIS preparation. The DEIS of course doesn't raise this possibility.

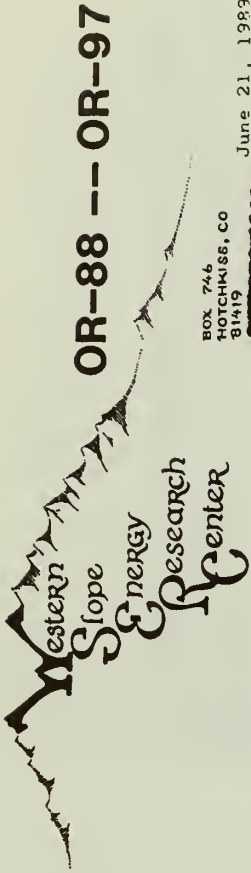
For the foregoing reasons we oppose all of BuRec's development

alternatives. We find the only acceptable alternative to be  
Alternative 'A', no action.

Sincerely Yours,



Joy Goldbaum  
Legal Intern



OR-88 --- OR-97

BOX 746  
HOTCHKISS, CO  
81419

June 21, 1989

Steve McCall  
Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

Dear Steve,

The Western Slope Energy Research Center is adamantly  
opposed to the AB Lateral Hydropower Facility as proposed in the  
Draft Environmental Impact Statement.

WSERC is a grassroots conservation organization based in the  
North Fork Valley. We have about 70 members on our mailing list  
and a tiny budget, but we are loaded with dedication. Our members  
raft and kayak the Gunnison (both commercially and privately).  
fish the Gunnison and enjoy the Black Canyon of the Gunnison  
National Monument and BLM Gunnison Gorge Wilderness Study Area,  
as well as the river corridor and public lands below the  
confluence with the North Fork.

We feel that development of any alternative besides the no  
action alternative A constitutes significant negative impact to  
our use of the area, and to the local economy. Constructing the  
AB Lateral would not represent good stewardship of the natural  
resources in the area and would be a violation of the public  
trust the Bureau of Reclamation carries to manage public  
resources.

The project DEIS is wholly inadequate, biased in favor of  
the project and in violation of national environmental laws. To  
continue this process any further we feel a revised DEIS  
addressing the inadequacies of the current document and a new  
round of public comment is necessary. Below is an abbreviated and  
partial list of our complaints, which can be considered an  
addendum to the formal comments submitted to your office by the  
Western Colorado Congress and the Sierra Club Legal Defense Fund.

The selection of alternatives was biased in favor of the  
project Sponsors and ignored economically feasible projects that  
require less water diversion and consequently have less damaging  
impacts. Moreover, the methods used in the cost-benefit analysis

to select alternatives is arbitrary and unjustified. The DEIS presentation of that analysis, which does not admit the true nature of the c/b ratio, is tantamount to disinformation.

The Purpose and Need section proves only an artificial need for the project's electrical generation as created by PURPA. It does not acknowledge the current extensive regional power surplus or the project's impact on our utilities.

The response you've given me Steve, that Colorado-Ute would make \$1 million annually to wheel the power, is inadequate. One million is a drop in the bucket compared to Colo-Ute's debts and the value of renewing its contract with PSC after 1992 to include the 38 to 48 megawatts of power the AB would produce. Simply repeating the arguments of the Sponsors does not address the fundamental question about need that we and others are raising, nor fulfill the Bureau's proper role as the lead agency in the EIS process.

Potential impacts to the Uncompahgre River are not yet fully studied, and are not comprehensively presented in the DEIS. Yet, as the DEIS admits, there are potential significant problems with erosion, loss of wetlands and riparian habitat, ongoing impacts, and landowner conflicts along the Uncompahgre. The omission of the proper studies and data for the Uncompahgre. The omission of adequately evaluate the project. Simply saying we will monitor the situation and mitigate any problems is not enough. It is unconscionable and illegal to rush the project through the NEPA process with half-finished environmental impact statements.

The presentation of project impacts is also biased in favor of the project. The difference between Alternative A modeled flows in the Gunnison River and the USGS records of actual flows is significant. More than a month has passed since I requested by telephone a copy of the assumptions used in the modeling. I have received nothing. This is a critical issue, because when you compare the project flows with Alternative A it makes it seem less damaging than when compared to the USGS numbers. That impacts all the baseline data used in the DEIS and the analysis of economic impacts to fishing and rafting.

The claim of increased angler hours for building the project seems pure guesswork. While some increase is possible, saying the amount of flow is inversely proportional to increases in angler hours (table 3.52) and thereby claiming increased benefits for Alternative C is a pathetic manipulation of the numbers. Moreover, the increase of human impacts to the Black Canyon National Monument (which is managed as wilderness in the canyon) and the BLM's Gunnison Gorge Wilderness Study Area (which is also being managed as wilderness) is not quantified, nor is the possibility that increased use would trigger a permit system for

hike-in use of the two areas.

The DEIS does not explore the potential under Alternative A for a sizeable increase in angler hours on the Gunnison River between the Smith Fork and Delta, based on the McCloskey land purchase, national promotion of the area and the maintenance of flows and temperatures suitable to a Gold Medal fishery. We maintain angler hours and the related fishing economy will increase far more under Alternative A than the claims made in table 3.52 for the development alternatives. Moreover, the increase is in an easily accessible area, benefiting a large majority of the public and will serve to reduce fishing pressure and human impacts to the two wilderness areas upstream.

Salt loading is a critical water quality question, and of national concern because of the extreme cost to the taxpayers of the Colorado River Salinity Control Project, treaties with Mexico and impacts to other uses of downstream water. I have a number of criticisms of the DEIS's treatment of salinity.

\* Pumping clean Gunnison River water into the Uncompahgre basin will temporarily improve the quality of the Uncompahgre River. However, clean water is hungry and will absorb sediments and fines as fast as it can put them in suspension, adding to the overall salt load to the Colorado River system.

The ability of water to absorb suspended solids is as important a factor, in erosion as turbulence and velocity. This phenomenon is referenced on page 3-66 (2nd paragraph) regarding clean waters released from Ridgeway Reservoir scouring the channel below the Dallas Dam. However, it is not considered for the 26 mile reach of the Uncompahgre below the tailrace.

\* What is the hydrology of the Uncompahgre River system? Are there shallow aquifers underlying the river that are fed by the river? Were any test wells drilled and what are the hydrologic connections? If the river is filled to above normal capacity year round how will the aquifer behave? Do they include portions of the Mancos Shale, which is a highly saline shale that dominates the area?

If underlying aquifers were filled up by the project, depending on seepage rates, wouldn't there be an effect on salt loading of the system? Moreover, if there was a sudden reduction in project flows, the aquifer would drain and a sudden pulse of salinity, minerals and dissolved solids would be released downstream.

\* Page 3-61 claims, "Seepage from the Uncompahgre River channel seems to be limited, contributing little to salinity in the Uncompahgre River." No data is included or referenced, and this sentence, which seems based on opinion only, is not attributed. Seepage needs to be documented.

Meanwhile, on page 3-67 the DEIS claims reduction of 3,044 tons per year of salt from reduced seepage in the South Canal.

Cedar Creek and the AB Lateral based on seepage rate estimates. These two statements conflict: does seepage occur in creeks and canals, but not rivers?

\* Changing the flow of the Uncompahgre will result in widespread and significant impacts to wetlands (drought and erosion control), both above and below the tailrace. Colorado DOW officials have said that will require replacement of wetlands, and will most likely be done with excess water along the Uncompahgre below the tailrace (Sherman; private communication)

While mitigation of wetlands is important, it has salinity implications. It would increase evaporation, water contact with the Mancos Shale and seepage into groundwater, all of which cause salt problems. Depending on how many acres of wetlands are recreated, this could have significant impacts. However, because the studies on impacts to the Uncompahgre are still incomplete, this issue is impossible to address.

\* UVMUA farmers and officials continually claim that they need more water, and would take more water out of the tunnel if it was big enough. R & B projects in the last few years have tried to increase the tunnel's hydrologic capacity. Table 2.1 in the DEIS lists the UVMUA's irrigation needs as 50,000 af a year greater than supplies.

While not proposed as an irrigation project, Alternative C would enlarge the tunnel and that, plus additional flows provided by the Ridgeway Reservoir, will leave more water available to the farmers during the irrigating season. There would be no downstream users to prevent use of the excess water. That would move more water into the irrigating system and on the fields and increase salinity levels.

Finally, allowing the sponsors to hire contractors to submit reports to the Bureau for the DEIS is tantamount to allowing the fox to design the henhouse. It makes us question the data and arguments presented, considering HDR's future interest in the project.

We request copies of the disclosure statements that the Bureau should have negotiated with the contractors and a statement as to how those jive with the statements in the 1986 proposal for development services submitted by the Sponsors to the Bureau, which states that HDR will design the project and serve as a consulting engineer.

This may be a blatant violation of NEPA regulations governing the EIS process and could mean the entire DEIS should be thrown out and a revised document written from scratch.

WSERC members are greatly concerned about this project; and have participated in several workshops and discussions of the DEIS. We request a revised DEIS that addresses the questions we've raised and includes alternatives with less impacts.

This is a public resource that belongs to us all, and as a

public agency the Bureau of Reclamation must answer to the public's concerns. This was promised to us in the Bureau's White Paper of 1987, announcing a new mission and direction for the Bureau. The AB Lateral DEIS is a failure of that new mission on many counts.

However, there is still time to address those inadequacies, if their is a true desire in the Bureau. We will monitor your reactions closely and responsibly participate in this process as it continues. We await your response.

Sincerely,

*Steve Hinchman*

Steve Hinchman, co-chair  
Western Slopes Energy Research Center





# OR-98 --- OR-99

June 21, 1989

Bureau of Reclamation  
 W. Fite  
 Project Manager  
 2597B 3/4 Road  
 Grand Junction, CO 81502

Re: AB Lateral Draft EIS comments

Dear Sir:

On behalf of Trout Unlimited, a national conservation organization with 60,000 members, including more than 5,000 in Colorado, I submit for the record the following comments in regard to the proposed AB Lateral project.

Trout Unlimited here addresses two main issues associated with the AB Lateral: 1) The project's potential aquatic impacts, including its potential impacts to the Gunnison's world-class trout fishery; and 2) the actual need for the project.

**Potential Aquatic Impacts:** Trout Unlimited perceives the potential for several resource related problems with the AB Lateral project, including:

- \*A reduction of quality habitat for adult trout.
- \*Harm to trout populations through low flows and associated increases in summer river temperature and low temperatures in winter and the formation of anchor ice.
- \*An lack of sufficient flows for float-fishing and rafting.
- \*A loss of riparian habitat that is critical to the canyon wildlife and flora.

\*A threat to the Wild and Scenic designation of the Gunnison by diminishing the resource and the wild, scenic and recreational opportunities that make the river eligible for such designation.

**Project effects on the Gunnison trout fishery:** The project has caused considerable and heated biological debate in regard to its potential impacts to the Gunnison's Gold Medal trout fishery. The Draft EIS contends that a 300 cubic foot per second (cfs) minimum flow will not be harmful to the renowned wild trout fishery and in

fact may serve to improve it. It states that 300 cfs flows will result in good annual trout recruitment and will provide sufficient habitat and cover for adult trout. But the DEIS then states that optimum flows for trout are in the 500 cfs range.

Conversely, biologist Jack Stanford has studied the Gunnison River for 20 years and strongly disagrees with the DEIS results. Stanford agrees with the much respected studies on Gunnison wild trout recruitment, but believes that year round flows in the 300 cfs range would be detrimental to the river and its trout. Stanford argues that the Curecanti system has developed a world-class, tailwater fishery through historic, typical flows in the 500-1,000 cfs range. By decreasing those average flows the river's entire biological makeup, including its trout population, will be adversely affected, contends Stanford. Stanford calculates the river's optimum flow at 600 cfs.

Despite the current controversy over the effects of minimum flows on the river's trout, there exists a consensus that places optimum year round flows for the Gunnison in the 500-600 cfs range. In TU's opinion, flows in that range would not only ensure the protection and preservation of the total riverine system, including its Gold Medal fishery, but would also allow for a continued diversity and enjoyment of recreational opportunities. Trout Unlimited therefore opposes any project and resulting flow regime for the Gunnison that would permit the river to frequently or periodically drop below its optimum flow level of 500-600 cfs.

**Project need:** Trout Unlimited must question the actual need and purpose of the project. The rationale behind the project does not stem from a need for electricity. The project has been proposed because the UVWUA wants to shorten the life of its long-standing federal loan and debt for the construction of the Gunnison Tunnel and its irrigation facilities. That debt is due in 2048, but it is the desire of the UVWUA to retire the debt by 2004. By building the AB Lateral, the UVWUA, through the guidelines of the Public Utility Regulatory Policies Act (PURPA), will be able to sell the newly generated power to Public Service Company. PURPA requires local power companies to purchase locally generated excess power whether it is needed or not. There is no need for this power. In fact, there is an over-abundance of power in this area of Colorado. In addition, the local power company in the Montrose area, Colorado Ute, is on the brink of bankruptcy. Yet PURPA regulations will force Public Service to buy -- and therefore to sell -- the power. In the long run this power sale could further dilute or undermine the foundering Colorado Ute's electrical market, as well as impose unnecessary costs burdens on local residents' utility bills.

**Conclusion:** There appears to be no need for the AB Lateral Project other than to accommodate the water users' reduction of debt to the federal government. Their self-motivated purpose could quite



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Grand Junction Colorado 81502

**OR-100 -- OR-102**

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506  
June 21, 1989

Dear Sir,

The Audubon Society of Western Colorado is opposed to the issuance of a permit for the AB Lateral. The environmental consequences on both the Gunnison and Uncompahgre river systems far outweigh the need for more regional power generation.

The reduced flows in the Gunnison River, especially in the winter, will affect an entire ecosystem. No one knows what will happen to this river system if constant low flows such as these are instituted. The lack of fluctuating flows (spring highs) on the riverine system will greatly alter the Gunnison. Icing in winter and the effect that icing will have on the otter population, as well as on fish and bald eagles is of great concern to us. We feel the DEIS does not adequately address and answer these questions.

The dramatic reduction in flow (to as low as 24 cfs) in the Uncompahgre River through Montrose is astounding. This river reach will become choked with vegetation and will no longer be a river. Wildlife in that reach will be greatly affected. Although mitigation is proposed, we wonder if the point is being missed. Displaced individuals of various species will not easily move up- or down-stream to where there is a river because there are already individuals in the available habitat. Nature does not allow for overcrowding and displaced individuals will likely die. Once again, habitat is lost, being whittled away piece by piece. Downstream the changes in the river will be as bad. The river becomes as in flood, but it will occur yearround. The erosion of the streambanks will be enormous.

If there was a need for power, here or in the region, severe modifications to this project might make it acceptable. But there is no need. There is excess power today and increasingly people are using conservation practices. There

possibly be detrimental to the Gunnison River, its wildlife and its users.

Perhaps the real question is: How much longer should our priceless natural resources be exploited for the questionable commercial gain of a limited few?

For these reasons, Trout Unlimited opposes the AB Lateral project as proposed in the Draft Environmental Impact Statement.

Sincerely yours,

Leo Gomolchak  
Resource Director



OR-103 --- OR-109

appears to be sufficient power long into the foreseeable future. Consequently, there is no demonstratable need for the project.

The project's cost/benefit ratio is so low (from 1.001 to 1.056) that one wonders about the inevitable cost overruns. The final cost/benefit ratio will very likely be even less acceptable.

We support Alternative A, No Action.

Sincerely,

*Beth Kaeding*

Beth Kaeding  
Conservation Chairman

June 20, 1989

Projects Manager  
Bureau of Reclamation  
PO Box 60340  
Grand Junction, CO 81506

Dear Projects Manager,

The National Parks and Conservation Association submits the following comments on the Bureau of Reclamation's Draft EIS on the AB Lateral Hydropower Facility. NPCA is a national, nonprofit membership organization that works to protect, defend and enhance the National Park System. We have approximately 100,000 members nationwide.

1. The Bureau of Reclamation can not lawfully approve the proposed AB Lateral Hydropower Facility unless it is demonstrated that the project will not impair or derogate National Park System values and resources or visitor enjoyment of National Park System values and resources. The Bureau has failed to demonstrate nonimpairment.

The basic legal standard for protection of national park units is established by the NPS Organic Act, together with its 1978 "Redwoods amendments," which impose general standards prohibiting "impairment" or "derogation" of National Park System (NPS) values and resources, except where necessary for reasonable protection and enjoyment of park visitors.

The 1916 NPS Organic Act provides that the "fundamental purpose" of national parks, monuments and reservations is:

to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

16 USC Section 1 (Act of August 25, 1916, 39 Stat. 535.)

The 1978 "Redwoods Amendments" to the NPS Organic Act specifically prohibit the Secretary of Interior from approving any action of project that could derogate the values and resources of any NPS unit:

The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and

National Parks and Conservation Association  
1015 Thirty-First Street, N.W., Washington, D.C. 20007  
Telephone (202) 944-8530

integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.

16 USC Section 1a-1 (As amended Public Law 95-250, Title I, Section 101(b), March 27, 1978, 92 Stat. 166.) (Emphasis added.)

The "extra-park reach" of the derogation provision was strongly emphasized in the report of the key Senate committee recommending the Redwoods Amendments, which explained that their purpose was:

to refocus and insure that the basis for decisionmaking concerning the System continues to be the criteria provided by 16 USC Section 1,

emphasizing that

this restatement of these highest principles of management is also intended to serve as the basis for any judicial resolution of competing private and public values and interests in the areas surrounding Redwood National Park and other areas of the National Park System.

Report of the Committee on Energy and Natural Resources of the United States Senate, 95th Cong., 1st Session, Senate Report No. 95-528, at pages 7-8 (1977). (Emphasis added.)

These key and controlling statutory requirements of the National Park System Organic Act must be addressed and complied with by the Bureau of Reclamation in its review of the proposed AB Lateral Facility. The Bureau of Reclamation has improperly failed to acknowledge these statutory requirements in the draft EIS. Furthermore, the draft EIS fails to assess whether the predicted impacts of the proposed AB Lateral project will result in impairment or derogation of NPS values, resources or visitor enjoyment. This analysis should be completed by the National Park Service and included in the DEIS.

2. The draft EIS fails to explicitly or adequately describe or assess potential impacts to the values, resources and visitor enjoyment of Black Canyon of the Gunnison National Monument. As a result, the Bureau of Reclamation is unable to demonstrate that the project will not impair or derogate park values, resources and visitor enjoyment. Available information indicates, however, that the values, resources and visitor enjoyment of the Monument will be impaired by the project.

A. The draft EIS fails to adequately assess potential impacts to the values, resources and visitor enjoyment of Black Canyon of the Gunnison National Monument. The draft EIS:

fails to adequately evaluate how the proposed AB Lateral project will affect flow regimes below the tunnel throughout the year. The EIS should provide information on what the flow will be on a weekly or other consistent periodic basis throughout the year. Without this information, it is impossible to meaningfully assess the impacts of the new flow regime.

fails to adequately assess how the new flow regime will affect the ecology of Black Canyon of the Gunnison National Monument. In particular, the draft EIS fails to adequately assess the effects of stabilizing the existing flow and reducing its seasonal variations. Specifically, the draft EIS fails to adequately analyze the affect of the new flow regime on:

- fish, and other invertebrates;
- aquatic insects, and how any change in insect populations will affect fish;
- rare, endangered and threatened species in the Monument, including cutthroat trout;
- riparian vegetation, especially the encroachment of woody plants;
- sediment levels and how sediment levels affect river ecology, including insect and fish populations;
- the geomorphology of the Gunnison River through the Monument;
- wilderness values, especially how the new flow regime will affect the accessibility of the Canyon bottom, how increased accessibility will affect visitor use levels, and how increased visitor use levels will affect visitor enjoyment of the Monument's wilderness values, especially solitude and a sense of remoteness;
- visitor enjoyment, including visitors' visual and audio perception of the Black Canyon.

B. Available information indicates that the values and resources and visitor enjoyment of the Monument will be impaired by the proposed AB Lateral Project.

As proposed, the AB Lateral project will divert approximately 70 percent of the Gunnison River's annual flow. In addition, the project will apparently reduce water levels through the Monument to a minimum of 300 cubic feet per second (CFS) during fifty percent of the year. This represents a dramatic reduction in current flows. It is our understanding that current average monthly flows for normal years average 1000 cfs, and that the river is reduced to a flow of 300 cfs only about eight percent of the time.

As noted above, the draft EIS fails to adequately assess the affect of this new flow regime on the values, resources and visitor enjoyment of the Monument. But the probability of impairment of the Monument's natural processes is high in light of such substantial changes.

Furthermore, the reduced flows will dramatically increase the accessibility of the Canyon bottom to visitors. The draft EIS fails to recognize that increased accessibility may impair some of the values and resources which the Monument and its 1976 wilderness designation were set aside to protect.

Increased accessibility is likely to result in increased visitation to and use of the inner canyon which is designated as wilderness. This is not necessarily a bad result in and of itself, but increased visitation may result in the loss of solitude, a sense of remoteness, and the overall experience of the inner gorge as "a wild place." In other words, the Monument's wilderness values -- and visitor enjoyment of these values -- are likely to be impaired.

In addition, visitor enjoyment of the Monument's scenic and aesthetic qualities is likely to be impaired by the project. The major visitor activity at the Monument is viewing the canyon from viewpoints on the rim. Visitors' perception and enjoyment of the canyon is shaped in part by the sight and sound of the river below. The reduced flows caused by the project will inevitably diminish or eliminate the roaring sound of the river now produced by higher flows. This roaring sound dramatizes the historic story the Monument was set aside to tell -- the carving of Black Canyon by the Gunnison. Similarly, reduced flows will alter the visual appearance of the river, changing its visual character to that of a small stream rather than a powerful river capable of carving the canyon.

These aesthetic issues may seem of little significance to the Bureau of Reclamation. But they are fundamental to the reasons why Congress established certain places -- like Black Canyon -- as units of the National Park System, and they are fundamental to visitor enjoyment.

3. A decision to approve the proposed AB Lateral project would be premature and inappropriate prior to quantification of the Monument's federal reserved water right by the National Park Service.

The Colorado courts have recognized that Black Canyon of the Gunnison National Monument has a federal reserved water right for that amount of water necessary to fulfill the Monument's purposes. The NPS is now initiating studies to quantify that right. It is our understanding that these studies will take about 1 1/2 to 2 years.

The Monument's federal reserved water right is senior to the Uncompahgre Valley Water User's conditional right for the AB Lateral project. Under state law, the Uncompahgre Water Users may not harm any senior water right including the NPS's federal reserved water right for Black Canyon National Monument.

It is not possible to determine whether or not the operation of the proposed AB Lateral project will harm the NPS's federal reserved water right until the NPS completes its studies and quantifies the federal reserved water right for the Monument. Thus it would be inappropriate for the Bureau to approve the project until the NPS completes quantification.

The studies that the NPS will be completing to quantify the right are also needed to fully and properly assess the potential impacts to the Monument from the project. Thus, at a minimum, the Bureau should postpone any decision on the proposed AB Lateral project until the NPS has a chance to complete these studies.

The draft EIS appears to assume that the Monument's federal reserved water right will be a minimum flow of 300 cfs year round. While this figure has been discussed as the minimum amount of flow needed to minimally protect the lower Gunnison Gorge's game fish population, there has been no determination that 300 cfs is, or is even likely to be, the quantification recommended by the NPS. The Bureau should not rely on this figure to make conclusions regarding impacts to the Monument.

4. The existing tunnel is registered as a national historic site on the federal register. Thus, the AB Lateral project must be assessed under the provisions and procedures of the National Historic Preservation Act. This hasn't been done.

5. The proposed AB Lateral project is not needed. Surplus electrical power supplies exist through the western electrical networks. There is no local or regional need for this project. The purpose and need section of the draft EIS should admit this fact.

6. Any objective assessment of the impacts of the proposed AB Lateral project clearly demonstrates that the negative impacts to National Park System wilderness, wildlife, recreation and other environmental values outweigh any positive benefits to project proponents. The project should not be approved.

Sincerely,

  
Terri Martin

Rocky Mountain Regional Representative  
National Parks and Conservation Association  
PO Box 1563, Salt Lake City, Utah 84110



OR-110 --- OR-113

Dean Swanson  
Vice President

Rocky Mountain Region  
3982 Rolfe Ct.  
Wheatridge, CO 80033  
H: 303-425-1564 • W: 277-2389

Projects Manager  
Bureau of Reclamation  
PO BOX 603340  
Grand Junction, CO 81506

Dear Sir:

Fin writing about the AB lateral project and here the following comments:

1. The project is economically infeasible as there is already surplus electrical power in the area. Ute Electric has now gone bankrupt.
2. The project forces Montrose area farmers to use contaminated water from the Ute Compahgre River rather than Clean Gunnison water.
3. The reduced flows on the Gunnison would have a negative impact on an important rearing and fishing economy as well as to threaten fish and wild life.
4. The proposed wild & scenic designation for the Gunnison River would be threatened.

(over)

5. Aurore's imposed plan for a Thompson diversion on the upper Gunnison could further reduce the flows.

Thank you,

Alan Swanson



**SIERRA CLUB  
LEGAL DEFENSE FUND, INC.**

Sumner, Mr. McKinley

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June 20, 1989

**OR-114 -- OR-128**

Project Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

Dear Project Manager:

I submit these comments on behalf of The Western Colorado Congress and The Wilderness Society in response to the Draft EIS for the AB Lateral project. Serious deficiencies in the draft document, detailed more fully below, require that a new or revised draft be prepared for public comment.

**I. Selection and Range of Alternatives:**

The Bureau of Reclamation (BUREC) NEPA Handbook and the Council on Environmental Quality (CEQ) NEPA regulations describe the alternatives chapter as "the heart of the environmental impact statement."

CEQ regulations (40 C.F.R. § 1502.14) require federal agencies to rigorously and objectively evaluate all reasonable alternatives, including those not within the jurisdiction of the lead agency, in order "to provide a clear basis for choice among options by the decisionmaker and the public." However, (with the exception of the No Action Alternative, A) the AB Lateral DEIS includes only so-called "alternatives" (B,C,E,F) that actually are nearly clones of the proposed action. All divert large amounts of water, year-round, generate substantial income for the project's sponsors, and have similar, significant negative environmental, economic and social impacts to the surrounding region. Reasonable alternatives that divert less water and subsequently generate less income but have fewer and less significant environmental, social and economic impacts are either not included in the DEIS or were dropped from study (F-3 through F-6, G, and H).

Project Manager  
June 20, 1989  
Page 2

Only one alternative (F) proposed to mitigate some of the environmental impacts. However, its mitigation measures were vaguely and incompletely presented, and no studies were made of the effectiveness or viability of those measures. Meaningful analysis of this alternative in the DEIS is thus impossible.

A. The similarity of alternatives described in the DEIS and the lack of small scale project alternatives violates CEQ regulations requiring all reasonable alternatives be considered (§ 1502.14). It further violates the BUREC's NEPA Handbook section 4-9.B.2, which states: "Each alternative should be a distinctly different approach, and may emphasize the achievement of some objectives at the expense of others."

The current selection of alternatives doesn't allow for adequate analysis of the project by the reviewing public, which is being asked to comment on the diversion of a public resource for private gain. In fact, the skewed range of alternatives prejudices the DEIS and consequently the public and federal decision makers in favor of a large project with substantial and widespread impacts, even if the least damaging alternative is selected.

B. Alternatives dismissed from further study were eliminated based on secret economic data and an arbitrary and undisclosed determination of what amount of profit is acceptable to project sponsors.

1. The method of determining economic feasibility was presented in the DEIS as a benefit-cost ratio. Any alternative rating 1.00 or higher was considered feasible and retained. Those below 1.00 were considered infeasible and eliminated.

However, with a benefit-cost ratio of only 1.056 for the sponsor's preferred alternative (C) it seems obvious that there is a hidden margin of profit embedded in the numbers. No prudent investor would sink \$63 million in a project that only returned five cents on the dollar -- you can get a better return at the bank. Representatives of Mitek, UMWUA (these two are the Sponsors) and BUREC have admitted in private communication with representatives of Western Colorado Congress that there is indeed an undisclosed figure in the benefit cost ratio on the cost side that represents the acceptable rate of return on the sponsor's investment.

Thus, the DEIS benefit-cost ratio does not represent a true benefit-cost ratio or even the actual economic feasibility of any alternative. Instead it represents the amount of guaranteed profit the sponsors desire before building any alternative.

2. No where in the DEIS is this fact disclosed, even though the benefit cost ratio used is described in summary on page S-11, and in extensive detail on pages 2-40 and 2-44.

Instead, as on page 2-40, the benefit cost ratio is represented as a strict comparison of the costs of building the project versus benefits to the sponsors: "The benefit/cost ratio for each of the alternatives (F-3 through F-6) is less than 1.0, implying that the costs of development incurred by the Sponsors are greater than the benefits."

The actual numbers remain unknown, as does the Sponsor's acceptable rate of return.

3. Because the benefit-cost ratio was used to determine which alternatives were included in the DEIS; because it was used to eliminate alternatives with lesser negative impacts from consideration as uneconomical; and because it can be further construed to mean all smaller scale projects are uneconomical and therefore infeasible; the omission of a description of the "acceptable rate of return" component of the benefit-cost ratio in the DEIS significantly influences the public, elected officials and federal agencies' ability to adequately review the project.

This omission violates BUREC's NEPA Handbook section 4-12: "The NEPA is not interpreted as requiring the release of proprietary information; however it is a full disclosure law and Federal agencies are expected to have and report sufficient information on the project to allow informed public review, and be able to make a responsible decision."

Instead, as presented in the DEIS, the benefit-cost ratio is disinformation. Moreover, the use of the word "implying" on page 2-40 is unusual in describing a factual statistic, and indicates that BUREC, as author of the DEIS, knowingly covered up the true nature of the benefit cost ratio.

See NEPA regulations referring to the use of benefit-cost ratios in an EIS: 40 C.F.R. § 1502.23.

C. The alternatives selected in the DEIS ignore proposals by outside entities to develop a profitable hydroelectric project on the Uncompahgre Valley Water Users system. The alternatives also ignore BUREC's own studies which have determined that a small scale project on the UUVUA South Canal is economically viable and attractive. This is a blatant violation of the National Environmental Policy Act and 40 C.F.R. § 1502.14.

1. The town of Norwood's current proposal to build a 900 cfs project on the Uncompahgre Valley Project's South Canal was not considered. This proposal is smaller than the smallest alternative included in the DEIS (E: a 950 cfs project on the AB Lateral) and is proof that smaller projects are economically feasible and should be included within the range of reasonable alternatives.

2. A 1980 report by the Department of Interior's Water and Power Resource Services, now BUREC titled Report on Assessment of Small Hydroelectric Development at Existing Facilities, found the UUVUA South Canal hydroelectric project (project # UC283132) to be among 37 highly attractive and economically feasible projects out of 159 sites studied nationwide.

D. The lack of medium and small scale alternatives has made it extremely difficult for the public, local governments and federal and state agencies to hold meaningful discussions about ways to lessen negative impacts while still generating revenue for project sponsors.

During an informal meeting of several parties participating in this NEPA process (BUREC, Mitex, UUVUA, Colorado Division of Wildlife, Western Colorado Congress and rafters) on June 1 in Montrose, talks were initiated to find such common ground. These talks, however, have been delayed because no such alternative is in the DEIS. It is likely that if a compromise agreement was made, it would be for an alternative not covered in the DEIS, thus requiring BUREC to revise and re-issue the DEIS.



For these reasons, Western Colorado Congress and The Wilderness Society request revision of the DEIS to remedy current inadequacies, specifically:

1. Inclusion in the selection of alternatives examples of small scale projects that balance electricity and revenue generated against lesser environmental, social and economic impacts.
2. Inclusion in the selection of alternatives existing proposals from outside entities, or:
3. Exclusion of those alternatives in a revised DEIS, but inclusion of a comparison of the Sponsor's proposed alternatives with those proposed by other entities; detailing power and revenue generated and environmental, economic and social impacts.
4. Use of benefit-cost ratios where 1.0 represents break even or where the investor's acceptable rate of return and the difference that represents from break even is explicitly mentioned.

## II. Financial Information.

The financial information necessary for the public, local governments, and state and federal agencies to adequately evaluate the proposed AB Lateral project and its various alternatives was not released in the DEIS and has been kept confidential despite repeated requests from citizens and public interest groups.

Such information includes portions of contractual agreements between Mitex and the UUVWUA, project costs (design/construction, land acquisition, environmental mitigation, financing, legal fees and administrative costs), economic liability, and division of profits. Without this data it is impossible to fully analyze the adequacy of the Sponsor's proposal or compare alternatives, as well as evaluate the potential for cost overruns, the adequacy of proposed environmental mitigation, economic liability and the value of this project to the local and regional economy. The need for this information is addressed in section 4-12 of BUREC's NEPA Handbook: "The NEPA is not interpreted as requiring the release of proprietary information; however, it is a full disclosure law and Federal agencies are expected to have and report sufficient

information on the project to allow informed public review, and be able to make a responsible action."

Lack of this information has triggered FOIA requests and a Congressional inquiry from Rep. George Miller, D-Cal., Chair of the Subcommittee on Water and Power Resources of the House Committee on Interior and Insular Affairs.

1. The contract between Mitex and the Uncompahgre Valley Water Users Association (UVWUA):

The Sponsors and BUREC have refused written requests by public interest groups as well as members of the UVWUA to review this contract.

While the AB Lateral project is being touted as a major economic benefit to the local community which entails no liability for the local water users, the Sponsors have refused to release the one document that details the method and ability of Sponsor's to fund the project; how much revenue will be generated; who gets it and how it will be divided; and who is liable if the Sponsors default on loans in the case of cost overruns, natural disaster or lawsuits stemming from damage to private property.

2. Proposal for Development Services, submitted to BUREC by the Sponsors on Jan. 3, 1986:

Even though this document was referenced in the 1988 Environmental Assessment of the AB Lateral project, and therefore legally must be released if requested, BUREC and Department of Interior have withheld the bulk of this document from several FOIA requests by Mr. Mark Silvershere and a written request from WCC.

BUREC officials and the DOI's Solicitor's office stated that the document was mistakenly referenced in the 1988 EA and can not be released because it contains trade secrets of a proprietary nature associated with Mitex being able to negotiate in good faith with the UVWUA. BUREC withheld portions of the document that included: reference to two alternative hydro sites; all financial considerations; descriptions of planning studies; hydrologic analysis; description of design elements; and descriptions of contractor services.

For these reasons, Western Colorado Congress and The Wilderness Society request:

1. Publication in a revised DEIS of the elements of the Mitex-UVMWA contract regarding the source and method of project financing, division of profits, and liability.
2. Release of the relevant portions of the Sponsor's Proposal for Development Services of Jan. 3, 1986; and inclusion in a revised DEIS of descriptions of project financing, alternative project sites, project costs and contractor services.
3. Publication in a revised DEIS of detailed estimates of the revenue the project will generate and how that will be distributed; including estimates of the share going to the Reclamation Fund.

III. Uncompahgre River Erosion and Impacts to Wetlands and Riparian Zones:

NEPA requires full study of all impacts of all alternatives in the DEIS, in order to allow the public, local governments, and state and federal agencies to fully evaluate the proposed project. The AB Lateral DEIS was released, however, with only preliminary study of impacts to the Uncompahgre River Corridor, and before in-depth studies on erosion, wetlands and mitigation were completed.

This is a clear violation of NEPA and section 4-12 of the BUREC's NEPA Handbook: "Bureau policy is not to move ahead on proposals where relevant information is lacking so as to preclude the meaningful analysis of alternatives, impacts or the means to mitigate impacts."

1. The DEIS identifies erosion along the Uncompahgre River corridor below the tailrace as a significant problem, while at the same time it also says only preliminary studies have been made: "Preliminary studies conducted by the Sponsors indicated that about 25 percent of the river banks between the tailrace and Delta (26 miles) may require treatment." (emphasis and parentheses added; page 2-16)

BUREC and Colorado Division of Wildlife officials have said in private communication with members of WCC that contractors are currently in the field quantifying baseline conditions, wetlands, problems areas for erosion, bank

Portions of this information are necessary to determine if smaller projects with less damaging environmental, economic and social impacts are economically feasible, and at which locations; to compare alternatives; and to determine the potential of and liability for cost overruns and project delays, which in turn will effect the economic feasibility on the Sponsor's contract with Public Service Company of Colo., the purchaser of power produced by the project.

3. Lease of Power Privilege (Bureau) and distribution of profits:

The project is labelled a "money-maker" by the Sponsors and BUREC personnel, and in the DEIS alternatives were rated based on the maximization of profit.

While the sponsors have actively campaigned for this project by stating it will earn a substantial amount of money for the UVMWA farmers and benefit all local businesses, the DEIS does not indicate how much money will be made, how profits will be distributed and among whom. All documentation detailing such information has been kept confidential, except for the generic statement in the DEIS that income generated will go to Mitex, UVMWA and the U.S. Treasury.

As this is a public resource, the public has a right to know approximate amounts and division of income. Indications are that the bulk of revenue this project will generate will go to Mitex. Not only is this money going out of the region and out of the state, but since Mitex is owned by a French corporation (Sithe) it will go out of the country. The degradation of a local and national resource of significant value for the benefit of a foreign investor is a significant issue about which the public has a right to know.

Furthermore, while not stated in the DEIS, the portion of the money that goes to the U.S. Treasury goes to the Reclamation Fund. (This is a result of a lease of power privilege that must be granted by the BUREC, which still owns the UVMWA system.) The Reclamation Fund is an account set up by Congress where income from existing BUREC projects is deposited to fund future BUREC projects. There is some question as to the objectivity of a lead agency in an EIS process which stands to benefit materially from development of the project, yet has not publicly disclosed, or even discussed, that gain.

stabilization methods, potential loss of wetlands from bank stabilization work, and mitigation. Information will be released in a report this summer.

2. The DEIS contains proposed bank stabilization measures, as well as a monitoring and future stabilization work program. The adequacy of these measures is suspect, but impossible to assess without information from ongoing studies. That information is also necessary to assess potential impacts to private lands; irrigation systems; public roads, bridges and parks; wetlands, riparian habitat and wildlife; mitigation for all of the above; project costs and the benefit-cost ratios for each alternative.

3. No information is included regarding potential loss of wetlands due to canalization, concrete and rock rip-rap, the cutting off of meanders, revetments, etc. While the DEIS estimates there are 5,000 acres of wetlands along the Uncompahgre corridor between the tallrace and Delta, no estimates of impacts or proposed mitigation for loss of all or part of these wetlands is included. Because of the policy of no net loss of wetlands, this is a substantial omission, affecting both the scale of negative impacts created by this project, estimated projects costs and the benefit-cost ratio of each alternative.

4. The DEIS contains no mention of contracts for rights of way agreements for bank stabilization work on private property. Because such work will entail extensive construction and alteration of these private lands this is a substantial omission, which could affect the costs of each alternative.

5. No analysis was made in the DEIS of impacts to private and public lands, wetlands, riparian habitat and wildlife resulting from the construction phase of bank stabilization work. This work will require bulldozers, trucks, back hoes and other large equipment, which means temporary road construction and large work crews. If more work is required in the future this could be an ongoing impact. Failing to address these impacts is a violation of the Clean Water Act § 404 regulations governing impacts to wetlands and of NEPA. It could also substantially affect estimated project costs and the benefit-cost ratio for each alternative.

6. No details were included in the DEIS regarding a proposed sinking fund, which would cover the costs of continued monitoring and stabilization work on the Uncompahgre. It is likely such work would be extremely expensive. The cost of bank stabilization was listed in the DEIS as one of the reasons for eliminating alternatives G and H from the DEIS as uneconomical. Moreover, considering the cost of such work from past floods in 1983 and 1984, it is important for the community to know how large the sinking fund would be, how long it would last, and who would be liable for damage and lawsuits from damage to property in the event the fund was depleted.

For the foregoing reasons, Western Colorado Congress and The Wilderness Society request:

The above list represents a massive body of information missing from the DEIS that is critical to public perceptions and ability to adequately evaluate the project. Moreover, the DEIS overlooks potential negative environmental impacts to wetlands, and threatened and endangered species habitat -- both impacts that must be quantified and mitigated according to Congressional policy and national laws. It is unconscionable and illegal to omit such information from the DEIS.

Further studies may result in significant changes in the proposed alternatives. Attempting to release the above information in a Final EIS or independent report without allowing public comment would violate NEPA. A revised DEIS is necessary.

IV. Purpose and Need:

The DEIS claims the purpose of the project is to: produce electricity, develop a renewable resource, improve the UVWUA irrigation system, and pay off UVWUA debts.

To document need for electricity the DEIS cites a 15-year contract with PSC to buy the power beginning in 1992, and also cites figures and studies detailing PSC projected needs for the next 10 years.

The DEIS, however, does not reflect the fact that regionally there is a glut of surplus power which could be used to meet PSC's needs; and that the need for AB Lateral power reflected in the contract with PSC is artificially created by the

Public Utilities Regulatory Policies Act of 1978. That act guarantees the sale of power from cogeneration projects such as the AB Lateral at rates equal to the cost a utility avoids by not having to build a new, large power plant.

After receiving the AB Lateral application for power sales under PURPA, the PSC asked the Colorado PUC for a moratorium on PURPA contracts, stating that it did not want and couldn't afford all these new projects. That moratorium was granted and a new system to regulate PURPA projects is now in place, but because PSC had already received the AB Lateral proposal it was forced to continue negotiations in good faith, resulting in the cited 15-year contract.

1. The need for electricity cited in the DEIS is artificial and taken out of context. A broader look at the situation would show that the ability to meet all regional needs for electricity in the next 15 years already exists.

2. Furthermore, the BUREC's narrow analysis of need ignores the impacts the project would have on local electric utilities, power costs to the consumer or conservation. While such an analysis is not required to be tied to each alternative (BUREC NEPA Handbook section 4-8) it is required as an analysis of project impacts in section 4-10.F: "Energy requirements, conservation potential and effects on natural or depletable resources should be a part of the impact analysis."

A. Production of the 48-38 megawatts of power from the AB Lateral, with its guaranteed sale in a glutted market, would displace the same amount of power from elsewhere on the grid. That amounts to unfair competition with existing utilities. One of those, Colorado-Ute headquartered in Montrose, has substantial surplus capacity which it is offering for sale at discount rates.

Colorado-Ute's manager of electrical engineering, Raymond Keith, stated in the Grand Junction Daily Sentinel, of May 29, 1989 that the 45 to 50 megawatts of power produced by AB Lateral and sold to PSC would displace about half of Colorado-Ute's present 10-year sales contract with PSC. That contract expires when the AB Lateral is scheduled to go on line.

In the meantime, Colorado-Ute's surplus capacity and poor management have recently forced the utility to seek

protection under chapter 11. This is a substantial and significant impact to the region. Rejecting the AB Lateral project may aid in returning Colorado-Ute to solvency.

B. Another potential source of new power is conservation. Forced purchase of new capacity by PSC or any utility delays the moment when the utility can economically institute reforms or measures aimed at conserving energy, or encourage its customers to save energy. Thus, building AB Lateral will continue to build disincentives to conservation into the system, resulting in increased consumption of natural, non-renewable resources.

Therefore, Western Colorado Congress and The Wilderness Society request:

1. A revised DEIS purpose and need section that discusses the need for electricity based on a larger regional context; present regional surplus capacity; and the need to keep utilities solvent.
2. A revised DEIS that includes in the impact analysis a section on how selling AB Lateral at high prices to a guaranteed market will affect other regional power suppliers, the future of regional utilities and the costs to consumers of this power.
3. If PSC purchases Colorado-Ute its needs for power in the future will change significantly. That change must be reflected in a revised DEIS section on purpose and need.
4. A revised DEIS must take into account the project's impacts on conservation and depletion of natural resources.

#### V. Additional comments

1. BUREC's model estimating flows in the Gunnison River downstream of the point of diversion for the AB Lateral may have numerous errors. It has resulted in significantly different numbers for flows in the case of the no action alternative A when compared to the historical numbers as read in the actual USGS measurements.

The effect of this is to make impacts of the project appear significantly less when compared to the no action

alternative A than when compared to the real numbers in the USGS records.

Considering this difference -- which is important to the perceptions and ability of the public, local governments, and state and federal agencies to evaluate the project -- BUREC must list the models assumptions and methodology in the appendix of a revised DEIS as required by the BUREC's NEPA Handbook section 4-4.

2. There is a probable violation of 40 C.F.R. § 1506.5(c), which requires contractors participating in a DEIS to be hired by the lead or co-operative agency; and to sign a disclosure statement specifying that they have no financial or other interest in the outcome of the project.

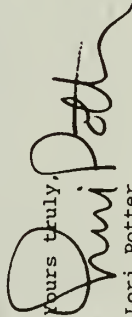
HDR Engineering Inc., a contractor hired by the Sponsors was a major contributor to both the EA and the EIS. The company was also the contractor that wrote the Jan. 3, 1986 proposal for Development Services, that contained the initial states that HDR will design plans and specifications for intake works, penstock, powerhouse and electrical systems and serve as the consulting engineer for the selected general contractor.

IF HDR contributed to the EA and the EIS any studies other than the design elements of the project, that constitutes a violation of 40 C.F.R. § 1506.5(c).

There are similar questions about EMANCO, a contractor apparently hired by the Sponsors which has contributed numerous studies to the EA and DEIS.

Accordingly, the DEIS should be revised on the basis of objective and fully-disclosed data and recirculated for public comment.

Yours truly,



Lori Potter



OR-129 -- OR-132

June 19, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, Co. 81506

Dear Sirs:

I am writing with regard to the proposed AB Lateral project on the Gunnison River. I can find no substantiatable reason for the project to be accepted. Its problems seem to far outway its benefits.

It appears that the project would significantly reduce flows in the Gunnison River, particularly through the Gunnison Gorge, to minimum stream flow levels (300cfs) for at least half of the year. This will dramatically affect the Gold Medal Wild Trout fishery of the river, which is one of the most outstanding in the country. Water temperatures will rise to dangerous levels in the summer, and ice jams will form in the winter, producing constant and unnatural stress on the fishery.

I am one of six river outfitters permitted to run trips through the Gunnison Gorge. I can attest to the fact that if this project becomes a reality, the loss to the local economies of Delta, Olathe, and Montrose will be substantial. All six of the Gunnison Gorge outfitters will be put out of business on the Gorge, since the river will be unrunnable most of the year. The loss of opportunity for the public to experience this spectacular public resource is staggering.

The Gunnison Gorge is home to many endangered species as well, which would be damaged or wiped out by the lower water levels caused by the project. River otter, bald eagles, and peregrine falcons would be severely affected, which is a direct violation of national environmental law. Important riparian habitat will also be reduced for mule deer, elk, ducks, geese, black bear, and other wildlife.

At the same time, the Uncompahgre River will be affected by increased flows when the AB Lateral water is dumped into it. The additional flow stands to cause severe erosion problems and destruction of wildlife habitat.

**Colorado-Ute  
Electric Association, Inc.**

P. O. Box 1149  
Montrose, Colorado 81402  
(303) 249-4501

**OR-133**

June 6, 1989

In contrast, the benefits of the AB Lateral project are questionable to say the least, and appear to be mostly, if not wholly, political. There is no evidence that local farmers would benefit from the project, since its primary purpose is reportedly hydropower. There is also little evidence that the electricity is needed, as it will further burden the already bankrupt regional electrical system by forcing Public Service to buy the power under the PURPA Act. The only apparent winners in this situation are the Bureau of Reclamation because they would get to build another project, and the Uncompahgre Valley Water Users Association (especially their foreign investors), who stand to make money at the expense of the economic health of the region.

My conclusion is that the AB Lateral project is yet another political farce, and I strongly oppose it in any form. It is past time for Americans to quit putting the selfish interest of a few powerful people ahead of the majority of the citizens. This project should never be built-- not now-- not ever.

Sincerely,

*Susan Greiner*  
Susan Greiner, Co-Owner  
Wilderness Aware Rafting

Walter E. Fite, Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

Dear Mr. Fite:

A-B Lateral Hydropower Facility  
Draft Environmental Impact Statement  
Impact on Operating Colorado-Ute's Bullock Station

Colorado-Ute informed you on October 27, 1988 that the A-B Lateral Project could jeopardize Colorado-Ute's ability to operate the Bullock Station in compliance with wastewater permit limits placed on Bullock Station by the Colorado Department of Health. These permit conditions are set forth in Permit No. CO-0000043 issued by the State Water Quality Control Division.

I have discussed this matter with Mr. Don Holmer of the Colorado Water Quality Control Division. Colorado-Ute is particularly concerned about the way this issue was addressed and apparently discounted as a non-issue on page 3-31 of the Draft Environmental Impact Statement. Mr. Holmer agreed with me that the issue Colorado-Ute raised with you has not been addressed. Mr. Holmer and I believe the proposed A-B Lateral Project, because of low flows entering the City of Montrose, could affect stream temperatures and could cause Colorado-Ute to be unable to comply with the discharge limits for temperature required by the Bullock Station Wastewater Discharge Permit.

Colorado-Ute requested in its October 27, 1988 letter to you that this issue be addressed and mitigation required to alleviate impacts be identified. Neither was addressed in the Draft Environmental Impact Statement.

Mr. Holmer also asked that you be informed that the Bullock Station Permit Number stated in his February 7, 1989 letter to you was incorrect and should be changed to CDPS Permit No. CO-C000043.

File

-2-

June 6, 1989

Please contact Mr. Holmer at (303)331-4750 or me at (303)249-4501 if you have questions on this matter.

Very truly yours,

*Jerry A. Walker*  
Jerry A. Walker, Manager  
Environment and Land

JAW:ds

cc: Jim Hokit, Uncompangre Valley Water Users Assn.  
Don Holmer, Colorado Water Quality Control Division



Rocky Mountain Chapter  
777 Grant Street Suite 606 Denver, Colorado 80203 303 • 861 • 8819

Mark Pearson  
P.O. Box 204  
Grand Junction, CO 81502

June 4, 1989

**OR-134 --- OR-138**

Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

Dear Sir:

These comments on the AB Lateral Hydropower Facility DEIS are submitted on behalf of the Rocky Mountain Chapter of the Sierra Club. The Sierra Club is a non-profit organization interested in the preservation of the Gunnison River under the federal Wild and Scenic Rivers Act and the Wilderness Act. The Sierra Club has 10,000 members residing in Colorado, many of whom live in the vicinity of the Gunnison River and whom enjoy the recreational and other opportunities afforded them by the river.

The Sierra Club opposes construction of the AB Lateral Hydropower Facility as described by Alternatives B, C, E, and F in the DEIS. All of these construction alternatives described by the DEIS fail to leave sufficient water in the Gunnison River to meet the demands of other users of the river. The Sierra Club encourages the Bureau of Reclamation to develop an alternative that supplies water to the Gunnison River through the Black Canyon of the Gunnison and Gunnison Gorge that is sufficient to maintain current recreational uses of the river, existing quality and level of fishing in the Gunnison, healthy populations of juvenile and adult trout, healthy riparian habitat, existing stream morphology, and all other indicators of a thriving riverine ecosystem.

It would facilitate discussion of the alternatives if the Bureau of Reclamation would identify the environmentally preferable alternative in the EIS. Since this is not done in the AB Lateral DEIS, it is assumed that the No Action is environmentally preferable. For this reason, the Sierra Club supports the No Action alternative.

The crux of the controversy surrounding the AB Lateral proposal is the amount of water drawn out of the Gunnison River in order to generate hydroelectricity and thereby monetary profits. If the Uncompahgre Valley Water Users Association (UVWUA) were simply proposing to put hydroelectric turbines on their existing canal system, utilizing their existing water rights under the current water management scenario, other users of the river would have little cause to object. However, the UVWUA and their Boston financial backers, Mitex, instead prefer to almost double the amount of water diverted from the Gunnison on an annual basis, and to also increase the flows through the Gunnison Tunnel. This unfortunately has a negative impact on other users.

Mitex and UVWUA claim that alternatives that leave more water in the river are uneconomic. The DEIS (2-4) does not provide any justification for these benefit/cost ratio calculations. The DEIS is deficient in this respect.

NEPA requires that all necessary information be provided in the DEIS. The DEIS has not met this requirement in its use of benefit/cost ratios. "If the information relevant to adverse impacts is essential to a reasoned choice among alternatives and is not known and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement." (40 CFR 1502.22(a)). The information concerning benefit/cost ratios of alternatives is essential to a reasoned choice among alternatives since the project proponents have chosen to make this piece of information the crucial decision point for selection of an alternative. The DEIS needs to include all of the costs calculated by the proponents, including the profit margin of Mitex.

NEPA regulations further require that if the agency chooses to use benefit/cost ratio analysis in choosing among environmentally different alternatives, then the agency must discuss the relationship between the benefit/cost analysis and "any analyses of unquantified environmental impacts, values, and amenities." (40 CFR 1502.23). Since the DEIS provides no information as to how the benefit/cost ratios in it were derived, particularly for environmental costs to values and amenities such as minimum streamflow, and since these ratios are used to exclude certain alternatives, the DEIS is clearly in violation of NEPA regulations.

NEPA regulations also note that if material is based on proprietary data which is itself not available for review and comment, it shall not be incorporated by reference (40 CFR 1502.21). Clearly, if Mitex does not want to share its benefit/cost calculations with the DEIS reviewers, then this information should not be part of the DEIS and the decision process.

The DEIS is perhaps premature since the financial feasibility of the project, according to the project proponents, depends on diverting water in addition to the early decrees of UVWUA. These recent priority water rights, dating to 1982 and 1987, are junior to the unquantified federal wilderness and National Monument water rights of the Black Canyon of the Gunnison. The DEIS notes that these federal rights are senior to the hydropower rights (2-43) and would be unaffected by hydropower development. The converse is not true, however. The hydropower development could be drastically affected by the quantification of the federal water rights, and could make the project financially infeasible by reducing the amount of water it can withdraw, at least according to the financial predictions of the proponents. It seems to be putting the cart before the horse to discuss approval and permitting of a project that could be blown out of the water by as yet unknown federal water rights. The Bureau of Reclamation should consider postponing action on this permit application until the quantification of federal water rights is complete.

The AB Lateral Hydropower project may be illegal under the conditions of Section 603 of the Federal Land Policy and Management Act. Section 603 requires BLM to manage areas identified for wilderness review (such as Gunnison Gorge) "in a manner so as not to impair the suitability of such areas for preservation as wilderness." BLM has a legal responsibility to see that new uses, such as the application of the 1982 and 1987 water right decrees which postdate FLPMA, do not degrade the wilderness characteristics of Wilderness Study Areas. The DEIS notes that "operation of the facility may affect wilderness quality," and that "both recreation use and volume of water in the reach of river would be affected." (DEIS, 3-135). Furthermore, at lower flows, fishermen will be able to make increased use of the riverbank within the Gunnison Gorge, perhaps to the detriment of wilderness values. The DEIS does not make a determination that these impacts to wilderness values are in compliance with the requirements of FLPMA and BLM's Interim Management Policy. The information provided in the DEIS would seem to indicate that the AB Lateral Project will violate the wilderness protection requirements of FLPMA.

There are obviously a number of serious questions that have been left unanswered by the DEIS. In short, if the project proponents, led by a investment partnership from the East Coast, are unwilling to come clean about their costs and expected profits from the project, the Sierra Club sees no reason to allow them to degrade a valuable public resource such as the Gunnison River. The public owners of the



Projects Manager  
June 4, 1989  
Page 4

Gunnison, and the public permitting agencies such as the Bureau of Reclamation that stand in service to the public, have every right to all pertinent information before deciding whether to allow the use of a public resource for private gain. If the private investors do not want the public to know the details of their project, let them go elsewhere and find purely private resources to exploit.

Sincerely,



Mark Pearson

cc: Sierra Club Legal Defense Fund

OR-139 -- OR-146

June 21, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

Re: AB Lateral Hydropower Facility Draft Environmental Impact Statement, Uncompahgre Valley Reclamation Project

The AB Lateral Draft Environmental Impact Statement inadequately evaluates the impacts of this project, both on the area's natural resources and on its economy. We feel if the project was built it would be a major set back to our growing tourism and recreation industries, and to the quality of life that makes our area an attractive place to live. Therefore, the Paonia Chamber of Commerce has voted to oppose the project.

The Paonia Chamber of Commerce has 60 members and represents 70 percent of the business district of the Paonia area. One of the primary goals of the chamber is to promote recreational opportunities and tourism in the North Fork area, as well as encourage commerce and maintain the quality of life that would stimulate and attract new residents.

While the DEIS presents the AB Lateral project as having minimal impacts to our local economy, several mistakes were made in the DEIS that if corrected would result in substantially different numbers and a much different evaluation of the effects to this area.

**Rafting:** The DEIS underestimates the value of the area's growing rafting industry, both in terms of boater user-days and economic value. Because the Gunnison's rafting take-out is in Delta County, many of the economic attributes derived from rafting directly concern Delta County.

1. We question the survey used for table 3.47. It does not reflect the conditions in the local area. Specifically:
  - a. \$19 is not the average cost of a hotel room in our area. It is closer to \$30.
  - b. \$2 for travel expenses is not realistic. The Gunnison is far enough away from population centers that people must drive 5 hours across the Continental Divide from the Front Range, and many even fly into the Grand Junction airport.
  - c. The average fee for a commercial rafting trip, \$69 is wrong. It costs about \$90 for a one-day whitewater trip and between

\$150 and \$200 a day for fishing trips, which average two or three days. These costs should be differentiated in your final study.

d. The survey did not include the cost of packing gear into the Gunnison Gorge, shuttle drivers or take-out fees.

e. Because of the distance from population centers, boaters visiting the Gunnison generally stay in the area longer than the time they are on the river. The study should reflect at least one extra day spent in the area, if not 1.5 or 2 days.

2. The measure of boater days used to assess the value of rafting is incorrect. 1987, the year used in table 3.48, was a truncated season due to reduced flows during the last half of the season. Table 3.45 shows a 68 percent drop in boater days in September 87 versus August 87, which corresponds to a 50 percent reduction in flows. Table 3.48 should be adjusted to show 1987 boater days under normal flow conditions.

3. Money in an economically depressed region goes a lot further than under normal conditions. The table on 3.48 does not reflect the value of rafting income to the local economy. It should reflect more jobs and spinoff benefits.

4. The DEIS figures for direct and indirect expenditures need to be corrected according to the above list, and then combined with a better assessment of user days. You will find the economic losses due to the impacts on rafting to be far greater than the DEIS estimates, and increasing over time.

5. The DEIS correctly describes rafting as a growing industry in Delta County, and indeed it has grown dramatically every year except the last half of the 1987 season and 1988, when the river experienced low flows comparable to those the project would create.

Those low flows essentially destroyed the private rafting industry, and resulted in the worst year ever for all but one of the Gunnison's 15 commercial permit holders. While private use of the river can easily rebound from dry years, commercial boating companies cannot. They have a substantial investment in gear, book trips long in advance and rely on reputations built up over time. The low flow conditions created by the project are not conducive to a stable business. Use of table 3.6 to calculate boater user days (in table 3.51) does not account for year to year fluctuations and the large number of minimum flow years the project would create as seen in table 3.9. It is difficult at best to operate a business under those conditions.

Rather than maintaining the present dynamic and growing rafting industry, this project would turn rafting into a stunted, widely variable, high risk business.

**Fishing:** The DEIS contains incorrect assumptions of the impacts of the project on the Gunnison Gold Medal Trout Waters, consequently

incorrectly estimating the impact to the local tourism, recreation and retirement industries.

1. Table 3.47 list a value of \$25 per angler day. While that may be correct for local fishing enthusiasts, it is too low for non-local users, which are increasing in number every year. The study must differentiate between local and non-local users and add in expenditures for travel, lodging, food, fishing equipment and other costs.

2. The DEIS anticipates an increase in angler days from the project, and argues that this will mitigate the impact of rafting losses to the recreation economy. Lower flows will permit easier access for more anglers and simultaneously pool the Gunnison's trophy fish in smaller areas. This may increase fishing benefits and angler days over the short term, yet have very serious, long lasting impacts. Eventually, we feel the fishing quality will decline due to habitat stress and increased fishing pressure. If the assumptions about the viability of the fishery at low flows are incorrect, this decline would be dramatic. Such a decline would force management controls, such as stocking, catch and release regulations and loss of Gold Medal designation.

That in turn will devastate the integrity of the Gunnison fishery, eclipsing its fame and popularity and bring our local and growing fishing-based recreation economy to a grinding halt. The benefit claimed by the project for increased angler days seems tenuous and short term at best.

3. Delta County is making a substantial investment in purchasing land along the Gunnison River between the Smith Fork and the North Fork to maintain public access to the incredible fishing that has developed. That is not reflected in the DEIS, nor are the extensive efforts being made at advertising Delta County and the Gunnison River to increase tourism. The Paonia Chamber of Commerce annually spends 65 percent to 70 percent of its \$1,200 budget on advertising and promoting this area.

We feel those investments are in jeopardy. While fishing could improve deep in the heart of the Gunnison Gorge, because of high summer temperatures and low flows it might drive the trout living below the Smith Fork back upstream. Temperatures last year were as high as 77 degrees in Austin, and reached 64 degrees at the North Fork the week of June 12, 1989. Those are not acceptable conditions and will not sustain Gold Medal Trout Waters.

The DEIS should reflect the different conditions above and below the Smith Fork. That is important because the terrain from the Smith Fork down is easily accessible and growing in popularity among anglers, creating a substantial economic gain. While the DEIS presents no action alternative A as having no increases in angler days, in reality alternative A will result in a thriving fishery all the way from the Smith Fork to Delta, with easy access and boating conditions, healthy cool water, numerous trophy fish and growing national and international fame.

Conclusion: Fishing and rafting are at the core of the local tourism, recreation and retirement industries. These are fledgling industries and can be expected to grow over time. They represent an integral and dynamic part of our economy. Therefore, the Paonia Chamber of Commerce would like to confirm our opposition to the AB Lateral Hydropower Facility project.

We feel that the DEIS's assesment of impacts to the local economy is grossly inadequate. This project would have a long lasting negative effect on our financial environment at a time when an economic recovery is just beginning to highlight the area after years of financial loss in our local industries of ranching, coal mining and agriculture. We have found new economic recovery by seeking out new industry and development in tourism and promoting recreational opportunities, and would like to maintain and encourage this trend.

Sincerely,



Ivy Resnik, president  
Paonia Chamber of Commerce



**COMMENTS FROM PRIVATE INDIVIDUALS**



June 20, 1989

1-1 -- 1-12

Steve McCall  
AB Lateral  
Project Manager  
Bureau of Reclamation

Dear Steve,

I have reviewed the Draft Environmental Impact Statement on the proposed AB Lateral Hydro Facility. In my analysis of the impacts of the alternatives in the DEIS, I have developed a great deal of concern in regard to the development of the proposed AB Lateral Hydro Facility. I do not believe that the development of the AB Lateral is in the best public interest. In fact, I believe it is just the opposite.

I question some of the numbers used in the Draft Environmental Impact Statement. I feel they are inadequate and the implications of these numbers are implausible, as exemplified by expenditure estimates for rafting and fishing and related economic conditions. For instance, local expenditure per person for rafting and fishing per day, DEIS 3-45 Table 3.47, suggests that hotel and motels charge an average rate of \$19.00 dollars for lodging. As former management of 2 regional motels, I seriously questioned these numbers. So I personally surveyed area motels for their nightly rates. For instance, the Sundance Motel in Delta charges \$36.00 a day; the South Gate in Delta charges \$26.00 a day; the Riverwood charges \$30.00 a day; in Montrose, the Black Canyon Friendship Inn charges \$34.00; in Montrose the Best Western Red Arrow Motel charges \$54.00; in Montrose, the Quality Inn Red Barn charges \$32.00.

In truth, the nightly lodging expenditures in the Montrose and Delta area average around \$35.00 daily. There is lodging available at \$19.00 a room as exemplified by the El D Rado Motel in Delta and the Cimarron Inn on E. Hwy. 50 in Cimarron. I've included these in my averages.

There is indeed a great difference between the \$19.00 average in the DEIS and the actual \$35.00 average for lodging in the area.

Let's see:     \$35.00  
              -19.00  
              ---  
              \$16.00

This is a difference of \$16.00 per person per day. That's not shown in the DEIS, as you can see.

We are not shown the full economic effect in the region for lodging created by rafting and fishing industries. How can one accurately estimate the full economic effects in the region, sales earnings and employment multipliers if these type of estimate figures are asked in the DEIS.

The analysis in DEIS seems to favor the short-term economic benefits of the proposed Hydro Facility against the long-term development of a tourism recreation related industry. We know statistically that tourism is the number one industry in the state of Colorado, as exemplified in my previous comments to the

Bureau of Reclamation in March of 1989. There is no real assurance that this project will indeed help the Uncompangre Valley Water Users Association (UVWUA).

Mitex, on the other hand, is to be paid their cost including profit off the top. Estimates are that the proposed project will produce a net annual profit of 4 million dollars. The 4 million net profit is after the annual debt service of \$8,754,713.08. The DEIS 3-148 indicates \$150,000.00 annually would be paid to UVWUA with no reduction in water charges. This leaves an approximate net annual profit to Mitex of \$3,850,000 after operating expenses. All the while, the UVWUA will receive only 4% of the profits during the first 15 years of operation. At the present time, Colorado Ute has 40% surplus of electrical power that it is unable to sell, and at this time is trying to avoid involuntary bankruptcy.

It has been suggested that a wheeling fee to move power from the proposed hydro project through Colorado Ute's transmission to public service will have a positive impact on Colorado Ute. But I suspect the ability to sell its surplus power would have a far better financial return for Colorado Ute than transferring a competing entity's power.

The June 12, 1989 Daily Sentinel commented on the possible merger or sale of Colorado Ute's assets to Public Service Company, which basically means public service would no longer be legally obligated to purchase alternative power such as the proposed AB Lateral Hydro Facility.

If indeed Public Service absorbed Colorado Ute, I would assume that we the UVWUA would in the end incur a greater burden of debt and be forced to sell their proposed power below market value. I can only describe this project as a Pork Barrel project, when nationwide our utilities are 25% over capacity.

I consider the proposed loss of steam flow in the Gunnison River Ecosystem and its negative effects on tourism and recreation as nothing more than a subsidy, since to quote Dick Johnston of the Colorado Rivers Conservancy District, "water flows to money - yes, a subsidy of a different color." The end result is the same. A guy like me has to pay one way or another, only this time the cost is a quality of life I've grown to love in the Gunnison River country that is irredeemable.

The only rationale behind this project does not stem from a need for electricity. There appears to be no need for the AB Lateral project other than to accommodate the water user reduction of debt to the Federal Government. This self-motivated purpose is detrimental to the Gunnison and Uncompangre Rivers, its wildlife and users.

The Gunnison River should not be lowered below its stabilized bank to bank flows for any other reason than irrigation by the UVWUA. To do otherwise is nothing short of vandalism.

To consolidate my comments, I will attempt to summarize my concerns with the DEIS for the proposed AB Lateral Hydro Facility.

1. The increased water temperatures of the Gunnison River and its negative effects on trout fishery:

- A. EA 3-27 - Minimum flow periods would increase with the project. Stream temperature would increase to 68°F and above. Growth potential for trout begins to decline at 68°F. Maximum trout growth occurs between 45°F and 66°F.
- B. DEIS 3-85 - Water temperature would change with increases in the frequency of 300 cfs stream flow. The Gunnison River would cool to icing conditions and warm up in the summer.
- C. DEIS 3-49 - Maximum stream temperature near Austin is 68° to 77°F.
- D. DEIS 3-42 - Maximum daily average temperatures were 71°F, and the maximum daily temperature was 77°F. Hooking mortality in trout increases at 60°F. As the temperature climbs, two things happen:
1. The amount of oxygen water holds decreases.
  2. The trout's metabolism increases. Trout react to this danger by decreasing activity levels.
2. Icing in the Gunnison River.
- A. EA 3-27 - Ice known to reduce macroinvertebrates.
- B. DEIS 3-88 - Macroinvertebrates could be reduced by icing and increased diversion.
- C. DEIS 3-85 - Water temperature would change with frequency of 300 cfs flows. At these flows, the formation of frazzil and sheet ice occurs.
1. Ice would increase the development time for Brown Trout.
  2. Ice may increase the mortality of Brown Trout eggs.
  3. Decrease the growth rate of fish.
- D. DEIS 3-49 - Ice formation and accumulation in the Gunnison at flows below 500 cfs.
- E. DEIS 3-48 - The occurrence of ice bridging and frazzil ice jams.
- F. DEIS 3-47 - Ice bridging and anchor ice as far as National Monument. Anchor ice should be observed as a symptom of the river being too low to maintain ecosystem as we know it!
- When anchor ice forms, the zoobenthic community moves deeper into substrata of rocks and rubble, concentrating insects into less space and greater population density, creating a situation where predation becomes an extreme factor in the zoobenthic population, possibly negatively affecting the forage base for trout.
- G. DEIS 3-44 - Comments on the development of ice bridging and frazzil ice with flows below 500 cfs.
- H. DEIS 3-40 - Ice bridging may negatively affect species' usage such as Eagles, otter and water fowl.

As you can see, the most adverse and negative effects to the Gunnison River ecosystem caused by icing and warming is occurring in the most recreationally accessible biologically diverse area.

3. Trout populations and dynamics have been outstanding since the development of the Curricanti tailwater fishery.
- A. DEIS 3-68 - 300 to 400 fish per acre above North Fork confluence.
- B. DEIS 5-7 and 3-68 - 900 to 1,000 trout per acre in less accessible Gunnison Gorge and Black Canyon.
- C. DEIS 3-27 - Trout populations below North Fork confluence at all time high as exemplified:
- |      |              |
|------|--------------|
| 1986 | 5,493 Trout  |
| 1987 | 11,700 Trout |
| 1988 | 14,600 Trout |
- Population estimates for the Gunnison Gorge is 600 fish per mile or better, while below the North Fork confluence, there are 10 times the amount of 16" fish as there were in 1981.
- D. DEIS 3-80 - Spawning habitat is optimum at 500 cfs.
- E. DEIS 3-90 - Adult summer habitats are best from flows ranging from 400 to 1,000 cfs.
- F. DEIS 3-78 - Adult habitat above North Fork confluence is optimum at 600 cfs.
- G. EA 3-13 - Winter habitat for trout is optimum between 400 to 1,000 cfs.
- H. DEIS 3-77 - Adult trout habitat, Ducan Trail, is optimum at 600 cfs.
- I. DEIS - Increased population below North Fork attributed to spawn success in 1986 and 1987 (which occurred in flows above 300 cfs).
- As you can see by the DEIS, there exist a consensus of data that places year round flows for the trout population in the Gunnison River at 500 to 600 cfs, and not the proposed 300 cfs flow regime of the AB Lateral project. Flows in the 500 to 600 range would ensure the protection and preservation of the total riverine system including the Gold Medal fishery and the continued diversity of its recreational opportunities.
4. Otters
- A. DEIS 3-40 - If ice were to cover the Gunnison River as it did in the winter of 1988-89, species using the river could be negatively affected.
- B. DEIS 3-123 - No data on otters released in the Gunnison River.



- C. DEIS 3-124 - Habitat data and requirements have not been addressed, as well as no studies have been conducted to study other populations.
- D. DEIS 3-126 - Suggest that below the tail-race of the proposed Hydro Facility, the discharge of water from the hydro plant will keep the Uncompahgre free of ice, providing potential habitat for water flow, Bald Eagles and otters.
- E. DEIS 3-98 - States the velocity of the discharges from the power facility will be too fast to support fish. Also, ducks common to this area don't like fast water. So as you can see, there will be no forage in the Uncompahgre River for the otters. That's nice. Let's freeze them from one drainage, and starve them out of the other. This type of planning is ludicrous.
- The Bald Eagle may never again soar the skies of the Gunnison River if the AB Lateral Project is built as proposed. With the proposed AB Lateral Project, the Gunnison River flows will be reduced to 300 cfs 50% of the time, most notably in the winter.
- The Draft Environmental Impact Statement (DEIS) points out 3-49: The potential for ice development and formation increases with flows below 500 cfs. The DEIS 3-48 states that ice bridging and anchor ice will begin to form as far upstream as the Black Canyon National Monument.
- Last winter, the Gunnison River below the North Fork Confluence froze from bank to bank, severely restricting the amount of open water available for wintering Bald Eagles and water fowl. Bald Eagles primarily prey upon fish and water fowl. With ice bridging the river bank to bank, the hunting and foraging area for Bald Eagles became extremely limited.
- In the DEIS 3-12, the proponents suggest that below the tailrace of the proposed hydro facility, the discharge of water from the hydro plant will keep the Uncompahgre River free of ice, providing potential habitat for water fowl and Eagles. But DEIS 3-98 states the velocity of the discharges from the power facility will be too fast to support fish.
- Also, ducks common to the area don't like fast water. If the water velocity below the tailrace won't support fish, it stands to reason that duck usage will be minimal.
- What is it that the proponents of this project suggest that the Eagles eat? With the Gunnison River frozen and no forage available in the Uncompahgre River, the disappearance of the Eagle is assured. With this type of logic displayed in the DEIS, these magnificent animals are truly endangered.
- The DEIS 3-120 and 3-121 state that the Gunnison River is a high use wintering habitat for Eagles, and that preservation of habitat is the key to the preservation of the Bald Eagle. To maintain the habitat, we need to maintain the flows of the regulated Gunnison
- River. The DEIS 3-121 states little is known of the Bald Eagles' wintering habitat along the Gunnison River.
- In the DEIS 2-33, the proponents propose to study the Bald Eagle after the development of the project. Isn't this somewhat backwards? Shouldn't Eagles and Eagle habitat and usage be studied prior to the development of the project?
- The DEIS 2-33 proposes to study Eagles from the Black Canyon National Monument downstream to the North Fork Confluence. Last winter, 10 Eagles wintered below the North Fork Confluence. Six Bald Eagles wintered near Austin and 4 more Eagles wintered near Delta in the area of the Camel Switch Bridge.
- DEIS 3-120 clearly states that the BLM classifies the Gunnison River as a high use area and the Uncompahgre as a low use area in terms of Eagles. Why isn't the proposed Eagle study extended downstream of the North Fork Confluence to Delta?
- The Bald Eagle is a National treasure. We can't allow these birds to disappear. The Gunnison River must be maintained at a minimum of 500 cfs to preserve the wintering habitat of Bald Eagles. The Eagle represents a part of our National Heritage. Guarantee its future. Scale back the AB Lateral Hydro Project and maintain the Gunnison River ecosystem for the Eagles.
5. Water Quality
- With the project as proposed, one has to be concerned with water quality throughout the Gunnison and Uncompahgre drainages.
- A. DEIS 3-65 - Suggests the Gunnison River and particularly below the North Fork confluence will have its dilution capability reduced. And below the North Fork confluence, the water quality of the Gunnison on average will be of poorer water quality due to the development of the proposed project.
- B. DEIS 3-61 through 3-99 - Comments on the excessive amounts of salts found in the Mancos or adobe formations found along the Uncompahgre River. And salt load is now occurring due to tributary side flows and irrigation returns.
- Imagine what increased water velocity and erosion could do to the salt loading in the Uncompahgre River.
- C. DEIS 3-67 - The Uncompahgre River gains selenium between Colona and Delta.
- There is a distinct possibility that the proposed AB Lateral Hydro project will increase the flows in the Uncompahgre River three-fold. With this potential for large scale erosion, it may create even more selenium depositing in the Uncompahgre River. Selenium is known to reduce the reproductive success of native Colorado River fishes. The impact of selenium has not been fully addressed in the DEIS.

D. DEIS 3-66 - Stream flows through Montrose to the tail-race would be of lower water quality, and the increased flows from the tail-race would improve water quality, provided measures to prevent erosion would be undertaken.

Now we have a major financial problem that will not only erode at the streambanks of the Uncompahgre but also at the profit margin and the cost effectiveness of this project.

The DEIS has no idea the extent the stream erosion will be, nor the amount of money needed to prevent large scale erosion in the Uncompahgre.

To finalize my comments, the potential large scale erosion of property, roads, bridges and riparian habitat is extreme with this project. The cost overruns will be enormous.

DEIS 3-34 - Uncompahgre stream bank unstable.

DEIS 3-67 - Without bank stabilization, the degradation of the stream channel would occur. The sediment load would increase.

DEIS 5-6 - Extreme erosion of Uncompahgre stream bank.

DEIS 3-99 - Salt loading from Manco's formation. Salts that often dissolve during weathering.

DEIS 3-39 - Channel clearing, straightening, rock jettie and reverment work will be needed.

DEIS 2-16 - Rip Rap and canalization of 25% of the stream bank.

This translates to the large scale destruction of wetlands and riparian habitat. As proposed, the AB Lateral would be disruptive to water fowl management. Channelization causes soil erosion. It interferes with the water table, and can cause flooding by moving too much water too soon. It allows rivers to dry up too fast during droughts and destroys winter water fowl habitat.

Because of these reasons, they are now working on a Bill to ban river channelization in Tennessee, HB1409 and SB1418. Why have no studies been done in the DEIS addressing water fowl? South of the Ash Mesa Bridge on the Uncompahgre River, an estimated 1200 ducks wintered in the natural riparian habitat, while north of the Ash Mesa Bridge, only 20 ducks wintered in this section of channelized river. This alone should give you an idea of the potential damage created by channelization to wildlife.

How much longer can our natural resources be exploited for questionable commercial gain? How much longer can we allow our resources and our recreational lands to be diminished. What we're really talking here is a quality of life. For these reasons, I oppose the AB Lateral project as proposed.

*[Handwritten signature]*  
 222 East  
 9/11/12  
 T. J. [unclear]



THE GUNNISON RIVER WILL FLOW AROUND  
300cfs 50% OF THE TIME WITH THE PROJECT !

STUDIES INDICATE THAT OPTIMUM FLOWS  
FOR ADULT TROUT ARE 500 TO 600cfs !  
BUT SPAWNING IS BEST AT 400 TO 500cfs.

LOW FLOWS AT 300 cfs ARE  
BEST FOR TROUT FRY EMERGENCE !

## MITEX RESEARCH DEPT.

AB LATERAL  
Scientific Study Gunnison River



ADULT TROUT



EGG



Yes Folks The Issue is, What  
Comes First The TROUT Or The EGG ?



WE AT MITEX SHOW OUR  
COST BENEFIT RATIO FOR  
THE AB LATERAL PROJECT  
AS A MINIMUM RETURN OF  
1.056 .



THATS NOT MUCH  
OF A MARGIN .  
YOUR SAYING A  
NICKEL RETURN ON  
EVERY DOLLAR .  
YOU'D GET A BETTER  
RETURN FROM A  
BANK! IT MUST  
TAKE A LOT OF  
NICKELS TO RUN  
A BIG CORPORATION?

Further Impacts of the AB Lateral Hydropower Facility:

Comments on the Draft Environmental Impact Statement by Bradford Hatcher, Land Use Planning Consultant in San Miguel and Montrose Counties; Project Coordinator, Turkey Creek Hydroelectric.

May 26, 1989

To whom it may concern,

I have recently reviewed the AB Lateral Draft EIS and have the following comments, questions and suggestions, with emphasis on impacts to the Gunnison River ecosystem.

1.) The DEIS contains no organized climatological data, which makes it impossible to assess the intensity and duration of icing impacts on instream flows and biota, or the impacts of overwarming downstream.

2.) The DEIS contains no "percent of time exceeded" table on the Uncompahgre River flows. If tailrace discharges are to be shut down when the Uncompahgre reaches its mean annual flood of 1900 CFS, this will entail a very severe flushing action on a much more delicately balanced Gunnison ecosystem. This flushing would tend to occur in the middle of the critical trout fry swim up windows around which the DEIS builds most of its low flow arguments.

3.) The DEIS makes repeated use of the argument that more flow regulation is better. Prior to regulation by the Aspinall unit the Gunnison, especially

through the Black Canyon, was regarded as "the finest trout stream in the world" (National Geographic Society, 1949). This is not claimed anymore although the fishery still merits high praise. But if more regulation is better, one would expect enhancement.

4.) It seems that, especially for a supposedly protected river, the entire flow argument flows in the wrong direction. Minimum instream flow requirements are the single most crucial factor in the river's protection. Yet these are established in the DEIS on primarily economic grounds and not on what the stream "wants" to function optimally as an ecosystem that incidentally supports a fishery. The DEIS then spends much of its length trying to justify what could well be an ecologically disastrous low flow.

5.) An argument used repeatedly in the document states in essence that, since the fishery has an occasion (7.8% of the time) sustained low flow impacts of 200-300 CFS and survived, that increasing the frequency and duration of these impacts by a factor of seven times would be sustainable. This is a fallacious argument. It's like saying that if a boxer can take one punch, then six more won't hurt him. The system needs time to recover from traumatic years and impacts. Increasing the adverse condition by a factor of seven is likely to make recovery doubtful.

6.) The DEIS gives lip service to the idea of establishing a minimum instream flow based on the optimum flows for each of the trout life stages, but then proceeds to do nothing about it. Rather, it does a quick shell game and returns only to ideal fry swim up flows, spreading these ten weeks across the entire year, to justify 300 CFS minimums.

a sieve or a trap for riparian and terrestrial detritus, which in the process of decay provides bacterial and fungal growth more important to the food chain than the detritus itself. This must be anchored for the period of decay or it does not enter the chain. It is important to note that the total food supply generated here is roughly, but closely, a direct function of the stream area defined by the wetted perimeter. The total biomass of this nutrient salad (soup when suspended by turbulent flows) is going to decrease in direct proportion to a sustained decrease in wetted perimeter. This will affect biomass up to the top of the chain, yet the DEIS gives it no mention.

b.) The riparian part serves in providing aquatic forage during high flows, in feeding animals which provide the river with their nutrients when living and their bodies when not. It feeds the insects that feed the fish and provides the river with both filtration and vegetable detritus. c) The terrestrial part generates energy and detritus for the system and feeds the animals that feed the fish. In general, aquatic parts of the system are inadequate to drive a stream's power or nutrient cycles - there is always reliance on land. While it is argued that riparian vegetation will increase until scouring occurs at high flows and that terrestrial vegetation will decrease only at the rate that roots fail to reach deeper groundwater, the net usable supply of detritus to the food chain would also decrease as a direct function of wetted perimeter - there would be less aquatic plant life to trap it during decay. These three bottom-of-the-chain environments constitute the "first trophic level" or the producers in the chain. They drive the system with solar energy converted to glucose at about 1% efficiency and provide the stream with practically all of its nutrients. To begin to quantify proposed impacts to this first level, which means proportional impacts throughout the chain, refer to DEIS Fig. 3.14

7.) While I think that Nehring's fishery data are pretty much beyond contest, I also think that his findings have been abused in the DEIS. It must be remembered that the Phabsim model charts only certain physical dimensions of trout habitat. A complete model would take on temperature, turbidity, toxicity and climatic events as well as the very important energy, chemical and nutrient cycles. In general, I prefer the more comprehensive ecosystem approach recommended in the DEIS response of Dr. Stanford, for reasons given below.

8.) One does not, with any kind of success, perform an analysis of the environmental impacts on a complex ecosystem by beginning, and effectively ending, with a quantitative study of two species (brown and rainbow trout) which move between the third and fourth trophic (feeding) levels of the system. As the stability of a system is a direct function of its complexity, an understanding of ways to maintain system stability is going to be a complex understanding. Oversimplification is simply short-sighted. We are provided with a few lists of life forms at the bottom of the food chain. Period. No analysis, explanations or impacts. The first trophic level is merely pronounced healthy. Presumably, this means invulnerable, but it is not.

9.) The bottom of the food chain has three parts - aquatic, riparian and terrestrial. a.) The aquatic begins with single cell algae and multi-cell plant life which forms a felt mat across the river bottom. This does a number of things: it provides harbor for herbivorous zooplankton and forage for the higher trophic levels. It traps sediment for the rooting and growth for the increasingly complex plant forms, often to be undone by scouring. It provides

and what is called the "stabilized low flow channel (present)". Although this is greatly oversimplified it offers a reasonable place to begin. The final EIS should have at least several typical sections with the percent of reach for which it is typical. The stabilized low flow channel appears here to accommodate flows around 650 CFS. It is apparent from the steep banks beyond this that an increase in flows beyond 650 CFS does not do much to increase wetted perimeter, while decreases below this this figure become significant, in a practically linear manner, in their impacts on wetted perimeter, and thus on the first trophic level. If we measure the difference in river width between 650 CFS and the proposed 300 CFS, we're looking at a proposal that calls for roughly 70% of present river biomass. This is a significant impact, yet it goes unmentioned in the DEIS.

10.) This figure does not, however, reflect directly on trout population figures, which are more a function of the physical dimensions of habitat and river bottom configuration (e.g. Phabsim models). The DEIS predicts (p. 3-83) a Phabsim calculated population reduction to 80% of present numbers. What a river biomass reduction does affect is trout size, and what we're looking at is 70% of present size. If we simply multiply 80% of present numbers times 70% of present size, we're looking at 56% of present trout biomass, prior to doubling existing impacts by anglers due to increased access. This is too much.

11.) At the 2nd trophic level are the herbivores. From the herbivorous zooplankton (microinvertebrates) to the insects and their larvae, mollusks and worms (macroinvertebrates) the distinction is fairly clean. Most fish,

however, are omnivorous. Those that lean toward an herbal diet here are the minnows, the suckers and the fry of species later to become carnivorous. The herbivores tend to convert energy and nutrients into their own systems at roughly a 10% efficiency. Impacts at this level are not addressed but can be assumed to be a linear function of reductions at level one. However, to the extent that any species in the system are lost due to lost habitat, whether these species are endangered or not, the system loses complexity, and therefore, stability.

12.) At the 3rd trophic level are the carnivores. In stream, these are the fish, though even the most carnivorous forage or graze, especially carp and brown trout. This group also converts energy and nutrients at about 10% efficiency when foraging or grazing, but with respect to the 1st trophic level, only a 1% efficiency when eating meat, including insects. At the 4th trophic level are those who eat the carnivores - anglers, eagles, otters, hungry trout. Again, efficiency drops by an order of magnitude, down to 0.1%. Impacts at these levels can again be presumed to be directly related to impacts at level one, again provided that complexity survives. However, should circumstances demand that species move upwards in trophic levels due to lack of forage, system efficiency drops by an order of magnitude as demands placed on level one multiply geometrically.

13.) Would the lower trophic levels of the Gunnison still be healthy at 70% of present biomass? At current populations levels, no. There would be significant overgrazing. But the DEIS is not proposing current population levels. It proposes a significant increase in relatively herbivorous trout

fry, which, it submits, should be overprotected to justify 300 CFS flows. Rainbow lay about 1,000 eggs, brown, about 1250. What would happen if more than 1 or 2 survived to spawn? To say "Bangladesh and Africa" would sound like an emotional argument, but it would not be an analogy, as it describes the same phenomenon at the same trophic level. Severe attrition levels and mortality rates are built into the trout reproductive cycle. To make too much ado of the statement that trout fry success is a bottleneck in trout population recruitment might prove to be a dangerous thing to trout population. Overprotection could lead to disaster by overgrazing trophic level one and then to mass inefficiency of exploitation in energy and nutrient cycles as carnivores turn on carnivores and omnivores turn on herbivores for primary food supply. I submit that mortality in fry is good, especially when the "right" to survive is "earned" by a test of fitness in the higher ranges of their instream flow rate tolerances. I submit that excessive fry success should be considered a negative impact on the system and that minimum flow suggestions should lean towards the dangerous side of optimum. It worked before regulation.

14.) It is claimed that in a dry year the effects of development could nearly double the record number of angler hours. This must assume present levels of interest. Given lowered trout biomass one might presume that, for these doubled angler hours, harvest, in pounds of trout biomass, might remain constant while proportional harvest might almost double, bringing total trout biomass to below 50% of present. But I would suspect that, at this point, interest in fishing the Gunnison would begin to wane. The river might become another catch-and-release stream, unless it were stocked. Would the sponsors pay for stocking? And the doubled angler hours - what are their impacts on wildlife?

15.) Beginning to conclude, I would submit that the healthiest overall approach to this problem is to draw a new bottom line for a Gunnison River minimum instream flow requirement. This need not be a hard, straight line, and, legally, it could not exceed historical and realistic demands of the UYWUA for irrigation requirements that sometimes require low flows of 300 CFS. But flows lower than what these decreed and proven agricultural water rights require ought to be regulated by numbers which respect the Gunnison River ecosystem. This bottom line would be a complex curve, reflecting minimums which vary throughout the year according to instream life stages, compromising where necessary between optimums for cohabitating species and intra-species life stages. I think that this optimum bottom line will be found to be much closer to the present "stabilized low flow channel" than it is to the proposed 300 CFS minimum, with this minimum considered as representing a severe stress on the system to be avoided whenever possible, and not economically indulged in whenever available.

16.) I like hydropower. I'm professionally involved in it. It's clean and renewable. The gas emissions DEIS argument is sound, although it's based on old coal plants and not on new high efficiency plants. And it is rare that a run-of-river hydropower proposal can show peak power production in winter when it is needed the most. But the proposal as it stands threatens to do too much damage, both to the Uncompahgre above and below Montrose with the extreme volume of diverted flows and to the Gunnison by being too greedy. I don't think that the profits are worth it. I could only support a scaled down project. A peak volume of 750 CFS would go a long way to protect the



Uncompahgre from the proposed (and costly) tampering, channeling and riprap. It might even become a pleasant river. I would not want to see flows in the Gunnison drop below 600 CFS except in response to agricultural demands. But a proposal within these parameters was not studied as an option. I certainly cannot support any of the options proposed.

17.) I doubt that if one were to apply the sponsor's benefit-cost ratio formula to numbers lower than Alternate E that one would get a number greater than one. However, whatever this formula is, it is generating some very suspicious numbers. The highest ratio, that for Alternate C, shows a net annual return on investment of 5.6%. Do the sponsors actually propose to cross the street for a return like that? Or do they think that the folks around Montrose who will read the DEIS are so stupid that this bit of deception will go unnoticed? I would be embarrassed to be caught in such a fraud. Let's look at some real numbers.

18.) And while we're looking for real numbers, let's see some tables on realistically projected need for more power. It's common knowledge that PSC will be required, under PURPA, to purchase the power at avoided cost. But this is not the same thing as saying the power is needed or wanted, especially outside of peak demand periods. The western slope already has a supply side glut.

19.) The attached graphs quantify and illustrate most of the impacts mentioned above (as well as impacts to the vigorous young rafting economy). The source for all of these data is the DEIS itself.

Figure 1 charts average monthly Gunnison flows, diversions and proposed impacts for the average year between 1965 and 1983. The heavy line shows what I would consider to be a reasonable minimum instream flow. The hatched area below this show what I consider to be the volume of unreasonable demands on the river. It can be seen here that in average or better years a reasonable flow requirement would only withhold a small percentage of proposed diversions from power production, perhaps 15%.

Figure 2 charts average monthly Gunnison flows, diversions and proposed impacts for the dry years between 1965 and 1983. This was taken from the 5th driest month during the 19 year period, or roughly a 25th percentile year. Some of these low flows, however, were reached 6 and 7 times during this period. Again the heavy line shows what I consider to be a reasonable minimum instream flow while the hatched area below it says "too much". To achieve reasonable minimums in this one year in four, proposed power production would need to be curtailed by about 35%.

Figure 3 charts historic percentile monthly average flows from the DEIS simulated post Aspinall flow data.

In closing, let me suggest that where impacts are being proposed to such an outstanding national treasure as the Black Canyon, the brunt of these ought to be borne fully and economically by those who would take a profit from a system, rather than ecologically by the system which enables those profits in

the first place. The ecosystem has proven itself sustainable, the drive to exploit every resource to its limit has not.

Thank you for your time.

Sincerely,

*Bradford Hatcher*

Bradford Hatcher

cc/Governor Roy Romer

Senator Tim Worth

OC Representative Ben Nighthorse Campbell

Western Colorado Congress

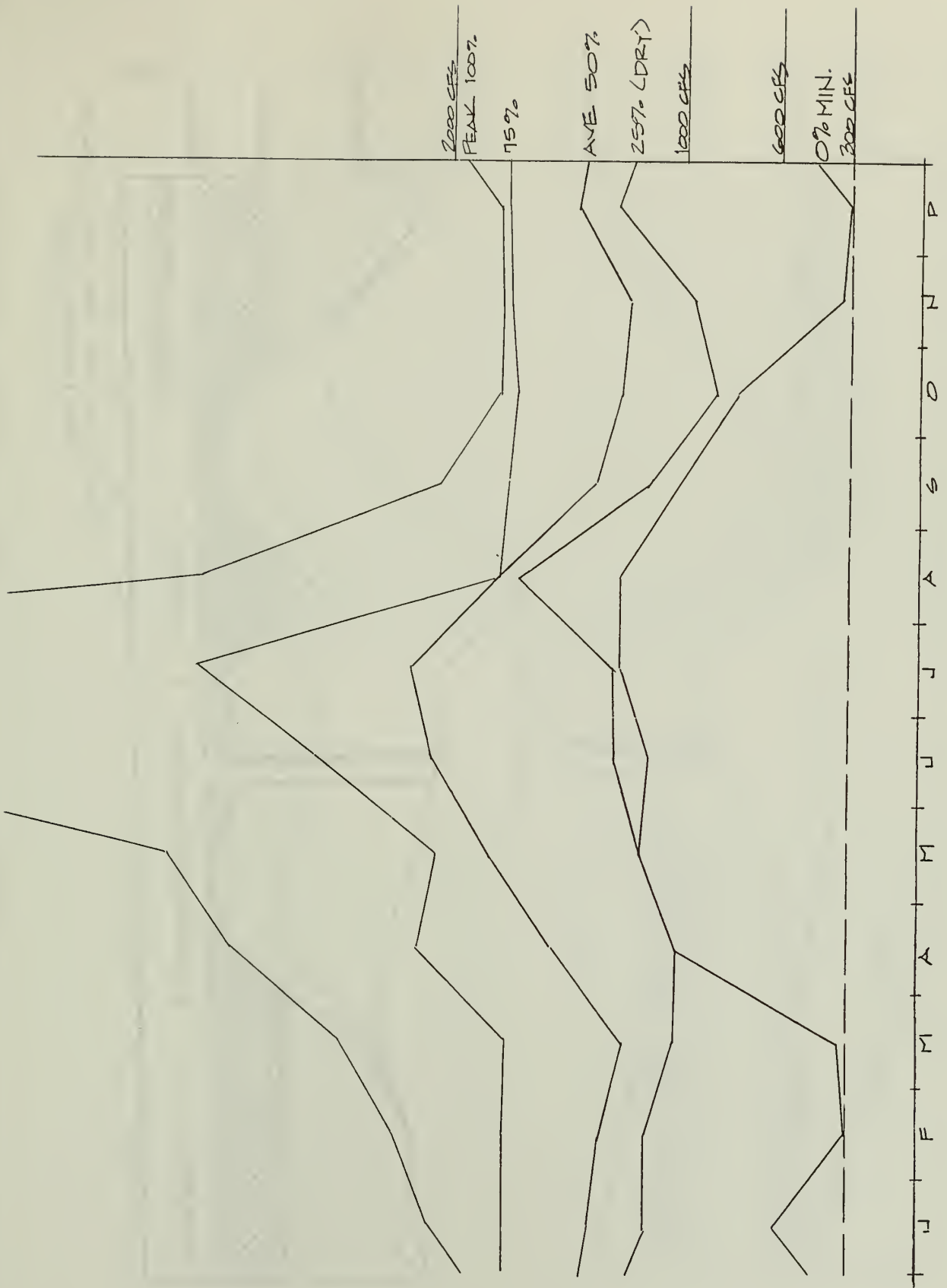


FIG 3: GUNNISON R., HISTORIC PERCENTILE FLOWS  
MO. AVE. SIMULATED POST ASPINAL

2000 CFS

1000 CFS

600 CFS

300 CFS

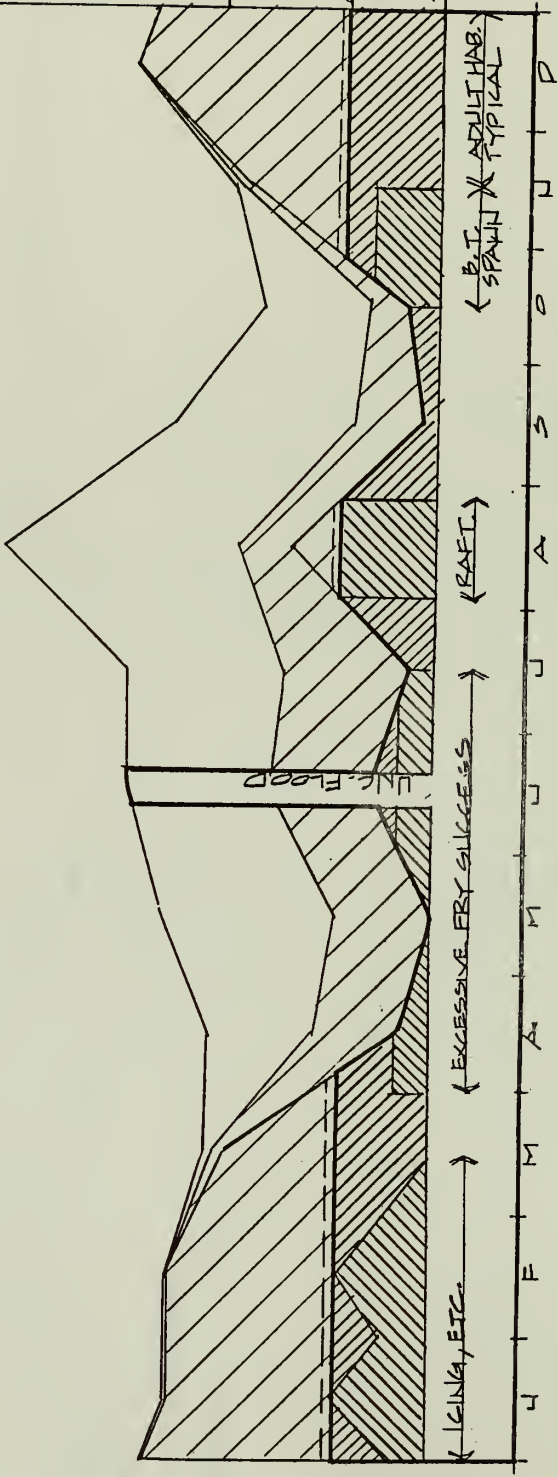


FIG 2 - LOW FLOW YEAR USES & IMPACTS  
25TH PERCENTILE YEAR

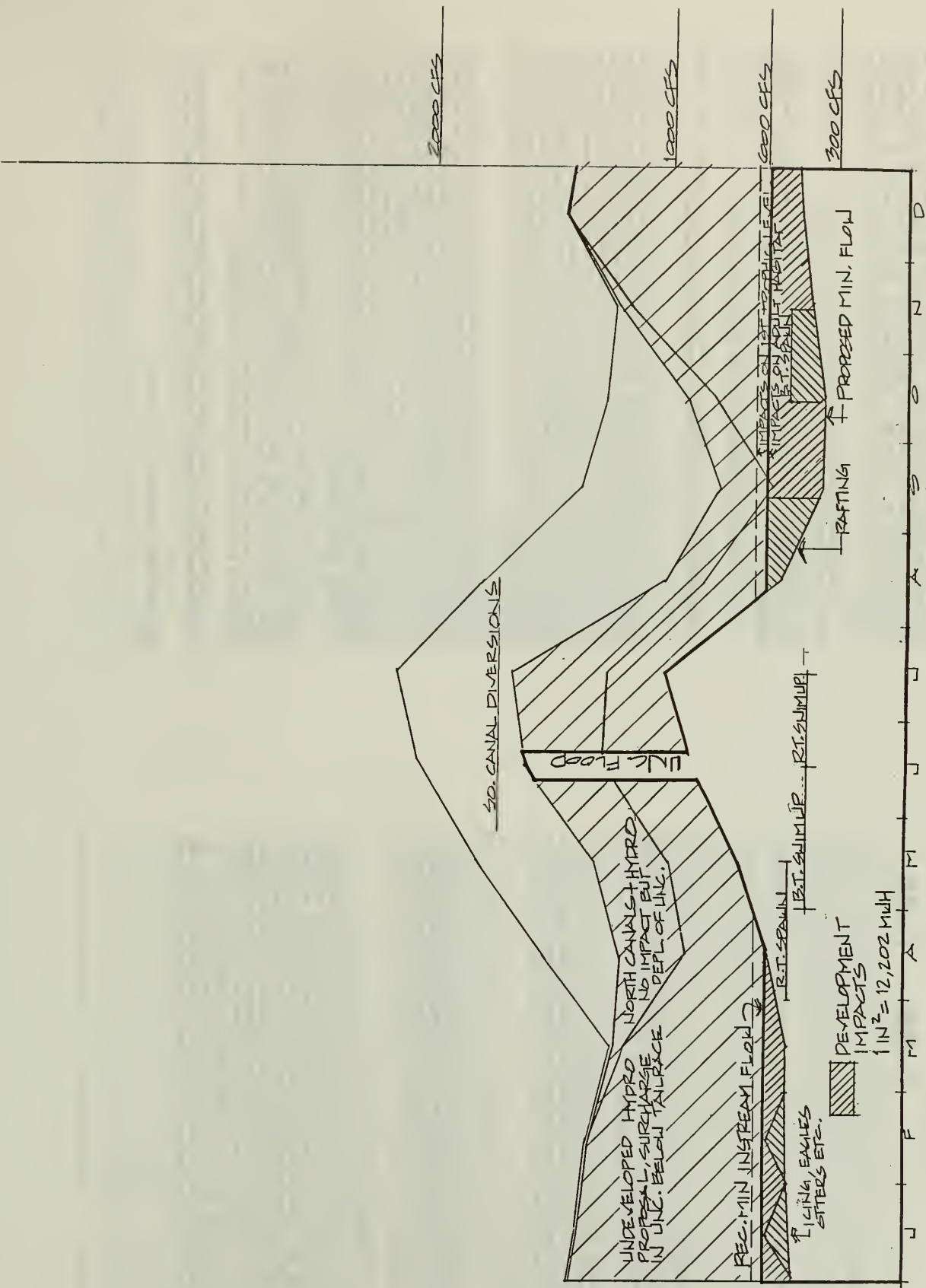


FIG 1 - AVERAGE YEAR USES & IMPACTS

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21 June 1989

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Projects Manager  
U. S. Bureau of Reclamation  
P. O. Box 60340  
Grand Junction, CO 81506

RE: Comment on DEIS for the Proposed AB Lateral Project on the Gunnison and Uncompahgre Rivers, Colorado.

Gentlemen:

On behalf of Mr. Caleb Gates of Gunnison River Expeditions, I have reviewed the DEIS for the proposed AB Lateral Hydropower Facility prepared by your agency. I have paid particular attention to the environmental impacts which fall into my areas of expertise: river geomorphology, hydraulic engineering and riparian resource management.

These comments have been prepared on fairly short notice and I wish to thank Mr. Steve McCall of the Grand Junction office for promptly forwarding additional information. I will visit the field sites in early July this year and may submit further comments at that time. I understand that an independent consultant is continuing to investigate the river morphology issues and that further information may be available in the near future. I request that any future reports be forwarded to me for review.

General Comments

The DEIS lacks sufficient detail in technical analyses and cost estimations for the reader to judge the merits of the project and the DEIS. The absence of cost breakdowns make it particularly difficult to judge the economic viability of the project. A lack of technical information does not give the reader the wherewithal to evaluate the project design or to determine the soundness of the conclusions and recommendations.

Increased erosion on the Uncompahgre River

It is freely admitted in the DEIS that increasing flows on the Uncompahgre River from the AB Lateral Project will cause accelerated erosion. However, there is a serious lack of information and analysis in the DEIS to justify the proposed open-ended, "blank check" budget to arrest bank erosion. The DEIS, and the consultant and agency reports (Stevens, 1988; and U.S. Soil Conservation Service, 1988) lack the technical information necessary to deal with the erosion problems realistically and to propose effective solutions. Because the analyses are deficient, there are substantial deficiencies in the preferred alternative design (Alternative C), which are discussed below. A more detailed and appropriate set of technical analyses are crucial to a realistic computation of the Benefit to Cost ratio, which is only 1.056 for the preferred alternative. The potential costs of stabilizing .396 miles of channel could easily exceed \$4.3 million over the project life and drive the B/C ratio down to less than 1.00. In addition, the B/C ratio for the preferred alternative could be driven down to a level where other alternatives are more economically favorable.

Many of the key conclusions regarding the impacts to the stability of the Uncompahgre River are based upon limited information and conjecture about the mechanics of the stream. The DEIS relies heavily on a report by Stevens (1988) to describe the problem, the expected impact, and the measures that will correct the problems. But the Stevens report is a preliminary reconnaissance effort at best and not an appropriate level of study to confidently determine the magnitude and types of impacts, to propose effective stabilization measures, or to determine the costs.

What specific information was used to generate a cost estimate for construction and operation and maintenance of pre-project and future bank stability projects?

What information was used to determine the proposed channel treatments? Have similar bank protection projects been undertaken on the Uncompahgre River and have they been successful?

What are the proposed projects and where are they to be located?

What information or analyses were conducted to conclude that increased flows on the Uncompahgre River would reduce salinity problems while erosion increased?

The erosion problems of the Uncompahgre River are not isolated to the trouble spots that will cease to be trouble if they are treated. The evidence I have reviewed points to a system-wide problem on the Uncompahgre River where the natural, narrow meandering channel morphology is out of equilibrium with present conditions. It appears that many reaches of the Uncompahgre River are changing from a narrow (average about 60 feet wide) single channel meandering stream to a wide (up to 450 feet wide) braided stream. This is a very serious problem and a costly one to correct as it is; if discharge is increased the problem could become much more difficult to treat. The channel appears to be responding in dramatic fashion to past disruption of projects or recent large flow events. If this is the case, the Uncompahgre River will continue to become wider and braided and this could be substantially aggravated by increasing discharge from the AB Lateral Hydropower operation.

The proposed channel stabilization measures will be largely ineffective and perhaps harmful to the problem unless the underlying causes of the instability and the quantitative river mechanics are understood. The information in the DEIS indicates that these analyses have not been completed. A combination of field and historical channel stability analysis is needed, then appropriate remedies can then be prescribed and their cost estimated. Technologies which involve river training rather than simple bank protection will be far more cost effective and less harmful to the environment; in fact river training creates many opportunities to improve the environmental quality of the stream while reducing instability. Without proper analysis, realistic cost estimates are not feasible to calculate. In turn, the economic justification of the project is flawed and the project sponsors take considerable financial responsibility for solving a problem that the DEIS does not describe adequately in scope or magnitude.

The flow information presented in the DEIS is inadequate for identifying the impact of the proposed project flow regime on the Uncompahgre and Gunnison Rivers. The DEIS presents monthly mean discharge data and does not provide daily mean discharge data to describe the proposed operation of the AB Lateral hydropower facility. Fluctuating flows on a daily basis or weekly basis can seriously accelerate erosion. The DEIS does not provide detailed enough information to evaluate the effects of operation on channel morphology.

The proposed project lacks several key logistical and institutional elements for management and implementation of the proposed Uncompahgre River bank protection program. How will the

AB Lateral DEIS Comments by M. L. Swanson

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Fork." What information and analyses lead to the conclusion that no change in flood flow regime will maintain one reach as is, and stabilize the eroding reach downstream "due to decreased discharge"? It does not appear that one can achieve both. Again, this claim demonstrates some deficiencies in the analyses.

The DEIS does not consistently recognize the ramifications of increased bank erosion on the Uncompahgre River to other key environmental impacts including water quality, recreation, fisheries and aesthetics. In fact, there are many internal inconsistencies within the DEIS on these issues:

**Water Quality:**

Page 3 - 66, 4th paragraph, last sentence states that "...increased flows downstream from the tailrace would improve water quality, provided measures to limit erosion would be taken." In other words the claim that increased flows will improve water quality by diluting salinity (Page 3 - 67, paragraph 4, first sentence) are only valid if the bank protection is installed, maintained and successful in arresting erosion and instability. How will this be accomplished for the whole Uncompahgre River? What information exists to support the claim that the erosion will be arrested and water quality improved? Isn't the total salt load the same even though the solution is less concentrated?

**Recreation:**

The claims of positive recreational benefits of the project on the Uncompahgre River described in Page 3 - 136, 4th and 5th paragraphs are unfounded and inconsistent with the discussion of increased erosion and instability found on page 3 - 37, paragraph 7. These claims of positive recreational benefit will not be realized in any scenario, even with the proposed channel stabilization measures.

Page 3 - 136 paragraph 4 states that "Under all development alternatives, increased flows below the tailrace could improve the recreational values of the Uncompahgre River as the result of relatively stable releases of high quality clear Gunnison River water. These releases coupled with the effect of the Ridgeway Reservoir upstream, could improve the water quality of the channel and stabilize and expand the wetlands of this area."

These claims conflict with the conclusions of the project impacts to river morphology. Increased flows will accelerate erosion, add sediment and degrade water quality. The high quality clear water will likely become quite turbid and muddy when it travels a short distance and entrains sand, silt and muds while inducing increased erosion. What information exists to support the claim that clear water conditions will endure below the tailrace? How can wetland areas expand and stabilize if erosion creates a wide, barren, braided channel and removes riparian vegetation? How will wetlands area expand if many reaches must be treated with rip rap and bank protection measures, which often destroys riparian vegetation?

Under any foreseeable future condition with the project, new rafting and canoeing opportunities will be very limited at best with either increased channel widening and erosion or with new bank protection works. When the Uncompahgre River widens, flows could become too shallow making it to navigate. Trees falling into the channel from eroding banks will present navigation hazards. If the proposed bank protection projects are installed, rafting and canoeing will become hazardous as rip rap works will become navigation hazards; visual resources will degrade as vegetated natural banks are replaced by barren rip rap banks.

Page 3 - 136, paragraph 4 further states that "A cold water fishery could develop in the (Uncompahgre) river in response to improved habitat conditions. However, habitat may still limit development of a significant fishery." What does this statement mean? It seems to say that new

project sponsor prioritize, design and implement the bank protection program on the Uncompahgre River? Who decides which projects are the most urgent? Who decides which erosion problems are the responsibility of the project sponsor? How will a determination be made about which erosion problems are the responsibility of the sponsor and which erosion problems are existing? Will the project sponsor take responsibility for existing erosion problems? What if the cost of the needed bank protection measures exceeds the money in the sinking fund? Where will additional money come from if it is needed? Has the cost of repair and maintenance of existing or new structures been considered? If so, what are the anticipated costs? What are the costs of habitat mitigation for bank protection projects? Will habitat mitigation be on-site or off-site and in-kind replacement?

Another serious deficiency of the preferred alternative design is the lack of any provision to shut down hydropower diversion if bank erosion is substantially increased. The proposed operation procedures call for not adding to flood flows, but they do not provide any provisions to curtail or cease operations if erosion in the Uncompahgre River increases. Such provisions are needed to gain confidence that the project sponsor will correct the erosion problems that arise.

The DEIS fails to address potential liability issues resulting from increasing flows in the Uncompahgre River. What is the sponsor's legal liability if increased erosion destroys property and the sponsor is sued for damages? Have the costs of such liability been considered?

The DEIS fails to address the environmental impacts of instituting a large scale channel stabilization project on the Uncompahgre River. The proposed erosion control measures can destroy valuable riparian habitat and, more importantly, may create additional instabilities in the river system. Deferring an impact analysis to application for an Army Corps of Engineers 404 permit is not sufficient since the 404 application process does not fully address economics and alternatives analysis. The cost of mitigation for bank protection projects yet to be designed or identified are ignored as well. It is well known that bank protection often increases erosion in other reaches requiring more bank protection. Other proposed measures such as channel straightening and "canalization" have substantial impact upon channel stability by increasing channel gradients. These impacts should be addressed in the DEIS.

There are internal inconsistencies in the DEIS regarding channel stability impacts, especially in the reaches of the Gunnison and Uncompahgre Rivers where the DEIS claims that channel stability will improve:

The DEIS claims that channel stability on the Uncompahgre River below Ridgeway reservoir and above the tailrace will improve due to decreased flows and that the sediment supply will be reduced. However, Steven's (1988) states that the Bureau of Reclamation has planned for two feet of channel degradation below Ridgeway Reservoir (Page 8, paragraph 3). It is also stated that Ridgeway Dam does not have a flood control function and that flood insurance maps would not be changed. The combined effect of continuing larger floods (the magnitude is not stated) and the release of clear water flows could increase erosion in this reach, add sediment to downstream reaches and increase instability. Sediment transport capacity is usually a power function of discharge, such that a small increase in discharge often results in several fold increase in the ability to erode and transport sediment; often the infrequent flood events are most important for channel morphology and sediment transport. More information is needed to adequately assess the impact of the recent closure of Ridgeway Reservoir on sediment supply and channel morphology.

The DEIS also claims that the morphology of the Gunnison River between the Gunnison Tunnel and the North Fork "would not change," because "...flood events (which) would be largely unaffected by development" (Page 3 - 35, 4th paragraph, 4th sentence) and any encroaching vegetation would be periodically scoured away. At the same time the DEIS claims that reduced flows below the North Fork would stabilize the channel there: "The overall impact of the proposed development alternative would be to increase the stability of the Gunnison River below the North

habitat would develop but that habitat may limit development? This claim does not consider habitat conditions with a shallow and wide braided channel morphology.

#### Loss of White Water Recreation on the Gunnison River

Page 3 - 153, first paragraph states that: "Although rafting activity can be expected to decline with reduced flows in the (Gunnison River) Gorge, hike-in fishing activity should increase. This is because, as discussed earlier, flows in the 300 - 600 cfs range produce excellent fishability on the Gunnison River". This claim appears to be based upon the perfunctory and statistically insignificant information on fishery use alluded to on page 3 - 129 paragraph 5, last sentence: "Records are not kept of inner canyon users who enter from upstream of downstream from the monument's boundary; but NPS officials report this use is increasing and was especially evident in 1988 when low river flows permitted people to travel greater distances throughout the canyon (Thoreson, personal communication, 1988)". This single observation is an inadequate substitute for identifying impacts for the life of the project and long-term use.

How will the loss of white water rafting be mitigated? Is increased access for hike-in fishery use an adequate replacement? Is the DEIS suggesting that hike-in fishery use will mitigate for the losses in white water rafting?

#### Cumulative Impacts Analysis

The DEIS is fully deficient in considering cumulative impacts. Several positive benefits are stated, but some very important negative cumulative impacts are completely ignored.

1. Increased flows on the Uncompahgre River from the AB Lateral Project, the closure of Ridgeway Reservoir, and planned bank protection projects for the Uncompahgre River from the tailrace to Delta.

The AB Lateral Project will increase flows and erosion on the Uncompahgre River. This requires a massive bank protection projects to arrest the increased erosion which will further impact channel stability, degrade biological resources, reduce wetland areas, and require significant expenditures. The Ridgeway reservoir now traps all sediments but does not reduce significant floods; this combination could cause serious erosion downstream (2 feet of degradation is anticipated by the Bureau of Reclamation) releasing more sediment to aggrade and de-stabilize reaches downstream. The EIS is deficient in addressing these impacts individually and collectively.

2. Reduced flows due to the AB Lateral Project on the Gunnison River will decrease white water rafting on the Gunnison River. Recent projects on the Gunnison River, notably Crystal, Morrow and Blue Mesa Reservoirs have destroyed white water recreation on the upper three fifths of Black Canyon on the Gunnison River, about 32 miles. Future dam projects are being considered on the Gunnison River. This combination of past and proposed projects could fully destroy water recreation in Black Canyon.

The DEIS fails to mention or address the cumulative losses of white water recreation on the Gunnison River due to past and proposed projects. The AB Lateral project will reduce flow levels to a 300 cfs minimum, far below the minimum and optimum flows for white water recreation. Reduced flows mean reduced rafting below the Gunnison Tunnel. Taken in the context of past projects, the AB Lateral Project will significantly reduce rafting on the remaining portion of Black Canyon, except for the 3.5 miles between Crystal Reservoir and the Gunnison Tunnel.

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#### Conclusions

It is my professional opinion that the DEIS fails in many key areas to address significant environmental impacts and thus it should be rejected. The DEIS discussions and conclusions regarding channel stability on the Uncompahgre and Gunnison Rivers demonstrate that the problem has not been properly analyzed or understood technically or economically. It is my opinion that increasing flows with the AB Lateral Project would be irresponsible without a sound plan to manage erosion problems, and the preferred project does not provide a sound plan. The erosion and channel stability problems on the Uncompahgre River were not properly understood or considered by those who claim that increased flows will improve recreational values; there are no positive recreational values to the project under any scenario and these claims should be rejected. The DEIS has failed to address any of the environmental impacts of the massive bank protection project proposed for the Uncompahgre River.

Thank you for the opportunity to review and comment on the DEIS. Please call me at 916-447-1210 if you have any questions.

Sincerely,



Mitchell L. Swanson

cc: Mr. Caleb Gates, Paonia CO.

AB Lateral DEIS Comments by M. L. Swanson

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**RESPONSE TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT**

**UNCOMPAGHRE VALLEY RECLAMATION PROJECT**

**AB LATERAL HYDROPOWER FACILITY**

**RESPONSE TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT**

**UNCOMPAGHRE VALLEY RECLAMATION PROJECT**

**AB LATERAL HYDROPOWER FACILITY**

The above-referenced Environmental Impact Statement (EIS) inadequately describes the probable environmental impacts of this project, specifically hydrologic impacts of the proposed action. Furthermore, until water rights issues and wetlands conversion issues have been cleared up, the project should be placed on hold. Finally, from the text it appears that the costs associated with mitigation of impacts have been significantly underestimated. Once these costs are completely realized, it is likely that it would be difficult to financially justify the project.

The following problems were noted in the EIS:

- (1) Lack of flow routing studies for the Uncompahgre River;
- (2) Inadequate studies of the probable morphological changes to both river systems;
- (3) Lack of studies on the effect of the flow changes on the alluvial floor aquifers;
- (4) Completely inadequate riprap designs;
- (5) Poorly planned wetland conversions;
- (6) Water right problems; and
- (7) The use of icing studies which have already been shown to be inadequate. Each of the problems will be addressed separately.

Submitted by:

Kent Wheeler  
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Salt Lake City, Utah 84102

## STREAM CAPACITY

The first glaring problem with the EIS is the complete lack of stream capacity studies (flow routing). Streamflows in the Uncompahgre River are going to be increased nearly four fold. Although this may be less than the highest peaks, it is nearly the mean annual flood. Furthermore, this will be a sustained flow not merely a short peak. The EIS needs to show that the Uncompahgre River can adequately contain this sustained flow and maintain sufficient freeboard to keep the river in its channel.

Preliminary calculations using Manning's Equation (Discharge =  $1.49/n R^{.66} s^5$ , where  $n$  is Manning's Roughness Coefficient,  $R$  is the cross-sectional area divided by the wetted perimeter, and  $s$  is the slope of the channel) and observations of the channel near Delta suggest that the river channel is too small to contain the high flows, especially on a sustained basis.

From Manning's Equation, the depth of flow can be calculated given the other parameters. Preliminary analysis using an average channel slope of 0.0049% and a channel width of 60 feet indicate a minimum depth of flow of 3.1 feet, in a straight channel. Flow depths would increase significantly on the outsides of bends, especially with the high expected channel velocities.

Personal observations made in the spring of 1989 on limited stretches of the Uncompahgre River near Delta found channel banks approximately 4 feet high. In some places these were actually levees which stood 1 to 2 feet above the surrounding fields. Given the uncertainties of the Manning's Equation, it is very possible that the Uncompahgre River does not have sufficient capacity to convey over 1000 cfs without overtopping its banks and flooding the low-lying areas. This problem would be compounded by the severe erosion that is likely to take place with the higher flows (See Riprap Designs).

The slope and channel data area average values taken from a study commissioned by the Bureau of Reclamation (Stevens, 1988). Although the slope and channel widths are averages and not actually indicative of the actual field conditions, they provide a starting point for analyzing channel capacity. To analyze the stream capacity, a complete survey of the entire stream should be conducted. This survey should include sufficient cross-sections to fully characterize the river, including minimum bank heights, channel slopes, and the radius of the meanders. This information should then be used to model the possible flow, with special consideration given to the meanders in the channel where flow depths and channel velocities would be at a maximum.

## PROBABLE MORPHOLOGIC CHANGES

Although this section was addressed in this version of the EIS, no data was presented to substantiate the conclusions. The EIS based all of its conclusions on the report (Stevens, 1988) which was by its own admission a reconnaissance level investigation with no data collected in the field other than some possible observations on possible bed material size. Problems with the report and the conclusions that were drawn are presented below.

### Gunnison River (Black Canyon)

The paper by Stevens (1988) suggests that little or no sediment transport occurs in the Black Canyon. This assertion violates basic premises of geology, and in addition, it is not confirmed by personal observations.

The Black Canyon as it is currently understood by geologists is a fairly new geologic feature. It has been formed by a river which is not significantly different than the present river. Eroding at a rate of  $-1$  cm per year, the river has formed the canyon through which it presently flows. Furthermore, the river has obviously transported the eroded material out of the canyon since it could not be stored in

the channel. Stevens (1988) paper shows that even with the upstream control, the flow regime has not been significantly changed. Therefore, this erosion and sediment transport are continuing.

Personal observations show a section of channel near the base of the Painted Wall in the Black Canyon that appears to be braided, indicating a very large source of sediment, not the very small amount suggested by Stevens (1988).

The peak flows may have been reduced by the upstream dams, but the transport of sediment out of the Black Canyon continues. Since no measurements were made it is not known whether this sediment is being transported as bedload or suspended load, however, sediment is still actively transported out of this reach of the river. The decreased flows from the development of the AB Lateral could cause aggravation in the channels or even a threshold response which could completely change the morphology of the stream.

Aggravation or worse, a morphological change in the channel would have profound effects on the fisheries in the Black Canyon and Gunnison Gorge.

#### **North Fork to Delta**

The EIS suggests that this section of river will become more stable, with vegetation invading the river bed exposed by the decreased flows. This is a likely response of the channel to the decreased flows. It should be noted that the peak flows (floods) will not decrease in size. The EIS states that the vegetation will be scoured clean with each new flood. This, however, is an unlikely scenario, as the vegetation will more likely stabilize the banks significantly decreasing the channel capacity. When a large flood (> 10 year) occurs in the channel with decreased capacity, more water will be forced into the flood plain. This will cause more property damage to the people living and working in the floodplain area..

#### **Uncompahgre River**

This river is even more likely to be negatively impacted than the Gunnison. Since the Uncompahgre River morphology is based on relatively small flows, sediment laden waters, and an alluvial channel, diverting what amounts to more than half of the average annual flood into the system on a year around basis could result in a very complex response which cannot be predicted. Detailed studies would be needed to make even an estimation as to how the Uncompahgre River will adjust to the increased flows. The morphological studies (Stevens, 1988) on which the EIS's conclusions are based are too incomplete to predict the response of the channel.

The description of the bed material in the EIS and the Stevens report (1988) suggest a graded channel, one which is actively transporting the bed material. In fact, the deposition of the gravel in the diversions indicate that the bed material is actively being transported. However, the EIS states that no significant change will occur in the river bed. This conclusion is inappropriate without specific studies showing that there is armoring of the channel for its entire 28 mile length and that this armor cannot be mobilized by the increased discharge. With the huge increase in flows on a year around basis, it is possible that the channel will actively cut its banks.

Since the EIS calls for straightening several unspecified reaches of channel and riprapping the sides of the channel, the river will have large amounts of excess energy. This energy will be directed towards eroding the banks and bottom. If even one section is not well armored, headcutting can begin. Headcutting would deepen the channel resulting in a base level change in the river. This would effect the alluvial valley aquifer and all subirrigation that takes place in the Uncompahgre River Valley. With the large amount of agriculture in this valley the effects of a base level change could be devastating.

Furthermore, the increase in flows could rapidly mobilize the smaller fraction of the bedload. This bedload would be rapidly deposited where channel velocities are not sufficient to move the gravel. This aggravation could significantly affect channel capacity resulting in localized flooding near the point of deposition.

#### **CHANGES IN THE ALLUVIAL VALLEY FLOOR AQUIFER**

As previously indicated, there is a complete lack of analysis in the EIS on how changes in the flow regimes in both rivers could have a significant effect on the alluvial valley floor aquifers. One of the parameters which make the alluvial valley floors such productive agricultural areas is the subirrigation that results from the very high aquifer in the flood plain. Changing the depth of water in the stream can and will significantly effect the adjacent aquifers. In the case of the Uncompahgre River, the increased flows could raise the water table so high that some vegetation could not live because of the saturated root zone. Conversely, if the Uncompahgre River started eroding in the bed, the water table could be lowered enough to dry out the floodplain. This would require increases in irrigation to produce the crops than it currently produces. The same corollaries also hold for the Gunnison Valley below the North Fork.

#### **RIPRAP**

As discussed earlier in this review, the highly unstable nature of the Uncompahgre River makes it very difficult to determine how the river will respond to the increased flows. The only way to assure that morphologic changes do not occur in the bed is a very well engineered riprap plan, not only well-designed on paper, but correctly employed in the field. The best engineered riprap channel will nearly always fail if it is not built correctly. The proposed riprap plan is one of the poorest plans that I have ever reviewed. Not only would it fail to stop bank

erosion, but it would actually increase erosion and decrease the carrying capacity of the river, resulting in increased flooding. The insufficient plans have even a larger implication in that they would significantly underestimate the costs associated with the riprap plan.

The EIS proposes a detailed aerial survey (as if it is even possible) to look for areas where the erosion will have a detrimental impact. This in itself is a misnomer; all erosion beyond natural rates has detrimental impacts, causing siltation in downstream impoundments and diversions, decreasing water quality by increasing Total Suspended Sediment and Total Dissolved Sediment (salt loading), and wasting valuable resources (i.e. topsoil).

The proposed plan underestimates the amount of riprapping that would be needed in a channel that by the EISs own description is very unstable. The EIS states that preliminary studies by the sponsors suggest that 25% of the channel will need to be riprapped, however, the EIS states that the river "is very unstable except a few short sections". With the increased flows it is likely that nearly the entire river from the tailrace to Delta would need to be riprapped, however, until the flow in the river is modeled no one can determine exactly what sections need to be riprapped.

The most incomplete portion of the riprap plan is the designs themselves. The EIS proposes placing rock on top of the bank and letting the bank erode out from underneath. Personal observations show that most of the unstable banks on the Uncompahgre River are vertical. When vertical banks erode they do not gently lower the rock down the face of the bank into the water, they topple. This results in the rock that is on top of the bank being dropped into the channel and often being carried downstream. The riprap is now in the channel, pushing the water against the banks and decreasing channel capacity. This results in increased erosion and increased flooding.

The proposed riprap method is not a well-thought out plan, but rather a cheap method that the sponsors thought would not get investigated in detail. This is obvious from Figure 2.7 which shows correct designs for riprapping, not the proposed plan. Costs associated with careful riprap designs as shown in this figure are orders of magnitude higher than the proposed methods.

Proper riprap design must be carefully engineered. Standard engineering practices start by analyzing the channel and bank material to determine the critical water velocity (i.e. when the banks will start to erode). With the fine-grained materials typical of the banks of the Uncompahgre River, 3 to 4 feet per second is the probable maximum velocity that is stable. Studies then need to be conducted to determine the expected channel velocities. Once the highest expected velocities are determined, properly sized, well-graded rock can be selected using tractive stress or limiting velocity methodologies. Selecting the proper riprap requires extensive analysis of the available rock to determine if it is durable enough to withstand the punishment of constant exposure to the water. Filter blankets must be designed to prevent water from eroding the banks underneath the riprap. Extra designs are needed for all transition areas where the flow regimes change. The banks will then need to be cut back to a minimum of a 2:1 slope. If the current bed material can be shown to be stable, then the riprap can be keyed into the channel bottom (Figure 2.7 in the EIS), otherwise the entire channel will need to be riprapped. Furthermore, it is very difficult to place riprap while water is in the channel without greatly increasing not only the sediment load but the petroleum hydrocarbons that are associated with using heavy machinery in the stream channel.

As can be seen from these simplified standard designs methodologies, the EIS has significantly underestimated possible costs for stabilizing the channel. Furthermore, the plan to establish a fund to riprap as the project proceeds merely

allows pollution to occur while the sponsors put money in the bank. With salt loading already a significant problem in the Colorado River Drainage, it is incomprehensible to allow the channel to erode while funds build up to remedy the problem.

#### WETLAND CONVERSION

The proposed wetland conversion shows an incredible lack of knowledge and planning. The EIS does not indicate that it understands the complexity of wetlands enough to properly replace them, if in fact wetlands could be replaced. Wetlands are one of the most complex ecosystems in the entire natural world. This is why wetland protection has become a significant issue in the past decade. Creating wetlands is much more than digging a shallow pond or the other vaguely proposed methods in the EIS. The EPA has recently stopped projects that plan to convert wetlands, even though there were commitments to replace the wetlands. The EPA recognizes the difficulties associated with replacing these complex ecosystems, and has begun to enforce the conservation of wetlands rather than the replacement of wetlands.

#### WATER RIGHT PROBLEMS

Of significant interest, because it shows incredibly poor planning, is the lack of dealing with the water rights issues associated with the Black Canyon of the Gunnison National Monument. Until the Federal Reserve Water Right for the National Monument and the possible reserve water rights associated with the proposed wilderness areas are quantified, further plans for the AB Lateral should be delayed. The cost benefit analysis has supposedly shown that the project is economically unfeasible without the high diversion rates. If when the water rights are quantified, they require more than the minimum of 300 cfs, what will happen to

the AB Lateral and its investors? This lack of planning shows that the AB Lateral project is probably nothing more than a get rich quick project at the expense of the environment.

#### ICING STUDIES

The EIS bases its conclusions that the river will not completely freeze during the winter on studies that were shown to be inadequate the first winter they were tested. Ashton modeled the freezing conditions in the river on the premise that the temperature of the water released is 2° C. However measured temperatures in January 1988 showed that the water temperatures were as low as 1° C. Although this is not a great numerical change, it represents a very significant change in the amount of energy that is available to keep the river free from ice. Furthermore, conclusions were based on the amount of ice seen floating in the channel during moderately cold spells. If only 300 cfs of 1° C water was being released during a very cold spell it may be possible for the 0° isotherm to form very high in the canyon, in the shallow stretches of the Gunnison near the Painted Wall. If ice blocked the river in this area it could have devastating effects on the fisheries.

#### CONCLUSIONS

In conclusion, it appears that the EIS has not conducted the very basic studies which are needed to determine the possible environmental affects of the AB Lateral. Nowhere is this more apparent than in the concluding CUMULATIVE IMPACTS SECTION where the cumulative impacts on the hydrologic system are summed up in a single paragraph.

The most significant of these inadequate studies are flow routing studies in the Uncompahgre River. Presently it is not even known if the Uncompahgre River

can safely pass the expected flows, and much less is known on what the effects of the flows will have on the channel. The EIS uses only reconnaissance level studies to determine the probable morphological changes in both river systems. This is quite incomplete considering the possible impacts that could occur if the rivers start to degrade or aggrade significantly. These changes would have catastrophic effects on the people whose livelihoods are dependant on the river.

The EIS also uses an icing study that has already been shown to be based on faulty premises. It seems like a terrible gamble to risk a Gold Medal Trout Stream for a get rich quick scheme which will provide little economic benefits to the community.

Until the Federal Reserve Water Rights issues are resolved, it seems that there should not be any discussion about constructing the AB Lateral Hydropower Project since these water rights could in effect dry up the project.

Finally, the EIS has apparently significantly underestimated the costs associated with riprap design and emplacement, while ignoring the effects of poorly designed and inadequate riprap. The costs associated with keeping the Uncompahgre River from eroding would be tremendously high. Even if the channel could be designed to convey the peak flows without eroding it seems that it would be a true tragedy to trade the incredibly wild and scenic water flows in the Black Canyon for nothing more than a 28-mile ditch.



June 17, 1989

Projects Manager  
Bureau of Reclamation  
P. O. Box 60340  
Grand Junction, Colorado 81506

Re: Comments on AB Lateral  
Hydropower Facility DEIS

Dear Sir:

Thank you for the opportunity to read and submit comments on this DEIS. The following are personal comments made following my examination of the DEIS and consideration of it and other relevant material.

1. The DEIS is well written and well organized. Following the discussion of particular aspects of the environment with the possible consequences provides a useful continuity for the reviewer. Also useful is the clear expression of conclusions drawn from studies by consultants and from other sources.
2. The content of the DEIS responded well to comments and concerns expressed about the EA. Coverage of key topics is well done, particularly those of flows, icing, fishery habitat, and the tradeoffs between fishing and rafting on the Gunnison River.
3. Since the Gunnison River from below Crystal Dam is a regulated river, the discussion in the final EIS of its management under various conditions and for various purposes would benefit from broadening the consideration of attributes and factors relevant to management options. Recent publications by J. V. Ward and J. A. Stanford provide a useful starting point for being sure to "cover all the bases" with respect to management considerations and requirements in river regulation.
4. The FEIS should make explicit - and allow for public discussion of - the possible management options for the Gunnison River as a public resource and how these would be achieved. If some form of the AB Lateral Hydropower Facility is built, some options for future management of the Gunnison as a regulated river will be reduced.

Some possible options are suggested implicitly within the statement and the tradeoff between fishing and rafting is highlighted. A comprehensive and specific plan for the river needs to be established, perhaps through congressional designation, in conjunction with plans for the hydropower project. This would reduce uncertainties regarding the availability of flows to be diverted from the Gunnison to it.

5. From results of the recent Upper Gunnison - Uncompahgre Basin Phase I - Feasibility Study it appears that the USBR has available to it from Blue Mesa about 180,000 acre feet of uncommitted firm annual yield. Commitment of this toward maintenance of flows in the Gunnison below the tunnel should receive consideration in the FEIS. Consideration of placement of new demands upon the Aspinall Unit should not be avoided.
6. In the above feasibility study (page 9-11) a caution was given that direct comparisons should not be made between results of modeled instream flows through the Black Canyon with consideration for the AB Lateral diversions and results of modeled flows through the Black Canyon to be found in this DEIS. It appears that the same engineering consulting firm did both sets of modeling and some clarification of the differences between sets of results is needed.
7. A table presenting the economic tradeoffs / differences between power production alternatives and fishing and rafting alternatives would be helpful (reference page 2-40 and the discussion of recreational economics). There is competition between different directions for the allocation of a resource and each would provide economic development potential.
8. It is stated that in general if no action is taken, i.e. the hydropower project is not built, conditions in the valley are not expected to change significantly in the foreseeable future (page 3-5). Does this include the demand for electrical power?
9. Projected power outputs per month should be given for the proposed alternatives so as to illustrate the effects of operational constraints in relation to simulated flows in the Gunnison River (page 3-9).
10. The reach of the Uncompahgre River most adversely affected by the hydropower facility would be the initial miles of a recreation trail, with associated facilities, proposed to go between Montrose and Duray utilizing the abandoned railroad right-of-way. Provision should be made in mitigation requirements to enhance, not detract, from the opportunities for riverside recreational improvements along this reach.

11. Consideration is needed as to the significance to water users of any increase in total dissolved solids anticipated to occur below the North Fork (page 3-33 and 3-65) as a result of there being less higher quality water from the Gunnison to dilute flows in the North Fork.

12. Old car bodies and refuse should be added to the list of riprap material (page 3-35). Channel protection measures should address removal of such material where feasible and its appropriate replacement.

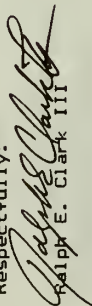
13. Consideration should be given to also using vegetation such as willows, grasses, and other vegetative measures for bank and channel stabilization (page 3-37).

14. The discussion of water quality and relevant consequences is well done.

15. It appears that both the hydropower project and recreational activity can be "sized" to available flows. An alternative is needed for evaluation which provides for a stabilized 600 cubic feet per second flow in the Gunnison River below the tunnel (page 3-83). Given the expected and recent developments in the markets and demands for electrical power, fishing, and rafting in the future and the hydropower projects operational constraints, the above flow of 600 cfs managed as proposed by Stanford would appear to provide a reasonable mix of products to be derived from the available water resource base.

I would appreciate receiving a copy of the FEIS.

Respectfully:

  
Ralph E. Clark III

1574 L Road  
Fruita, CO 81521

June 22, 1989

I-50 --- I-61

Water File, Projects Manager  
Bureau of Reclamation  
P. O. Box 60340  
Grand Junction, CO 81506

Re: AB Lateral Hydropower Facility, Draft Environmental Impact Statement: Comments

Dear Mr. File:

Thank you for heeding the public's response to your Environmental Assessment. AB Lateral, and for authorizing the Draft Environmental Impact Statement. I appreciate this opportunity to present written comments.

Areas of major concern are:

- A) Lack of sufficient economic data to justify the project i.e. local benefit.
- B) River bank failure and erosion that will occur on the Uncompaghre River north of Montrose caused directly or indirectly by the amount of water exiting through the Tailrace.
- C) Potential water quality impacts.
- D) Incomplete water right information.
- E) Changes in the Bureau's operating procedures.

A) Lack of sufficient economic data

Pages 5-9 Social and Economic Conditions

*"Without development, the economy of Montrose-Delta area would continue to be dependent upon agriculture, tourism, and light industry... operating revenues to the UMWUA would be expected to range between \$150,000 and \$300,000 in the first year of operation, escalating each year thereafter to over \$1 million in the year 2008."*

What specific changes are predicated to occur because of the development that would erase the current dependency on agriculture, tourism, and light industry? And what plans are being formulated to address this change development would create?

What expenses will UMWUA incur for increased compensation to the Board of Directors and the managerial staff as the scope of their job is increased by the O & M of power plant operations? Where is the financial schedule of proposed income increase to UMWUA that shows a direct benefit to the water users reflected in reduced water delivery costs? On what percent of what figure - net profit or gross profit - is \$1,000,000 based? Has the board of UMWUA been fully apprised of the financial scope of this development and negotiated the very best long-range terms for the water users? Have the water users been advised likewise?



Pages 1-2 Participating Organizations

*"Montrose Partners is a partnership formed under the Massachusetts Limited Partnership Act (limited partner consists of a group of private investors), Mitex, Inc. of Boston, Massachusetts, the general partner, is a developer, owner, and operator of small hydropower facilities and has participated in developing a number of hydroelectric projects."*

What is the relationship between Montrose Partners (MP) and Mitex, Inc. What is the amount of investment capital MP is providing for the project and what is the anticipated return on this capital to MP? What is Mitex's position as general partner? Is Mitex a subsidiary of another company? And if so, of what company? What is Mitex's Dunn & Bradstreet rating? Will this project be financed 100% by bonds? What specific hydro facilities has Mitex developed and what was Mitex's specific involvement?

Pages 1-2, Paragraph 2.

*"Under the Act, the hydropower facility would be constructed and operated under a lease of power privilege with Reclamation."*

What are the terms of the lease of power privilege?

Pages 1-3 Need for Project, Paragraph 1.

*1) "generating electrical power,"*

Shortly after the Colorado Public Service Company (CPS) contract with UUVWUA/Montrose Partners was signed, the Colorado Public Utilities Commission stopped all PURPA Act requests at the instigation of CPS in order to review the entire pricing structure. This project under discussion - AB Hydro power - was one of the last power supply contracts signed under PURPA before the price structure review was requested. Presently, adequate power is available; the future is not predictable and the Company is locked into a contract price of \$0.047 per kilowatt hour.

Pages 1-3 Need for Project, Paragraph 1.

*"(4) enhancing the UUVWUA's revenues for debt repayment and system improvement."*

Current management has purchased \$7,000,000 worth of federal debt for \$2,000,000 and has refinanced this lower debt with the State's assistance of a 5% loan with yearly payments of \$251,000. If the salinity control program's plan for replacing winter stock water by domestic water is implemented, the UUVWUA has the potential to net \$357,000 on water sales to Tri-County through the Reclamation. This would cover the yearly cost of the State loan and advance the Association \$101,000 yearly.

Where in this draft E.I.S. is this enhancement of revenues to UUVWUA portrayed as terms of a contract with revenue scheduling based on different project income levels to be received? And when are water delivery costs to UUVWUA members to be lessened?

B) River bank failure and erosion that will occur in the Uncompaghere River north of Montrose caused directly and indirectly by increased flows exiting from Tailrace.  
Pages 3-38 Paragraph 2.

*"Below the proposed Tailrace, bank erosion in the Uncompaghere River is expected to increase under all development alternatives. The affected reach is approximately 27.7 miles long. The UUVWUA, the Colorado Department of Highways, and private citizens have stabilized about 7.2 miles of this area."*

and

Pages 3-39 Paragraph 3.

*"During construction of the power facilities, bank stabilization measures would be constructed. It is estimated that up to 70,000 linear feet of channel bank could be protected during this phase of the program which represents approximately 24 percent of the streambanks between Montrose and Delta."*

and

Page A-2 Bank Stabilization

*"Channel conditions in the Uncompaghere River would be monitored and further corrective actions taken during operation of the facility."*

*"Bank stabilization work would be done under the conditions of a Section 404 Permit to be obtained by the Sponsors."*

Bank stabilization will be an ongoing program for the life of the development: the correction of a situation the development continually creates.

What provisions for monitoring sedimentation rates by the USGS are provided? Is a 404 Permit required for each new modification to correct bank erosion? What if a permit is denied?

Bank erosion is a recognized problem in the Uncompaghere: More than vigilance is needed to keep abreast of the degradator. No bureaucracy can act instantaneously to a problem as fluid as bank erosion.

Do not create the problem.

*"The Uncompaghere has its lowest quality, with respect to sediment, salinity, and nutrients below the Town of Montrose. Above Montrose, the Uncompaghere has only a minor sediment problem. Below Montrose, the Uncompaghere passes through irrigated land underlain by Mancos Shale. As a result, sediment levels increase, nutrients reach high levels, and salinity and selenium impacts are severe. Colorado Nonpoint Assessment Report - Colorado Water Quality Control Division, April 1988, page 121."*

In the above source, Colorado lists bank erosion as a state-wide problem requiring remedial projects. The first step recommended is education.

C) Potential water quality impacts

Pages 3-61 Paragraph 3

*"Selenium concentrations increase downstream from Colona"*

Pages 3-66 Development Alternatives.

*"The principal effect of all of the development alternatives would be to reduce the amount of water in the Uncompagnhe River between the South Canal and the Tailrace... In terms of water quality, the diminished flows would result in reducing the amount of water available for dilution of elements which downgrade water quality..."*

Pages 3-67 Paragraph 2.

*"The development alternatives would provide less dilution of selenium between the South Canal and the proposed Tailrace..."*

What mitigation measures are to be provided to farmers who are raising vegetables for table use market? Is a testing program to be implemented? And what would the spectre of selenium in vegetables do to the Uncompagnhe's image as a provider of quality produce nationally?

D) Incomplete water right information

Pages 3-29 Montrose and Delta Canal

*"The Montrose and Delta (M & D) Canal was privately built but acquired as part of the UVRP in 1908."*

Louzenhizer Canal

*"The Louzenhizer Canal diverts water out of the Uncompagnhe River... It was acquired by Reclamation for the UVRP in 1908."*

Selig Canal

*"The canal was privately constructed but acquired by Reclamation in 1914."*

What are the amounts of the adjudicated water rights and the dates of priority of these three canals?

Pages 1-14, Paragraph 2. Under the heading Dallas Creek Project

What quantity of water has UWWUA contracted to purchase from this project and what is the cost per acre foot of the water? How and when will it be used? What quantity of water have Montrose and Delta contracted to purchase from the Dallas Creek Project and what is the cost per acre foot of this water? How and when will it be used? What other amounts of water are under a purchase contract from this Project?

E) Changes in the Bureau

Pages 3-17 Development Alternatives, Paragraph 2.

*"None of the development alternatives would change the operations of the Aspinall Unit."*

What are the effects of a change in the operating procedures of the Aspinall Unit? What are the cumulative impacts of possible administrative changes? What are the Bureau's rules concerning the Aspinall Unit? Why doesn't the Bureau operate the Aspinall Unit to prevent negative impacts? Why wasn't more time given for a possible compromise?

SUMMARY

Water use and re-use, delivery and drainage has evolved into a special art under the UWWUA. The management is reducing the debt of the company substantially and delivery system improvement association wide may be accomplished under the salinity control program. The ultimate goal of reducing annual farmer's assessments for their water is a grand inducement for entering into contract for construction of the AB Lateral Hydroproject. But monetary gain is the only benefit. The draft E.I.S. tables (page S-14, Alternative C) anticipates a power production of 274,911 MWh annually. The estimated project cost is \$62,954,000

274,911 MWh sold at an assumed contract price of \$0.047 per KWh realizes an annual gross of \$12,920,017.00 (A price is not provided in the draft E.I.S.) Before UWWUA enters into the joint venture with Montrose Partners after 15 years, the gross income generated will be substantial. The prime beneficiaries are: the Montrose Partners, who are they? and their associates, Mitex, Incorporated, What is Mitex? The obvious big loser is the Uncompagnhe River. Money cannot make up for its loss.

Sincerely,

*Ruth P. Hutchins*

Ruth P. Hutchins

1-62 -- 1-66

Caleb Gates  
Box 231  
Paonia, CO 81428  
June 20, 1989

Steve McCall  
Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

Dear Steve,

This is my written response to the DEIS on the AB Lateral proposal. I will continue telling about the Uncompahgre to start.

The assumption that verticle erosion won't occur is unjustified except through prayer. It is concluded that lateral erosion will occur and in time this will contribute to headward erosion. There is no science provided to conclude whether the river bottom cobbles won't be removed. Further, there is no preference as to whether the floods of 1983 and 1984 scoured new deeper channels. Table 3.16 doesn't reflect maximum and minimum flows and their frequency. Historical flow data on the lower Uncompahgre through Delta should be presented on a year by year basis as it is for the Uncompahgre at Colona in table 3.3. While the DEIS states flood stage on the Uncompahgre is 1900 cfs, the report by Michael Stevens states that the 800 cfs provided by the South Canal to the Uncompahgre is equal to a small flood (p. 10). What percent of the time will the Uncompahgre be between these figures? The averages from table 3.16 are not enough. Wetland mitigation also has no detailed plan.

Secondly, the economic impacts to rafting and fishing as discussed for alternative A on page 3-149 rely on false and inaccurate assumptions. Fishing is gaining in popularity every year. The acquisition of the McCloskey land for public fishing access will be promoted state and nationwide. Between the Smith Fork and the North Fork bank fishing is better for flows of 600 to 1200 cfs. So even if the river is less wadeable, the fish will be closer to the banks and won't be as spooked. The subjectivity of relating fishing success to wadeability is absurd. The Gunnison's reputation as a prime fishery will draw anglers at those flows.

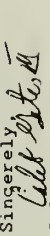
Thirdly, the fry recruitment will be adequate at flows of 600 cfs. This fish study overemphasizes high fry recruitment. The river needs adult spawners to have fry. Common sense says adult habitat is most important.

The ecosystem of the Gunnison from the Forks to Delta will be best preserved if spring floods occur. Icing should be prevented and flows should be at least 500 cfs and not 300 to 400 cfs.

Finally, since the Bureau of Reclamation has become an expert at manipulating flows, I propose that operational changes occur with the Aspinall Unit. Considering the inaccuracies of 20 to 60 cfs being read on the gauges and difference of up to 1,000 cfs between the computer model and historical flows, I propose that Morrow Point and Crystal be kept lower year round to absorb peak demand flows from Blue Mesa dam. This will allow for more evenly released flows from Crystal Reservoir in the winter and thereby improving the fishery.

Additional diversions from the Gunnison to the Uncompahgre are too costly to their ecosystems and our economies. Cost overruns are inherent to these projects. Choose Alternative A.

Sincerely,



Caleb F. Gates, III

I-67

June 18, 1989

Project: Mgtg-321  
Bureau of Reclamation:

We are greatly concerned about the AB Lateral Hydro-power project. One of our great pleasures has been rafting down the Gunnison River, in a mult for our out of state visitors. Also a worry is how this would affect the steel head water of all of the Gunnison for fishing.

It would be a shame for outside power to come to the western slope & destroy the beauty & resources of this lovely area for electricity that is not needed.

Esper Anguayman  
John M. Maffresor  
P.O. Box 595  
Beaveridge, B. 81413

June 14, 1989

I-68 --- I-69

Mr. Steven McCall  
Projects Manager  
U.S. Bureau of Reclamation  
POB 603340  
Grand Junction, CO 81506

Dear Mr. McCall:

Being a resident of Delta County, I'm very interested in the AB Lateral Project. I have some thoughts and comments about the Project I'd like you to consider while it's in the planning stage. Beyond a few stated objections to the DEIS (this paragraph), there are many other, specific, points of contention (well stated by other people) that I would rather sidestep in order to zero in on some issues that I haven't heard much talk about. I believe the DEIS is deficient and inadequate because too little, or no, investigation was done of the consequences of the Project on that portion of the Gunnison River between its confluence with the North Fork and the City of Delta. Also, I believe it's flawed in stating that eagle and other prey species will relocate from the Gunnison to the Uncompahgre, therefore, the eagles and others will not relocate either.

My concerns are about the legitimacy of the Project and the lack of "full-disclosure" truthfulness in the DEIS and all other "official" documents I've seen or heard about. The Project would apparently cost sixty million dollars. That's a lot of money. To understand a Project of that magnitude, I think one has to track the money trail - especially because this is a for-profit scheme. Following that trail, some questions/comments have occurred to me to which I'd like your answers/responses.

1 Which entities would profit? Obviously, the consortium of the Uncompahgre Valley Water Users Association (UVWUA) and MITEX/SITHE Corporation. Less obviously, the Bureau of Reclamation (BuRec) would profit from its lease, to the consortium, of hydroelectric-generation rights. It bothers me that BuRec also wrote the DEIS, which, to my ear, is pro-Project. In fact, that seems to make it double-layered self interest since most BuRec jobs depend on such projects in the first place. Don't you think the DEIS should have been researched and written by an uninvolved agency?



GLENAR-M SPORTING CLAYS

June 12, 1989

I-70

Steve McCall  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81501

Dear Sir:

We would like to voice our opposition to the UVMWA's Lateral hydroelectric project. In addition to the many arguments against the project that have been brought up in recent meetings, such as the lack of need for the power produced, we object to the destruction of waterfowl habitat that will result when the South Canal water flow is reduced by half or more.

Waterfowl nesting sites have been drastically reduced over the years both in this country and in Canada. This would severely impact local nesting sites not only on the South Canal but throughout the entire valley by reduced "stream flow" and wetlands. In one stretch of the South Canal alone, less than one quarter mile long, there are nestings of pairs of Mallards, Shovelers and Teal. Multiply that by the hundreds of miles of canals in the valley and you've got a serious impact. Taking into consideration the extensive recreational facilities being developed at the Dallas Reservoir, we do not believe that additional waters, sufficient to make up for the depletion of the South Canal, will be released into the Uncompahgre River. The result will be permanent and devastating.

We own one mile of frontage on the South Canal and observe this usage by waterfowl daily. Reduced "stream flow" to produce power not needed and monies in the pockets of the UVMWA strikes us as a waste of a valuable resource.

In closing, we would also like to point out that fifteen years after the start-up of the hydroelectric plant, it will, in all likelihood, be obsolete and require more monies to bring it up to date. When, then, will the benevolence toward the farmers, so often touted by the UVMWA, begin?

Sincerely,  
*C. Courtney Antrim*  
C. Courtney Antrim  
& Helen W. Beale

cc: Jack Kantz, Ducks Unlimited  
Hank Hotze, Gunnison River Expeditions

2. Isn't BuRec's profit a departure from the usual? I'm not at all against your Bureau making a profit because I assume it would decrease the cost, to the taxpayers, of your operations. But it occurs to me that the Bureau's profit, when combined with MITEX's, might be what makes the Project financially questionable.

3. Why are there so many secret contracts? Claims of proprietary information don't impress me. More likely the contracts would expose something that couldn't stand the light of day. The fact that UVWUA members are being denied a look at contracts entered into by their board of directors smells rotten to me. I'd like to think it's also illegal. Since the BuRec is a Governmental agency, details of its involvement should be available. What are they?

4. All this secrecy raises question after question. Given the widespread abuses of power and influence stemming from the revolving-door policy, I'm curious about whether MITEX/SITHE officials have worked for the BuRec. I wonder if any BuRec or UVWUA officials own stock in MITEX/SITHE.

5. Another possible reason for UVWUA official secrecy is that its members are getting a very bad deal from MITEX. If Mark Silversher's analysis in the June 7th, 1989 edition of the Delta County Independent is half right, this is true. And what about Norwood's proposal? It sounds like Norwood is, or was, a competitor of BuRec for this project. Would you care to comment?

Yours Truly,

*Stan Adams*  
Stan Adams

cc: Delta County Commissioners  
Congressman Ben Nighthorse Campbell  
Senator William Armstrong  
Senator Timothy Wirth

16081 6110 Road  
Montrose, CO 81401  
June 21, 1989

I-72 -- I-75

Bureau of Reclamation  
Attn: Steve McCall  
PO Box 60340  
Grand Junction, CO 81506

Gentlemen:

While the A-B Lateral Project has some appeal and presents some opportunities, overall, the risks far outweigh the advantages. I urge the Bureau to reject the proposal.

Montrose and Delta Counties are increasingly dependent on tourism and recreation. The Gunnison Gorge contributes significantly to this source of jobs and tax money. The Gunnison has an international reputation for its Gold Medal fishery. Common sense suggests that a Gold Medal fishery should not be tampered with. There is apparently professional disagreement between biologists as to what would be best for the river. I happen to believe that Dr. Stanford's appraisal of the situation is more correct. But, obviously, the only safe course is to maintain the status quo. Mere humans have a powerful obligation to protect national treasures such as the Gunnison River. We should never allow it to be put at risk.

At this time, the Gunnison River has the qualities that should allow it to be designated a Wild and Scenic River. That would give the river and the area recognition that would further increase the recreation and tourist use and enjoyment. Wild and Scenic River designation is less likely if the A-B Lateral comes to pass.

Modifying conditions on the Uncompahgre are less controversial. It is clear that the severe reduction in stream flow through Montrose would be a detriment to the recreation resource. The recreation potential on the Uncompahgre is just now in early stages of development through the Uncompahgre Riverways organization, stimulated by the Ridgeway Reservoir. The A-B Lateral Project would be a strong negative impact to the river development and the recently improved Chipeta Lakes. At the same time, immensely increased flows north of Montrose would require canalization and bank stabilization that would reduce the attractiveness of the river to tourists as well as wildlife. A reduced ratio of Gunnison River water in the Uncompahgre south of Montrose will put a lower quality of irrigation water on a large part of the valley. This will reduce the future life of that soil as viable agricultural production land.

I-71 June 21, 1989

Steve McCall  
Bureau of Reclamation  
Grand Junction

As a resident of the North Fork Valley, I wish to voice my disapproval of, + opposition to, the proposed AB lateral Hydropower project.

I see no reason to further impact the Gunnison River, especially for more power at a time when there is already a surplus.

Thank you,

Judith Barber  
1313 2700 Rd  
HOTCHKISS

The above detriments would be suffered to achieve some small "profit" to the water users and would produce unneeded electrical power. The presumed profit to the Uncompahgre Valley Water Users members would be on the order of \$12 per acre according to some proponents. The public has no way of knowing the actual estimated amount because the contract with Mitex has been kept secret, to the considerable annoyance of many. But there is some question whether the water users will actually get much of anything out of the project, because when they inherit the project after 25 years, there may not be a buyer for the electricity. In any case, \$12 per acre is scarcely significant for agricultural land which has total annual input costs of a few to several hundred dollars per acre.

The over-capacity for electrical generation in the west will not be taken up in only a few years. In fact, the trend is toward reduction of demand as more efficient appliances and machinery are being utilized. Additional technological improvements could mean that the A-B Lateral's power plant would never be needed. In the short run, Colorado Ute would benefit immensely more from an opportunity to sell power than the small amount they would get from a wheeling fee.

Finally, I must say that the Draft Environmental Impact Statement often presents the appearance of a hastily drawn document which fails to investigate in adequate detail many of the impacts of the proposed project. Fish in the Gunnison are considered, but insects that fish live on are ignored. The impacts to the recreation opportunities above Montrose are dismissed with a few short statements. Erosion and wetlands protection below Montrose are only now being investigated. And in several places in the report, the wording suggests a bias of the writers in favor of the project.

The advantages of proceeding with this project are small and questionable. The disadvantages are much more certain and are irreversible. The A-B Lateral Project should not be built at any of the levels proposed in the DEIS.

Sincerely,

*Marvin D. Ballantyne*

Marvin D. Ballantyne

Copy: Cong. Campbell

1-76 -- 1-77

I'm writing to you about the AB lateral.  
I feel that now is not the time to be  
pursuing this project.

The power is not needed.  
The tourist market is healthy and  
growing here, we need to protect  
that.

I lived in the Fraser/Winter  
Park area in the early 80's. I  
got to know the mountains around there,  
and found many of the creeks ~~are~~  
dammed the water being piped to  
Denver. Above the dams the valleys  
are beautiful with abundant plant and  
animal life, below the creeks  
are completely dry. Much of the  
life is gone, the environment is  
very different, it is not good.

I've been down into the Black  
Canyon many times, it is a very special  
place. I want the water in the river,  
I want a healthy Canyon.

Bruce Barnhart  
1034 W. Oak Grove Rd,  
Montrose CO 81401  
249-1388  
Bruce Barnhart

1-78 --- 1-80

Steve McCall  
Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO  
81506

Dear Sir,

Having read the DEIS I stand opposed to the AB Lateral project (ABL), and I don't think it's going to benefit the majority of people, or the environment of the Montrose/Delta region.

In regards to the rivers, the DEIS does not at all address the intrinsic value of these flows to the citizens. These are valuable assets to this valley and one reason many of us live here. Rafting on the Gunnison, a growth industry, will be reduced to practically zero. Fishing will be more accessible but what about the effects of several drought years like last year, and this year is looking that way too. At 300cfs water temperatures of 80 degrees were recorded at Austin last year which is too warm for trout, and though more young fish will survive, in a narrower river they will compete for less food and the overall health of the fishery will decline, I believe.

The Uncompangre River flow through the city of Montrose, at a quarter of its present flow will greatly affect the town. The quality of that water will also be poor, consisting of a large amount of waste water. I would not like to see that happen.

It seems that UVMJR, Montrose Partners, or Mitex have few concerns for the widespread impacts of their project as proposed in alternative C. Mr. Hokit of UVMJR has publicly stated that the DEIS is "pretty clean", but he also stated at one of their meetings on the record that he had not read it. The companies are concerned with the cash flow but not the value of our water flows in terms of aesthetic or intrinsic value. With the Aspinall Unit and Dallas Ck. projects in place, the regulation on these flows seems sufficient.

Hydro electric is a clean alternative to the use of fossil fuels to produce power, but as proposed, a low head system (especially alt. C) and its impact on the character of our valley and the existing ecosystems of the Gunnison and Uncompangre Rivers, I oppose.

Sincerely

*Robert L. Becker*

Robert L. Becker  
14875 6300 Rd.  
Montrose, CO.  
81401

I will never forget the first summer I moved to Colorado, and how excited I was to be included in the last rafting trip on the Gunnison, between Cimarron and Crystal Dam. People came from all over the country to be included and I thought how fortunate I was to live right here. But now that opportunity is no longer available to me.

I remember how intense people were when they explained how important and necessary Blue Mesa, Morrow Point, Crystal and Ridgway Dams were and how we needed to protect our water, and now I wonder how they feel about the AB Lateral?

After reading the EIS on the AB Lateral it concerns me that a study was not done on the value's of having flowing water through town. What would an individual pay just to have the option to use those waters, or just know that it is available to them? Is the ability of our community realize that under the preferred alternative C that the water in the Uncompangre would be reduced from 335 cubic feet per second (cfs) to 24 cfs., during the months of August, September and October? Staffs would fit through a 4-6 foot pipe) And what about in a drought year, that is not even mentioned in the EIS?

We will now have the New Uncompangre River flowing right through our town like we have never known it. Persons will be able to fish its banks, at Riverbottom Park. Should we be so anxious to dry-up that potential? Do we even know all the advantages a clean Uncompangre River will add to this community? Would not the increase uses of the water, increase its value, not only to every person in our community, to new businesses looking to relocate, or persons looking to retire?

Let's just take a look at our neighbors... Grand Junction is spending millions of dollars to remove the cars, tires and junk along the Colorado River through town so they can take advantage of their river, and have it look as beautiful as our Uncompangre River. Delta's City and County and Chamber are busy writing grants and spending every lottery dollar to develop Confluence Park, and trying to put together a deal to buy McClusky's property to have easy access to fishing and rafting the Gunnison. Pueblo has spent the last 15 years developing a recreational trail along the Arkansas and Fountain rivers. I could go on and on. Can't we learn anything from our neighbors? We are truly fortunate to already have a river through town, and now we will be able to fish it. Do we want to dry it up or should we capitalize on it like most communities throughout the United States. Lets look at the long term economic values rather than short term. Lets not be quick to grasp at any economic boost no matter what the consequences. Lets learn by our mistakes.



I-81 --- I-82

Bureau of Reclamation  
Project Manager  
Box 60340  
Grand Junction CO 81506

I believe may of us have relocated here because of the availability of our natural resources and the importance of them to ourselves and our families. How would you feel if each of our resources were to be given away one by one, in the name of economic development?

Lynn Becker  
14875-6300 Rd  
Montrose  
CO 81401

I've just finished reading the Bureau of Reclamation's Draft Environmental Impact Statement for the AB Lateral project on the Gunnison and Uncompahgre rivers. I'm not too surprised that the Draft Environmental Impact Statement has skirted around some issues that are important to the Gunnison.

The Gunnison river did not achieve its Gold Medal status by some homogenous consistent 300-400 cfs flow but rather by several years of variable flows. The DEIS does not even mention what effect AB Lateral will have on the insect populations which makes up the whole food source for the Gunnison's trophy Trout. Nor does the DEIS adequately investigate what effect excessive icing of the river during the winter will have on Trout, Otter and bald Eagle habitat and those habitats downstream.

The Gunnison Gorge is a candidate for congressional designation as a Wild and Scenic river, also the Bureau of Land Management has the gorge listed as worthy of a wilderness area designation. AB Lateral will directly threaten the rivers chances of attaining those designations by greatly reducing its value as a truly meaningful wilderness experience. Reducing the Gunnison's flows will make the river far too accessible by foot robbing the canyon and gorge of its wildness and turning the Gunnison into another stocked, over-fished, over-crowded stream. We've got plenty of streams like that. The Bureau of Reclamation's own DEIS states on page 3-135 "We can not say how Congress will react towards a designation of the Gunnison gorge as a wilderness area if AB Lateral is completed." I can't help but draw a negative conclusion from a statement like that.

Bad environmental decisions aside, I see little or no economic reasons for a project like AB Lateral. The project is primarily to generate electricity, the Public Service Company of Colorado, already bankrupt, would be obligated by the Federal PURPA act, to purchase power it can neither afford or use. Tourism, is far and away Montrose and Delta counties number one industry, AB Lateral threatens that industry by both the Black Canyon and Gunnison Gorge losing what makes them most unique, its wild spirit.

Don't tamper with the Gunnison river!

For the River,  
Tracy Blashill

*Tracy Blashill*

P.S. I want an extend period for public comment!

James R. Clark, DDS  
507 Dodge Street  
Delta, Colorado  
81416

Specialty Practice  
for Orthodontics  
(303) 874-8051  
874-8052



June 20, 1992

1-83 -- 1-87

Steve McCall  
Projects Manager  
Bureau of Reclamation  
Box 60340  
Grand Junction, CO 81506

Dear Mr. McCall:

My name is James Clark. My wife and I live on the Gunnison River near Austin, and we are shareholders in The Relief Ditch Company. My study of the Draft Environmental Impact Statement on the proposed AB Lateral hydropower project made me extremely concerned for innumerable reasons.

Tourism is growing in Delta County and has the potential to become a huge part of our local economy. Last summer (when the Gunnison River was kept low to help study AB Lateral diversion impacts) we witnessed a dramatic decrease in the number of rafts, canoes and dories using the Gunnison river in The Confluence to Austin reach.

The Relief Ditch Company had to go deeper into the streambed with a bulldozer to build up their weir. That weir will now present an almost impassable, dangerous obstacle to boaters. On May 29, Memorial Day just past, a group of us saw a canoe capsized at that weir. I took pictures of the disabled canoe and its wet, out-of-state occupants. The draft EIS, and Montrose Partners, underestimates the loss of revenue into our area by reduced boating activities. Boating revenue is just in its infancy.

I am in strong disagreement with draft EIS conclusions that the projected AB Lateral diversions would have no negative effect on the Gunnison trout fishery. It has even been suggested that the fishery would be improved, which I find ludicrous given the increased river temperature fluctuations and reduced trout habitat which would result.

The biologist with the longest experience studying the Gunnison River is Dr. Jack Stanford. He has studied western river systems for 20 years and has been the Director of the Flathead Lake Biological Station associated with the University of Montana. Dr. Stanford strongly disagrees with the DEIS conclusions. He does agree with the well-done studies on fry emergence and recruitment by Barry Nehring, but believes that a more normal, 500-600 cfs Gunnison flow would be best when considering the entire life cycle of rainbow and brown trout. This is because a full stream channel increases populations of aquatic plant life and aquatic insects (trout's main food source). Also it creates more holding water and habitat for trout, and offers deeper runs and pools which decrease natural predation of trout species as well as fisherman impacts on a fishery.

I have fished trout streams extensively for 30 years and read hundreds of books and papers on trout streams and river ecology. I wouldn't hesitate to wager \$5,000 that the 500-600 cfs flow Dr. Stanford suggests is better for the Gunnison River fishery than is the 300 cfs flows we would commonly experience with the AB Lateral hydropower project. The optimum flow of 600 cfs that Dr. Stanford suggests would grow larger trout and more trout. The increased area and biomass of the Gunnison River would allow the favorable growth, reproduction, and health of this world-class trout fishery.

Recent studies by Barry Nehring showed the lower Gunnison River (from the Confluence to Austin) to be growing larger trout than the Gunnison Gorge. Being far more accessible than the Gorge, and being a richer fishery than most people realize, the Confluence to Austin stretch represents a fabulous resource for our area. This lower stretch was impacted by warm waters last summer. We had 300-400 cfs flowing by our Austin home most all summer. My water temperature readings coincided with others and showed afternoon readings of 72-75° F most days during the warm part of summer. These high temperatures had a negative effect on aquatic insect activity as well as the trout fishing. In the evenings the Gunnison at Austin looked almost dead. The emergence of aquatic insects was reduced. I only saw occasional trout rising to feed on caddisies, mayflies and midges. A far cry from the usual summer evening when feeding trout are everywhere dimpling the river's surface. The fishing, usually excellent at Austin, was very, very slow.

Trout don't do well when the water temperatures are in the 70's. The amount of dissolved O<sub>2</sub> the water can hold is reduced. The metabolism, growth, and health of cold water species are all negatively affected by these high temperatures the AB Lateral diversion would invite. I have heard two reports of fisherman catching trout last summer that had parasites on them.

Studies dealing with warm water in the lower Gunnison and its effect on aquatic life needs to be included in the EIS. I have more concerns about warm water than I do about winter icing. I feel it's potentially far more damaging to the fishery.

The AB Lateral hydro project would create a loss of riparian habitat which is critical to the wildlife and plant life of areas adjacent to both the Gunnison and Uncompahgre Rivers.

This hydropower proposal would threaten the proposed Wild and Scenic designation for the Gunnison River by diminishing the resource, and by reducing the wild, scenic, and recreational opportunities which make the river eligible for such designation. Though I have other grave concerns regarding the AB Lateral diversion, others will be discussing those topics.

Since increased power generation is unnecessary in Western Colorado, I see no need for the AB Lateral project other than to accommodate the wish of the GVMU to retire its debt sooner. Though their wish for a speedier debt retirement is understandable, in my opinion the many and negative consequences of the AB Lateral project make this an extremely risky and ill-advised price to pay. Mitigation measures, as proposed in the DEIS, fall way short of alleviating the harm and loss of priceless aquatic and riparian habitat. The long term economic losses to our communities, as priceless resources and recreation are compromised, would, in my estimation, exceed the revenue gained from power generation that appears needed.

With sincere concern,

*James R. Clark*  
James R. Clark, DDS.

--Dr. James R. Clark, DDS.

To whom it may concern,

I have received a copy of the Environmental Impact Statement on the AB Lateral Project. I would like to express my sincere concern about several factors.

Unfortunately, the statement did not address potential impacts on the Gunnison River below the confluence of the North Fork or above the Uncompadre. Therefore the project implications on the trout population and eagle population cannot be ascertained with any sensible data. I would hope that such a major omission can be addressed.

It would seem entirely possible that the nature of reduced stream flows thru the Black Canyon will increase the water temperature below the confluence which currently holds an accessible and high density trout population. As the temperature increases to more days above 70 degrees, the trout population will either perish or relocate in less accessible reaches of the canyon. Not only would the Tourism industry in Delta County suffer, but the County Commissioners decision to buy access near the confluence become absurd.

I would seem entirely possible that the increased stream flows in the Uncompadre would have very costly and detrimental impact on the wildlife and erosion of the streambed. I realize that the water users intend to establish a million dollar trust and include nearly 25% of the river initially to be channelized. It is very possible that channelization creates a domino effect whereby the entire streambed will eventually require expensive channeling well beyond the trusts capacity. Clearly, the increased flow and velocity will inhibit duck and trout populations.

Further, I am dismayed that the contract between Mytec and the water users has not been made public. We have a right to know the financial implications.

Finally, the Purpose/Need statement of the project clearly suggests the benefit in debt repayment which the water users need. It is questionable that our oversupplied power grid needs such additional high priced contributions.

My heartfelt impression is that a vast number of person in Delta County will suffer the long range detrimental impacts of the project. It would seem that only a few water users will benefit. Projections clearly indicate that the role of agriculture will continue to decline in our area while tourism offers hope for a more productive and diversified economy. Please recommend further study of these issues or lacking sensible information focus effort on termination of the application. Our children would probably thank us.

Sincerely,

*Richard Allen*  
1437-3775 Rd.  
Delta County, Co. 81449

Steve K. Dahlman  
22771 Houghly Rd.  
Montrose, CO 81401

Project Managers  
Bureau of Reclamation  
P.O. Box 6030  
Grand Junction, CO 81506

**I-93 --- I-94**

The AIS lateral project is a complex issue and has many apparent short-term impacts and several less apparent impacts, in the long-term. The essence of the issue, I believe, is what are the benefits and to whom will they accrue and ~~the~~ what are the negative aspects and who will bear their cost.

After reading the Draft Environmental Impact Statement and listening to both sides wage their pro-proposal campaigns, I find it difficult to list "hard facts" in both the plus and minus columns. An abbreviated list would look like this:

**Benefits / Priority**

Short-term Money - Construction companies  
Local economy; Local Govt.

Long-Term Money - UVWUA, local farmers, local government

Clean source of renewable energy - Everyone

Permissible fishing improvement in Gunnison to Smith Fork - Everyone

Increased usage of Gorge/Kingfish, Libras local economy

**Negative Aspects / Part 4**

Reduced Forest/low Gunnison / Kiffers Local Economy

Reduced Streamflows Uncompahgre River above Penstocks/Local Community

Increased Streamflows Uncompahgre below Penstocks/UVWUA with less ability of flow to farmers and wildlife

Water quality in Gunnison below Smith Fork esp. below North Fork/Kingfish dumpsites to Delta

Probable degradation of fishery below South Fork, especially North Fork

Potential for impact (negative) on endangered species - Bull Trout, Eagle / Everyone

**Benefits / Review**

Benefit of revenue within Gunnison Basin / Western U.S.

Negative Aspects / Factors

More Restrictive Policies Directly on Gorge Reclamation - Everyone  
Decrease impact on wilderness with Service K.I.V., values / Everyone

What is most disconcerting to me is that most of the benefits accrue to a relatively small, local segment of the population while most of the negative aspects are borne by the population in general. Why should the intentions of the public domain and, indeed, the purposes of the Gunnison River/land give up value without remuneration? I can't find that answer anywhere.

Yet, I can't deny that the project would benefit the local community.

Unfortunately, the project has been touted by both sides as an all or nothing proposition. I do not understand why that has to be the situation. Surely a medium can be reached that would allow the local region to reap some benefit while reducing the sacrifice by the public beneficiaries.

I am thus adamantly opposed to Alternative C, the "preferred" alternative, because it maximizes the local benefits at the expense of the public. I would not approve a plan that would divert what water is already being used for irrigation during the summer and that conveys some of the environmental considerations in Alternative 3.

I-95 -- I-101

June 21, 1989

Steve McCall  
Bureau of Reclamation  
RE: A-B Lateral Project

Dear Mr. McCall,

Thank you for sending me a copy of the Environmental Impact Study for the A-B Lateral Project. As you know, I sent your office a petition of citizens who voiced their conviction that the Project would seriously damage whitewater recreation and raises many environmental questions. We recommended that the Project not proceed.

At your request, I decided to kayak the Gunnison Gorge at the meager 300 cfs flowing at present to see what it is like. After A-B Lateral the flow through the gorge would be at this level much more often than at present. Here is my report: First the good news. I did enjoy my trip. The flow of the river is just enough to be able to navigate through the Gorge in a kayak even though I did bump many rocks and got stuck briefly after leaving the Gorge. I had forgotten just how nice the scenery in the canyon was. Of course, for the white-water recreationists the run at low water is seriously degraded. Rapids which normally require quick maneuvering or riding over large waves presenting an exciting ride are reduced to slow drifting with an occasional unexciting drop or threading through a shallow rock garden. At normal flows, there are so many waves to surf or holes to drop into that even expert kayakers are challenged. At low water they are all gone. As a comparison, it would be like sending an expert skier to a premier ski resort and telling him that the base is ten inches, that the moguls have been flattened and the advanced slopes or black diamond slopes are closed. Sure the scenery is nice but it just isn't the same.

Despite the fact that I am a kayaker, I am also a businessman. I own a business in Grand Junction and realize that my recreation may not be important as livelihood of many people. Despite my admitted bias, I feel I can view the economic justification of this project with some sense of objectivity. This is what is quite clearly so absurd. The sole economic justification of the project is of course the PURPA law which forces the power company to buy the power from the project. As it turns out the power company already has excess generating power and is going bankrupt and laying off employees. Being forced to buy power at artificially high rates is a cataclysmic disaster

(3) E and F. Specific concerns would be increased flows in the Uncompahgre River from the Smith Canal to the penstock, more thorough erosion control when penstock to Delta, increased water flow at critical time for fish and wildlife especially the Bald Eagle, -- from the diversion tunnel to the confluence of the Uncompahgre and Gunnison -- and also spelling out who would be liable for long term detrimental impacts and what would be the resources.

The AB lateral, in my opinion, is not a project that is needed by the people of the United States. They should not be asked to make a sacrifice of a national treasure like the Gunnison Gorge. The local region should be allowed to exploit the local resources, however, but with discretion.

Hopfully, diversion will run out and a scaled down version can reap benefits without causing as much of an impact as Alternative C.

Sincerely,  
Steve K. Dahlman

for a large western slope employer and is sure to reap hardship on an already struggling economy. In addition, the Project will force power rates higher.

The backers of the project should be aware of that a Congressman in the House of Representatives has presented a bill which if passed would disallow power projects licensed after March 1, 1989 from qualifying for PURPA price guarantees. Of course the object of this bill is to prevent the sort of abuses of the law and resulting economic and environmental damage exemplified by the A-B Lateral Project. If passed, building the Project would leave the backers of the Project impoverished just like the local power company and the whitewater recreationists.

Another item for concern for the backers of the Project is the fact that the Denver Water Board is presently negotiating to buy water rights in the Gunnison watershed. If they are successful it may have an effect on flows on the Gunnison river tipping the scales of economic viability. In addition such future diversions combined with the A-B Lateral diversions would paint an even more bleak future for the water flows through the Black Canyon and Gunnison Gorge.

The EIS for the Project asserts that as whitewater recreation decreases, fishing recreation increases. When I asked you if this increased fishing pressure would reduce the number of fish in the river, you acknowledged that the fish would have to get smarter or fishing be done on a catch and release basis. When asked if fisherman would regard catch and release as a degradation or diminishment of the fishing recreation you acknowledged that most fisherman would concur.

What is certain about the A-B Lateral Project is that it will seriously degrade the whitewater recreation of the Gunnison River on what is truly one of the most spectacular canyons in our country, on a river that is being considered for wild and scenic designation, that is perhaps the finest whitewater wilderness in the state, on the second largest river in the state, the only river besides the Colorado with a late boating season and a river which has already seen massive dam development. What is certain is that based on its own economic merit this project would never be built. What is certain is that their is no economic benefit to the western slope of Colorado and as stated earlier a good case could be made that it would be economically damaging.

What is not certain is what unknown or underestimated environmental damage may come to pass. What is unknown is whether A-B Lateral's thin legal excuse will survive the scrutiny of Congress. What is unknown is whether future precipitation or water diversions will allow river flows to justify this project. What is not certain is how badly this project

hurt the local employment situation and the local economy.

Mr. McCall, on behalf of the people of the United States, you have been empowered to make a decision on the future of one of the country's most precious resources. Your loyalty should not be just to the Bureau of Reclamation but to the people. All I ask is that you make a sound judgement taking a fair and reasoned study of this Project's total recreational, environmental and economic impact. Please have the courage to do what is right. Please say no to A-B Lateral.

Sincerely,



Ronald Delano O.D.

I-102 -- I-106

Mr. McCall  
Bureau of Reclamation  
Page 2

Beth French  
1994 I 50 Road  
Austin, CO 81410  
June 18, 1989

Mr. Steve McCall  
Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, Co 81506

Dear Mr. McCall:

I'm writing to share my contempt for the proposed A B Lateral program.

The entire plan appears to be based on extremely limited data and even less common sense. The Environmental Impact Statement submits that fishing will improve. Any grade schooler with an aquarium could reach that conclusion within the first few days a draining his tank to less than half. But then, what happens to a river? Obviously, the large fish are fished out, leaving only smaller ones to compete for living space. The warmer, slower water encourages growth of moss which, at best annoys fisherman, and at worst interferes with fish habitat. This same water becomes a haven for other fish such as mud suckers and I'm sure world-class fishermen won't travel to the Gunnison to net them.

Attracting fishermen to the Gunnison River, on one hand, appears to be something which interests the Bureau of Reclamation. After all, why would it have just committed a mere \$124,000 toward the McCluskey property. On the other hand is the infamous A B Lateral project. I seriously question the logic of making this kind of investment at the same time moving "hell-bent" to devalue it by removing its assets!

Assets in Western Colorado are changing. At one time our economic base was agriculture and I am proud of the contributions the farmers and ranchers in Montrose and Delta counties made. I am also saddened that the tremendous increase in productivity of the larger farms in Nebraska and Kansas have contributed to a difficult time for our smaller-acreage farmers here. However, the solutions to this problem as presented in the A B Lateral program provide only a short-term bailout for the farmers and a permanent catastrophe for the newest emerging asset in the area: tourism and Recreation. At the risk of becoming redundant I again point out serious lack of common sense in producing electricity that isn't needed at a rate that most utility companies can't afford Colorado Ute.

The Bureau of Reclamation has tremendous responsibilities for taking care of this great country and from my sheltered perspective, has done an admirable job. However, in this situation I'm very frightened that it could misuse the authority that comes with such responsibilities. Please reconsider and abandon any hydro-electric project that sacrifices the resources of a world-class river.

Sincerely,

*Beth French*  
Beth French

1482 2950 Rd  
Hotchkiss, CO  
June 22, 1989

Regional Environmental Officer  
U.S. Bureau of Reclamation  
P.O. Box 11568  
Salt Lake City, Utah 84147

RE: AB Lateral DES 89-08

I-107

I am writing in response to the request for comments on the Draft EIS on the AB Lateral. I have comments and concerns both on the accuracy and completeness of the DEIS and the value and feasibility of the project.

Rather than repeating comments presented in oral testimony in Delta I will state that I concur with Mr. Chuck Worley of Cedaredge both with respect to hydro projects in general being beneficial, and his strong reservations with the AB Lateral Project.

In addition to Mr. Worley's expressed concerns I have many other problems with the project and the DEIS. I will highlight some of the areas of major concern below.

1) The DEIS fails to accurately depict the economic impact on the Gunnison Valley. Tourism and fishing on the river have a significantly greater economic impact than is estimated in the DEIS and are growing, but would decrease significantly if water level and fish quality decreased. Significant private and public funds have been committed to purchasing river access property as a major economic development project in Delta County. Without a healthy mature fish population that investment will be lost.

2) The temperature rise in the Gunnison would possibly be beneficial to fish fry but would be detrimental to the mature trout population, which would translate to reduced economic benefit from fishing. The detrimental impact on mature fish is not taken into account in the DEIS.

3) Long term mitigation requirements are not adequately addressed in the cost-benefit analysis nor is it economically feasible to provide necessary mitigation according to the DEIS. Damage along the Uncompagare will be an on-going problem as will damage at the confluence of the Gunnison and below. There is no money provided for mitigation and/or repair. No damage is mentioned in the DEIS for below the confluence; with a "T" shaped interection it is unrealistic to expect no damage below.

4) No plan is provided for insuring that water rights are protected. The selected alternative calls for the use of some very junior water rights to make up the difference between the rights the UUVWUA have and the diversions required to operate the selected project.

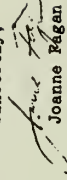
With all of the diversion points and return points in the UUVWUA ditch system, detailed measurements will be required to insure that UUVWUA diverts only as much water as that to which they are entitled.

5) I strongly question the conclusions of the cost benefit analysis that the Project is feasible only with minimal mitigation and 1100 cfs, yet with the same mitigation and 900 cfs the project is not feasible. The UUVWUA does not have rights for the higher flow without using the Junior rights and in dry years the flow would not be available. This means the plant would be economically unfeasible in dry years, based on the conclusions in the DEIS. I question the accuracy of the cost-benefit analysis since the developers are opting to constructing a project with a very low rate of return. A savings account in a bank would produce a comparable return to that projected for the hydro plant in the DEIS and the bank insures its deposits. Why would developers invest in the hydro project?

I believe that the developers should be required to make the financial arrangements for the project available for shareholders of UUVWUA and the public for review. It appears that MITAX gets the profit if there is any, but UUVWUA will get stuck with any losses and those who suffer any damage after the initial development will incur the costs of making repairs while developers reap any profits. Developers and the Bureau should also be required to accurately inform property owners of both land and water which will be impacted by the proposed project of the impact which is projected on the short and long term and how the developers plan to compensate the property owners for this damage. This information should be detailed and comprehensive rather than in the broad generalities which have been provided to date.

There are a number of other significant deficiencies in the DEIS which have been noted by other citizens and groups, so I will not enumerate them here. I would request that the DEIS be examined carefully and the above items and other deficiencies be correctly addressed in a revised DEIS and that the DEIS again be subject to review by all interested parties. In conclusion I'd like to quote Mark Wevin who upon looking at the Rio Grande in New Mexico observed that he had never realized how much water had added to the appearance of a river.

Sincerely,

  
Joanne Pagan

cc: Representative Margy Meason  
Representative Ben Nighthorse Campbell



June 13, 1939

I-108 -- I-109

Projects Manager  
Bureau of Reclamation  
Box 60340  
Grand Junction, CO 81506

Re: AB Lateral Hydropower Proposal

To Whom It May Concern:

This letter is written on behalf of the officers and some shareholders of the Relief Ditch Company. Our ditch company has three different water rights totaling 150 cfs. These are senior water rights from November 30, 1895.

We are very concerned about the AB Lateral Hydropower proposal that would divert 190,000 acre-feet annually from the Gunnison River. This diversion would result in a 300 cfs flow in the Gunnison approximately half of the year.

Last summer, such low (300 cfs) flow caused us to do significant bulldozer work in the Gunnison River streambed in order to capture enough water for the 55 farms on the Relief Canal. Even at that, it became difficult at times for farmers on the downline end of the canal to obtain an adequate head of water.

A tremendous amount of rock and gravel had to be moved at the weir dike and as a result, the passage of canoes and rafts during low water will be difficult if not dangerous this and subsequent years.

If the AB Lateral project was implemented, the quality of the water downstream from the North Fork Confluence will decrease. This is because a higher percentage of the Lower Gunnison (and our ditch water) will be North Fork water with its high sediment load. An increased silt load forces farmers to use more water since the silt fills in a soil's pores reducing the water's permeation.

Please consider and weigh our serious concerns regarding this ill-advised AB Lateral proposal. There are countless negative ramifications to this project. Many have not even surfaced yet, and aren't dealt with in the draft EIS.

Our preference would be for the Bureau of Reclamation to not allow this proposed AB Lateral hydropower project.

Sincerely,

*Richard M. Frazier*

Mr. Richard M. Frazier

Bureau of Reclamation  
Grand Junction

I-110

Subject: AB Lateral  
Project

6/17/89

Dear Sir,

I oppose the AB Lateral Project. Mine out of Ten Co. generation projects in this country are in receivership of or other financial difficulties. They pay out nothing, no taxes, no rent, nothing. The cost of saving the debt for the AB Lateral is indicated to be near the value of the power generated.

Business arrangements, partnerships etc are set up to leave the Uncompaggre Valley Water User holding the bag when failure become apparent.

Before permitting the Uncompaggre Valley Water User to self destruct, I suggest that you ask for a financial report to be made public with an analysis of profits and losses. Otherwise, the Bureau may be responsible for giving away the Gunnison tunnel to foreign interests.

As part of this letter of opposition please read in the records the recommendation of the Bureau Co-generation study of 1936-1938 when 3% interest on debt prevailed.

Very Truly Yours,

Ernest Gilbert Professional Engineer # 13109

19.181.1

RECEPTION NO.	DATE OF INSTRUMENT	DATE FILED	P. M.	BOOK	PAGE	CONSIDERATION	PAGE
183724	Aug. 22, 1936	Sept. 25, 1936	2:10	275	407		90
							ENTRY 82

United States of America

-to-

The Uncompahgre Valley Water Users' Association

Supplemental Contract

United States will concrete Gunnison Tunnel, and make a survey to determine feasibility of constructing a hydro-electric power plant. Association shall pay cost, not exceeding \$300,000, payable in 40 annual installments, without interest, (interest after due date 6% per annum) first due January 15, 1940, subsequent installments due January 15 each year. First ten installments shall each be 1½%, next ten 2½%, and next twenty 3% of such cost. Association shall collect all assessments to make up for defaults of those who do not pay, and shall refuse water to those in default more than twelve months. Debts due United States hereunder shall be prior lien to all other obligations, except assessments for O & M, and previous obligations of Association to United States. All stockholders, and mortgagees of stockholders' land, not objecting to this contract, shall be presumed to assent hereto.

# Local/regional **B** Section

Television/Crossword/Landers/Obituaries

Wednesday, June 14, 1989

## DOW to seek land for game habitat

Bob Silbernagel  
Daily Sentinel

The Colorado Division of Wildlife plans to encourage landowners to provide wildlife habitat in an effort to stem the rapid loss of native environment, the director of the division said Tuesday.

Colorado is losing wildlife habitat at the rate of 100 acres a day, from grasslands going under the plow in eastern Colorado and other lands going to development, said Perry Olson, director of the Division of Wildlife.

### Wildlife fast losing space to farming, development

Olson spoke Tuesday at a meeting of the Colorado Outdoor Recreation Resources Project at Two Rivers Convention Center.

The group, made up of leaders of federal and state agencies in Colorado, works to enhance communication among those agencies and to improve outdoor recreation in the state.

About 50 people attended Tuesday's meeting, including employ-

ees of the agencies, representatives of the Grand Junction City Council, state legislators and individuals.

While public lands are important for wildlife habitat, private land provides key habitat for big game during the winter, and for a variety of game birds, Olson said.

"I've just made an assignment of one of my key staff people to look

into how we encourage private landowners to provide habitat," he said. "There's got to be some economic incentive for them. Ultimately, there's got to be some program for them to share in the profit."

He said he's not sure what form that program will take.

Also, during Tuesday's meeting, Rich Meredith, executive director of the Colorado Tourism Board,

said public land agencies in the state are "now trying to promote their lands much more effectively" and that is helping tourism in the state.

Neil Morck, head of the U.S. Bureau of Land Management in Colorado, said his agency is looking for partnerships with groups and individuals to develop recreational amenities such as Kokopelli's Trail, a mountain-bike trail from

Loma to Moab, Utah. "We're also working on back-country 'byways'" for four-wheeled drive vehicles, he said. "We hope we'll get some sponsorship from companies like Jeep."

Glen Hetzel, deputy regional director for the Rocky Mountain Region of the U.S. Forest Service, said recreation already is big for the Forest Service in Colorado.

"Out of the top 10 states in recreational use of Forest Service lands, Colorado is No. 2," he said. "It's No. 1 in the nation with ski area visits."

Dear People,

The following are my comments on the draft environmental impact statement on the AK Lateral project.

I feel the DEIS doesn't address the major impact the project will have on the river. Looking at the simulation data on page 3-18 we see that between 1952-1983 only 2 years would have averaged less than 400 cfs and no years averaged below 350 cfs but if alternative C were built 18 years out of 32 would average below 400 cfs and 16 out of the 32 would average below 350 cfs. The effects of the other alternatives are equally low but not as extreme. So what all the alternatives create is 15-18 whole years out of 32 where the river rarely goes above 300 cfs. This means that during every other year under alternative C there would be less than 350 cfs in the whole river for the whole year!!! This is a major change in the river system and I don't think this has been adequately addressed.

I think that to analyze the data by giving averages over the 30 years is very misleading because of the nature of the river to be very high or very low. Take a highlighter and highlight all months with flows of 300-399 cfs on page 3-20 and what you see is 18 years with below 399 cfs averages. of those 18 years the average flow is 327 cfs. The total average over all 32 years is 563 cfs. There are 12 high flow years with an average of 936 cfs and two average years with 445 cfs. I think it is very misleading to talk of 563 cfs as an average flow when more than half the years have an average of 327 cfs. I think it is necessary to let the people of Delta County see the data in a meaningful way so that they can understand what the impact is and can then can intelligently respond to this major impact on our county.

I request that in addition to the chart on 3-8 an additional chart be added showing the flows between 200 cfs and 1200 cfs since these are the crucial flows in analyzing the impacts on the river.

As I said before, we are considering a project which will have a MAJOR impact on the Gunnison River and a potential MAJOR impact on Delta County since the river is a major resource for Delta County. I don't feel the DEIS adequately assesses the economic impacts.

The rafting industry is in the beginning stages so that it is hard to say how large an impact there will be on it. It is an emerging industry. Since it is emerging I think it is extremely difficult to estimate potential losses to the economy of Delta County. It is clear that this is an economically distressed area and it seems crazy to endanger a resource in its' beginning stages. I don't think it is unreasonable to say that President Carter floated and fished the river because it was something special and that the specialness would be severely compromised by 300 cfs flows. This is common sense and doesn't take fancy studies to figure out. My conclusion looking at chart 3-20 is that there will be 18 years out of 32 where there would

be little or no rafting. I think this would be a severe impact. I also think that it is impossible to conclude that there will be no impact on the fishery from the studies done. The DEIS says the temperatures will go up in the river but as I pointed out before, we are considering essentially having minimum flows every other year all year long. The analysis of this impact is not properly done.

The DEIS says that wild and scenic status will not be affected. Technically this may be true but I don't believe that the river which won't be raftable MOST of the time and where the fish population face danger of warming waters and icing over will ever get wild and scenic status.

Another problem with the project is that the electricity is not needed at the present time and is only feasible at the present time because of PURPA. At the time when power is needed a scaled back version of this project which isn't as damaging to the Gunnison River might be economically feasible. Choosing one of the current development alternatives PRECLUDES making a more intelligent choice in the future.

Thank you,

*Bernard Heideman*

Bernard Heideman  
1104 3500 RD.  
Hotchkiss, Co. 81419

1440 2900 Road  
Hotchkiss, CO 81419  
June 16, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81416

**I-115 --- I-118**

Dear Sir:

I have watched television and read many news articles about the AB Lateral proposal for the last month or so and find much of the public is against this proposed venture. I too am opposed to diversion of addition water from the Gunnison River to use in the AB Lateral hydropower facility.

The Draft EIS did not address several of the points in my letter of May 2, 1988. In fact the DEIS isn't much more than an indepth justification for building the AB Lateral.

Here are my reasons for opposing construction of the AB Lateral:

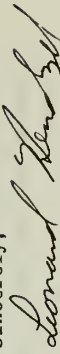
1. The local Colorado-Ute Power Company is facing bankruptcy since it is overbuilt and has the capacity to produce more power than is needed in western Colorado. Why build another facility to compete for a glutted power market? The proposed AB Lateral power would just shift money from one neighbor to the next in the Montrose area.
2. Your report states the AB Lateral construction will expedite repayment of a loan for the Uncompagre Valley Water Users. Why should they be favored by expenditure of thousands and thousands of taxpayers dollars spent by your agency studying and preparing this report? No doubt many additional dollars will be spent to supervise and regulate the facility, should it be built. I myself am a member of the Cverland Ditch Company. We recently completed a three million dollar dam renovation project. No one has offered to help us expedite loan repayment!
3. As I stated in my earlier letter, we have a major coal resource in the North Fork Valley of Delta County. It can be used for power generation. Most of the coal mines are either shut down or operating below capacity. Millions of dollars of facilities are already in place, so why spend all those funds to build a power facility to compete with and duplicate what is already in place.
4. Anyone who proclaims that reduced water flows in the Gold Medal waters of the Gunnison Gorge will produce more and better fishing is completely ridiculous. Can a farmer grow more corn and cattle on less acres? Can a forest and range support more livestock, elk and deer on less acres? The corrolary is there.

Page 2

5. Another point regarding reduced flows through the Gunnison Gorge is increased fishing as a result thereof. This is wilderness type fishing; I believe many fisherman would shun away from a crowded river. The quality of the fishing experience certainly would be degraded. The reduced flows would also jeopardize possible Wild River classification and Wilderness designation for the Gorge area.

I urge you to select Alternative A - No Action, as the preferred action, for the good of many rather than any of the others which would only benefit a few.

Sincerely,



Leonard Hendzel  
Forester, Range Conservationist,  
Foreign Service Advisor and  
Ecologist (retired)

LH:ph

6/19

## I-119 -- 1-122

Done Projects Manager ASB Federal Hydro Power Facility!

The rationale for this project is to primarily benefit the financial position of UVAWA. This position impacts the public lands below the Gurnison Tunnel, namely the Black Canyon of the Gurnison NM and the Gurnison George Recreation Area and BCM - USA. These public lands are national resources not simply lands within Montrose and Delta counties. Operation of any hydroelectric facility should leave resources on these public lands in an unimpaired state. If these conditions can be met, the project would generate a positive B/C ratio with all costs included, this B/C reflects a national accounting rather than a local source.

The DEIS should have contacted current members of the Colorado national delegation concerning the relationship of reduced flows in the Gurnison River to Wild/Scenic River and Wilderness status. The NPS or BCM does not convey these national designations (see note p. 3-135). Should this project preclude national designations, it should not be constructed! Environmental mitigation is covered in detail within the DEIS. These measures should be monitored and improved should future information confirm it. Improved mitigation would probably include a change in the operation of the power plant. If these conditions again cannot be met then the project should not be constructed.

Flexibility in power plant operation could be accomplished by modifying the contract with UVAWA. This action would

imply that the revenue allocated to UVAWA could change and would not be set at 150K minimum for the early years of the project. The DEIS did not list the scenarios where UVAWA would receive 150K (year 1) and up to 1,000K in year 2008. The project should not be used simply to offset water user assessments which are projected to increase under the no action alternative. (p. 3-149) A detailed table of projected revenues to UVAWA from project start to 2008 is needed in the final EIS.

The draft EIS mentioned several methods which could increase minimum flow in the Gurnison for white water activities. These alternatives F-3 to F-6 (p. 2-40) were discarded because of lower B/C ratios. Perhaps the final EIS should address weekend releases in July/August/Sept. rather than continuous flow. Again the project should account for costs such as recreation displacement. The technique of pitting anglers against rafters (user days X \$/day) and suggesting that project development generates better fishing and thus no net loss to recreation does not account for the nonsubstitution of the two activities. White water areas are becoming scarce and should be more valuable in the future.

Please refer to the opportunity to comment. Please send the final EIS to a new address.

Karl Kiser

2975 Terrace Dr, Apt. 210-A

Box Crocus, NH 08001

Jesse Landis  
P.O. Box 341  
Paonia, Co. 81428

June 1, 1989

Steve McCall  
Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, Co. 81506

**I-123 --- I-124**

Dear Mr. McCall,

I am writing to express concern about the A B Lateral Project currently being considered in Montrose County. I am a native of Colorado and have always enjoyed the incredible offerings of our state. In that I believe that the Gunnison River teamed with the Black Canyon are most spectacular.

There are already two dams extremely close to each other and blocking the full effect of nature's creation. The water is being controlled, but the amount of water is relatively consistent. The fishing is excellent at the dams, but even far superior down inside of the canyon after the waters leave the flood gates of the dams.

I have been fishing those waters for the past 15 years. I have climbed down inside of the canyon from every available trail and some spots where no trail exists. I have been through the entire canyon from Crystal Dam to the Twin Forks. I've caught fish (trout) that weigh over 5 lbs. and, having fished many other states as well as countries in North America, I know that fishing doesn't get much better.

If those waters are diverted out of Delta County the remaining waters WILL change. The Sucker fish population is already abundant in the warmer waters just above the confluence of the Twin Forks. The canyon keeps those waters cooled because of its natural depth and amount of flow. Decreasing the flow would cause the waters temperature to rise thus allowing the suckers to control larger amounts of the waters.

Also there is natural barrier created by the size of the stream. At present it is virtually impossible to walk through the canyon, however, if the water flow is lessened to the amounts prescribed by this project that natural barrier would be eliminated. That would make those waters that contain excellent fishing because of their inaccessibility more available to the less hardy outdoorsman. That would mean that the Black Canyon of the

Gunnison would become just another one of Colorado's overfished and "stocked" rivers. Leave us this sanctity. Stop this unworthy diversion. What good does it truly do? Its there nothing we can preserve for our children?

Sincerely,

*Jesse Landis*

Jesse Landis MSW  
School Social Worker  
Delta Co. School District

JUNE 21, 1989

Dear Mr. McCall,

I own approximately one mile of river on the Uncompangre near Delta and am deeply concerned with the proposed AB lateral project. I feel the riparian habitat would be destroyed with the channelization of the river and 2590 estimate of channelization believe to be too low a figure. I believe the value of my land would be lowered.

I own project water and believe the assessment to be fair. I would much rather have the river as it is as to have lower water assessments. I urge you to take no action.

Thank you  
STEPHEN W LEWIS  
FARMER  
2243 Tred e  
Cedarvale, Co. 81413

Glen A. Miller  
3264 Willow Wood Road  
Grand Junction, CO 81503  
June 22, 1989

Mr. Walter Fite  
U.S. Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

RE: AB Lateral Hydropower Facility, EIS

Dear Mr. Fite:

Thank you for the opportunity to review the AB lateral EIS. Several concerns that I noted earlier in a review of the EA have been addressed in the EIS. However, two basic questions on hydrologic-related impacts of the proposed project remain in large part unanswered, and they appear to be unacceptable impacts. These are (1) the potential impacts of greatly reduced flow on the "world-class" trout fishery in the Gunnison Gorge, and (2) the probably dramatic erosion and deposition effects resulting from tripling the annual flow in a long reach of the Uncompangre River. My general comments on the EIS coverage of these effects as well as a few detailed comments on the text are offered below.

A. Effects on the fishery in the Gunnison Gorge. This fishery apparently developed, at the time in an unpredicted and unexpected manner, in response to the dams constructed upstream several decades ago. The underlying hydrological and biological basis for the phenomenal fishery is not well understood in detail, even today. The EIS describes the current conditions reasonably well, but a fundamental factor is completely lacking in the projections. This is the effect of the project on the underlying food chain that supports the fish. The discussions on fish habitat are limited largely to the area of "good" habitat for adult fish under different flow conditions (eg, figure 3.12) and to spawning habitat. Nowhere does the text discuss in any detail that is supportable by data the effects of the significant change in flow regime on the aquatic food chain. Thus, the decision-makers are left with a very large risk factor in assessing the effects on this popular and widely-renowned fishery

B. Erosion impacts in the Uncompangre River. Contrary to the impression conveyed in the text (eg p. 3-39), man's ability to predict accurately future erosion sites under the protected conditions is



Projects Manager  
 Division of Reclamation  
 D. Box 603340  
 Grand Junction, CO, 81501

07/11/87

Re: El Lateral Hydropower Facility DEIS

You have received numerous comments on the project and DEIS from Western Slope Energy Research Center and from Western Colorado Congress. As active members of these organizations, and in lieu of duplication, we request that you consider this letter to be a reiteration of their comments. We will simply reemphasize several points.

1) There is no need for the project. Western Colorado is flush in excess generation capacity as evidenced by Colorado-Ute Electric Association's recent bankruptcy. The power generated will contribute to increased consumer electric rates while lowering local recreation revenues. Additionally, it is only by virtue of the income tax breaks created by RORPA and the assured sale of generated power that the project was proposed in the first place. UVMWA's irrigation system is already heavily subsidized by taxpayers, and to build this project is to add yet another subsidy.

2) The analysis of the consequences of the environmental effects of the project is fatally flawed and grossly inadequate. An irrevocable change in the ecosystems of portions of the Gunnison and Uncompahgre Rivers will occur under any of the project alternatives. The fact that the change will be detrimental to the characteristics that have been recognized by Federal and state agencies as "outstanding" argues for the selection of the "no action" alternative.

3) The low flows through the Gunnison River during the summers of 1988 and 1989 have resulted in reduced quality of the fishing experience. The continual and yearly low flows resulting from the project would permanently adversely affect the Gunnison River fishery, described by President Carter as one of the three best trout rivers in the United States.

4) While the project is intended to benefit some irrigators (UVMWA), it will prove very detrimental to other irrigators, namely those drawing water from the Gunnison River between the Gunnison Tunnel and the confluence of the Gunnison and Uncompahgre Rivers.

In conclusion, Federal agencies such as the Bureau of Reclamation need to consider the costs and benefits of a project to the public at large and not only to the project

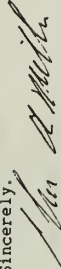
extremely limited. The discussion on protecting such sites before construction (p. 3-39), the monitoring proposed, the plans to apply for necessary permits for protective construction at future sites of erosion, and the description of the highly-erodible river banks, lead the reader to envision a progressively "channelized" river over time in the 20-30 mile reach below the power plant. Two major uncertainties cloud the issue, the asked-for permits may not be granted (there is adequate precedent for this), and the co-existing but probably inseparable effects of this project and the newly-completed Ridgeway Dam. Any legal recourse by downstream owners is apt to be complicated, if not impossible, because of the difficulty in defining cause and effect. Because erosion effects can be expected to persist for decades, the text is not clear on who will be responsible for "fixes" in the future. There is no analysis in adequate detail on the deposition effects that must occur farther downstream. Channel build-up by deposition of heavy sediment loads can be as damaging to some areas as is severe erosion.

C. Specific comments on the text.

1. P. 3-33, par 2: The Morrison Formation is Jurassic in age, not Cretaceous. Throughout much of the canyon, the Entrada Sandstone is the "lowest formation" in the sedimentary sequence.
2. P. 3-36, par. 4.: This discussion is somewhat misleading, if not incorrect, in that vegetation build-up in flood channels commonly causes more severe flooding because of the effects on channel restriction.
3. P. 3-36, par. 5: There is no discussion or evidence to support this conclusion on increased stability of the channel.
4. P. 3-37, 38: The predicted lack of erosion in the river bed is not supported by experience in areas where former sediment-laden water is replaced by clear water.

In view of the great uncertainties in predicting unwanted impacts of the proposed project, and because of the potential for significant deleterious effects on the Gunnison fishery and on the Uncompahgre river valley, I urge you to deny the necessary permits for the project as proposed. Thank you again for the opportunity to comment.

Sincerely,



Glen A. Miller  
 Consulting Geohydrologist

I-131

Bureau of Reclamation  
Denver Federal Center  
Denver, Colorado

June 2, 1989

proponents. The BLM fails to do this. The no action alternative is the only reasonable alternative from the standpoint of least environmental degradation and least cost to the general public.

Sincerely,

Robin Nicholoff  
Gretchen Nicholoff

3635 N Rd.  
Hotchkiss, Colorado 81414

cc: Hon. Ben Lamberti  
Hon. Jim Wright  
Hon. Roy Roemer

Dear Sirs;

This is in reference to the building of the A.B. Cateral Hydropower facility on the upstream side of the Black Canyon of the Gunnison National Monument. My horse in the Sierra Club Peak and Profile June 1987.

I feel that it is a good idea that must be studied by the three sides - environmental, agricultural, and recreational. Beyond with all of the sides present there might be some issues which can be examined and cultivated. I would hope stipulations would be attached to the proposal such as the requirement of commercial fish hatcheries and some new environmental concepts. I would like to see meetings and information gathering from all those and others where the issues can be fully examined.

Sincerely yours,

1361 Detroit  
Denver, Colorado 80206



P.O. Box 187 • Delta, Colorado 81416 • (303) 874-5737

June 19, 1989

I-133 --- I-135

Bureau of Reclamation  
Grand Junction Projects Office  
P. O. Box 30340  
Grand Junction, Colorado 81506

Attention: Steve McCall  
Re: AB Lateral Hydropower Facility

Dear Mr. McCall:

As a landowner on the Uncompahgre River near Delta, I have watched the AB Lateral Project with great interest.

While much was written in the Environmental Impact Statement about the effects of this project on the Gunnison River, very little was said about the Uncompahgre River.

On Page 3-39, it was estimated that approximately twenty-four (24) percent of the stream banks would need protection from erosion due to increased flows. Where did this information come from? How was it obtained? The report is not clear on this matter. I am very familiar with this river near Delta and I feel that the 24% figure is not even close. The actual figure will be closer to seventy-five (75) percent.

The cost in dollars for bank stabilization was not estimated, the report only stated that a sinking trust fund would be established to pay for damages. What will happen if there is not enough money in the account to cover the damages?

The quality of the Uncompahgre River should not be underestimated. Between November and March about 1000 to 1500 ducks use the one (1) mile of river that I own for feeding and nesting. That is more ducks per mile than anywhere on the Gunnison River that I know of. In contrast, just below my land, the river has been straightened and channelled, and only 10 to 15 ducks use this mile of river. I feel that channel straightening and bank riprap destroy riparian habitat.

I have no desire to see my land destroyed by riprap and channelization and so I urge you to use Alternative A and take no action in this matter.

Very truly yours,  
  
JOHN WELFEL

JW/dj

I-132

3049 P 10 Lane  
Paonia, Colorado 81423

June 13, 1989

Projects Manager  
Bureau of Reclamation  
P. O. Box- 60343  
Grand Junction, Colorado 81506

Dear Sir:

Reference AD Lateral Hydropower Facility Draft EIS, Uncompahgre Valley Reclamation Project.

I am against any major alteration in water flow on the Gunnison and Uncompahgre rivers as set out in the referenced EIS. There are many unanswered questions concerning the maintenance of the ecosystems of both rivers if their present flows are altered.

Furthermore, how is the funding for this project set out? What is the liability responsibility of the sponsors? The Uncompahgre Valley Water Users Association is saddled with debt. If this project should prove not to be viable at a future date, who is responsible for that debt or new debt?

And what portion of the revenues from the project are going to be used to pay off the state and federal loans presently incurred by the UWA? All? It is stated that, "As currently planned, initial revenues would be used for debt retirement on an accelerated basis." (Ref UWA Revenues, page 1-6.) Is this a flexible plan? Can it be changed?

Is it possible that immediate and future power needs within Colorado and the immediate regions could be met with surplus power already available at Colorado-Ute?

Lastly, why develop a project with so many unanswered questions at the expense of the region's number one industry - tourism and recreation - by threatening a growing fishing and rafting industry and threatening a Wild and Scenic designation for the Gunnison River by diminishing the resources and recreation opportunities that make the river eligible?

Farmers and ranchers must be guaranteed their water rights. So, too, must area communities be guaranteed river ecosystems which reflect sound and healthy management.

Sincerely,  
  
Lee S. Sayre

# I-136 -- I-138

June 21, 1989

U. S. Bureau of Reclamation  
Grand Junction Projects Manager  
P.O. Box 603340  
Grand Junction, CO 81506

Projects Manager,

Regarding the proposed A/B Lateral Hydropower Project.

The blatant disregard for wildlife and wildlife habitat displayed in the Draft Environmental Impact statement (D.E.I.S.) for this project is appalling!

Proposed 300 cfs water flows in the Gunnison Gorge for more than 50% of the year would drastically affect water temperature winter and summer. Higher summer water temperature would exceed optimum conditions for trout. Lower temperature in winter could allow bank to bank freezing (and did last year), literally closing up winter open water areas in the Gorge and North Fork used by river otters and endangered bald eagles for wintering and food foraging.

The increased flows on the Uncompahgre River would be accommodated by extensive stream channelization which could cause faster water flows with a greater chance for flooding, it would interfere with the water table and it would destroy existing riparian habitat and wetlands. The proposed mitigation for the Uncompahgre River does not even have a cost projection! This is a conclusive study?

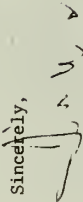
The Black Canyon of the Gunnison River is Gold Medal water now and is being considered by Congress to have a Wild and Scenic designation. The Gold Medal designation and the Wild and Scenic consideration were based on water flows the past decade of around 600 cfs, not the 300 cfs flow seen last year when the D.E.I.S. was prepared. If built this project will jeopardize the Wild and Scenic designation.

The proponents of this project, the Uncompahgre Valley Water Users Association and Mitex have not made public their contract agreement, where is this document? Mitex obviously wants to exploit the P.U.R.P.A. act for more U.S. profits, these greedy French power developers don't care about our environment! The Water Users have been financially troubled and are being lured by money only to pay off past due debts. Everyone involved or concerned with this project knows the P.U.R.P.A. act would force Public Service Company of Colorado to buy the power produced by Mitex and the A/B Lateral, full well knowing Colorado Ute produces 40% excess power they can't sell.

The D.E.I.S. has environmentally assessed this project using inconclusive studies and assumptions of studies that should be done. I find it disgusting that a multi-billion dollar French Power Developer through a quirk law (since repealed) could propose such a project and substantiate it with a D.E.I.S. as lame as this is.

The A/B Lateral Hydropower Project in my estimation is absolutely unnecessary for the production of power that is not needed and ridiculous from an environmental standpoint!

Sincerely,

  
John Wood  
Friends of the Gunnison River  
4301 S. Galapago  
Englewood, CO 80110

ORIGINAL

I-139



VENTURE AND RESOURCE MANAGEMENT COUNSELLORS  
450 W. Pacific POB 3027, Telluride, CO 81435, USA

Mark Silversher  
Attorney at Law  
Engineer  
(303) 728-4103

JUN 16 '89

CERTIFIED MAIL  
RETURN RECEIPT No. P 705 997 006

12 June 1989

Regional Environmental Officer  
Upper Colorado Region  
U.S. Bureau of Reclamation  
POB 11568  
Salt Lake City, UT 84147

Re: Draft Environmental Impact Statement, AB Lateral Hydropower  
Facility Uncompahgre Valley Hydropower Project

Greetings:

Set forth below are my comments regarding the above EIS.

The EIS fails to adequately consider viable alternatives which are financially viable and do considerably less damage to the environment in that three (3) sites along the South Canal originally identified by BOR in their report of July 1980, entitled, "Report on Assessment of Small Hydroelectric Development at Existing Facilities" have not been analyzed in the EIS. BOR identified these sites as among the best in the nation for hydropower development considering their economic benefit and environmental impact. They are sites UC 28.31.32 as shown on the map enclosed herein along with the cover sheet of said report.

Sincerely,  
*Mark Silversher*  
MARK SILVERSHER

NOTICE: IF YOU DETACH  
THIS COVER PLEASE INSERT

FILE NO. \_\_\_\_\_

# Report on Assessment of Small Hydroelectric Development at Existing Facilities



UNITED STATES DEPARTMENT OF THE INTERIOR  
Water and Power Resources Service

July 1980



June 20, 1989

I-140 -- I-142

Gary & Svril Whitlock  
302 West Main Street  
Montrose, CO 81401

Project Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

Dear Sir:

We oppose the construction of the AB Lateral Hydropower Facility in Montrose. The project would significantly alter stream flows in both the Gunnison and the Uncompahgre Rivers. The reduced flow through the Gunnison gorge - 300 c.f.s. for approximately half the year (no real guarantee that it won't fall below even that low figure) will have a number of negative effects:

- 1) significant alteration of the riparian zone in the gorge, representing (as yet inadequately studied) changes in habitat for insects, plants, and animals, including river otter, bald eagle, and deer;
- 2) degraded scenic beauty of the gorge, with resultant threat to "Wild and Scenic" designation of the Gunnison;
- 3) probable deterioration of the Gold Medal fishery;
- 4) poor rafting conditions with resultant decrease in rafting by both professional and independent rafters.

The Uncompahgre River will be drastically altered. For most of the year, the "river" through Montrose will be a polluted trickle of irrigation runoff hardly deserving the designation of "creek", let alone "river". This miserable flow may serve the needs of mosquitoes, but it will certainly put a damper, so to speak, on plans for an in-town fishery and river park. North of Montrose, from the hydropower facility outlet to the confluence with the Gunnison at Delta, the Uncompahgre will be swollen to approximately four times its current volume. The negative consequences of this increase include:

- 1) significant erosion of river banks (a.k.a. farmland) and need for bank stabilization;
- 2) destruction of riparian zone;
- 3) bridge and irrigation system damage.

The proponents of the AB Lateral project promise farmers and other Uncompahgre Valley Water Users Association (U.V.W.U.A) members that, through sales of electricity, they will realize both a niggling reduction in the cost of irrigation water, and also the early retirement of indebtedness incurred by the

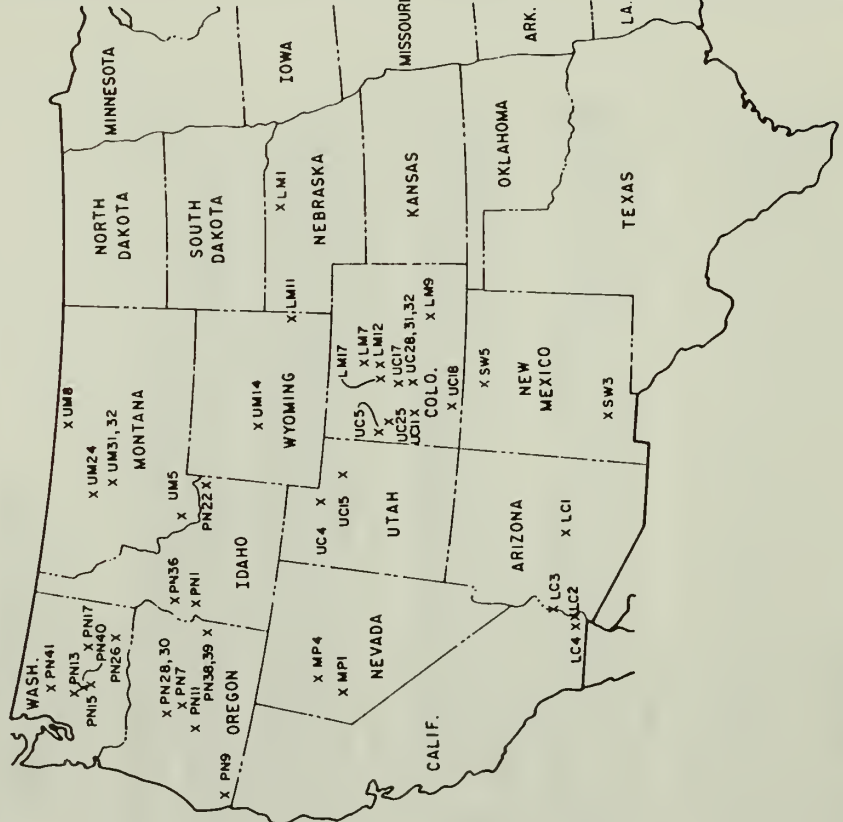


Figure 14. - Location of selected sites.

U.V.W.U.A. in the construction of the Gunnison Tunnel. These happy results would appear to be subject to some uncertainty. The contract between the U.V.W.U.A. and Mitex has not been made public, so it is not clear who will pay project cost overruns, who will pay for river bank stabilization, who will pay for the farmland destruction that will occur, etc. Regardless of contract specifics, it is certain that all area residents will pay for the environmental degradation as it results in a less desirable place to live and in a less scenic area to visit.

This project, of potential benefit to so few, but harmful to so much and to so many, should not be authorized.

Sincerely,



Gary & Syril Whitlock

cc: President George Bush  
Rep. Ben Nighthorse Campbell  
Former President Jimmy Carter  
Governor Roy Romer  
E.P.A. Director William Reilly  
U.V.W.U.A.  
Montrose Chamber of Commerce, Tourism Board  
Uncompahgre Riverway Project  
Western Colorado Congress





**LETTERS NOT REQUIRING RESPONSES**



2686 Storm King  
Mountain, New York 12481  
June 7 1989

Steve McCall  
Projects Mgr.  
SBR  
PO Box 603340

Grand Junction, Co 81506

Dear Mr. McCall:

Thank you for sending the Draft Environmental Statement concerning the +B Lateral Hydropower Facility.

After reading it rather thoroughly and attending two meetings on the subject, I fear now is not the time or place for such a project. Collectively it has some attractive features but the losses of outdoor opportunities afforded by such rivers, particularly the Gunnison, are definitely offset the advantages predicted for the project.

In thinking about rivers and considering the effects of man's use of them, I can't help but think of the Platte. 30% is all that remains of its historical flow and the wildlife that depend on it, unless they can somehow adapt, will probably disappear. Wise, conservative use of rivers is fine, but few would disagree that the Platte has been exploited.

I urge that a permit for construction of the project, in any of its development alternatives, be denied.

Again, thank you for the DEIS, the meetings and the opportunity to offer my views.

Sincerely yours,  
Jordan Amerman



550 North Townsend - Montrose, Colorado 81401 - (303) 249-5515

CHAMBER OF COMMERCE

"Home of the Black Canyon"

MR. WALT FITE  
PROJECT MANAGER  
BUREAU OF RECLAMATION  
P.O. BOX 60340  
GRAND JUNCTION, CO 81506

JUNE 22, 1989

MR. FITE:

I AM WRITING TO CONFIRM THE MONTROSE CHAMBER OF COMMERCE POSITION ON THE PROPOSED AB LATERAL HYDRO PROJECT IN MONTROSE.

ON MAY 22, 1989, THE BOARD OF DIRECTORS OF THE MONTROSE CHAMBER LISTENED TO A PRESENTATION BY JIM HOKIT, OF THE UNCOMPAGRE VALLEY WATER USERS ASSOCIATION, CONCERNING THE ENVIRONMENTAL IMPACT STATEMENT (EIS) RELEASED ON THE AB LATERAL HYDRO PROJECT.

AFTER MR. HOKIT ANSWERED QUESTIONS CONCERNING THE "IMPACT" ISSUES, THE BOARD OF DIRECTORS VOTED TO "CONTINUE TO SUPPORT THE AB LATERAL HYDRO PROJECT AS IT HAD WHEN THE ISSUE WAS BROUGHT BEFORE THEM AT THE TIME OF THE ENVIRONMENTAL ASSESSMENT (EA)."

RESPECTFULLY,

N. ANGUS BOHEM  
EXECUTIVE DIRECTOR

Projects Manager  
Bureau of Reclamation  
Box 60340  
Grand Junction, CO 81506

June 16, 1989

To the Projects Manager:

I do not believe that private projects on a public resource should be allowed to interfere with the normal functioning of that resource. Flow levels on the Gunnison River should be maintained to retain the current trout population and recreational boating as it is now practised. Reduction of flows beyond that level would rob American citizens of a resource that is properly theirs.

Sincerely,  
  
Bruce Berger  
Box 482  
Aspen, CO 81612

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, Co 81504

Steve McCall - Project Manager

I would like to let you know I strongly oppose the AB Lateral project. As I see it there is no need for the electricity and no common sense involved in the project which is standard practice with the Bureau of Reclamation. The Gunnison River is hardly flowing now thanks to your earlier projects.

Maybe there's a place for the Bureau in France I here the Loire is still flowing.

Dave Brinton  
PO BOX 1119  
Paonia, Co.  
81428

Dear Mr. Fite:

Thank you for the opportunity to comment on the proposed AB Lateral Hydropower facility. I will be brief. I am opposed to the project

1. The project would produce electricity we do not need.
2. The project will threaten Wild & Scenic designation of the Gunnison River, a designation long supported by many.
3. The project will reduce river flows to minimum for <sup>the</sup> year, significantly affecting the river ecosystem.

I do not know who will benefit from this project. But whatever the benefit, it is not enough. The Gunnison gorge with its emerald waters is fine fishing & packless. Must we destroy every thing? Thank you for your time & consideration.

Sincerely,  
Janice Jutten, Borewick  
P.O. Box 1375

Projects Manager  
Bureau of Reclamation  
P.O. Box 663340  
Grand Jet, Co. 81506

June 22, 1989

Dear Sir:

I am a high school teacher living in Paonia, Cob. As an avid white water enthusiast and fisherman, I am concerned about the proposed AB lateral hydropower plant/project. I am concerned that the proposed project may lead to unratifiable water levels in the Gunnison, decrease the quality of the Gold Medal Fishing there, and threaten the wild and scenic designation that people are working so hard to obtain. Also of concern is the lowering of the Uncompahgre river in Montross. Furthermore, I feel that the electricity generated by the project is not even really necessary. Let me go on the record as being opposed to the project.

Thank you, A. Brubaker  
James  
P.O. Box 4711  
Hatch, Co. 81419



P.O. Box 802 • Colorado Springs, CO 80901  
David & Kim Burch  
(719) 632-3684 - Colorado Springs  
(719) 729-3154 - Canon City

Dear Sirs,  
I am opposed to the AB lateral project. The project will be a serious detriment to the area.  
I could possibly ruin the fishery. Please say NO!

Sincerely,  
David Burch

PROJECTS MANAGER  
BUREAU OF RECLAMATION  
P.O. BOX 605340  
GRAND, Jct. CO 81226

6-14-89

DEAR SIR:

Please reject the A.B lateral hydropower proposal. The concerns that I have about the project are 1) The electricity is not needed especially now that the largest supplier to the western slope is crippled, 2) It makes no sense to endanger a thriving cutting industry, a world class trout fishery and a wild and scenic River just to pay off an old debt.

The Gunnison River has been altered many times over the past 30 years when will we say enough is enough. The river is now a national treasure and should be left as it is.

THANK YOU FOR YOUR TIME  
*Roger*

ROGER CESARIO  
BOX 1116  
CRESTON Butte, Co  
81224

June 8, 1989

Projects Manager  
Bureau of Reclamation  
Grand Junction

Dear Sir:

This is in regards to the proposed AB Lateral project.

I am a small business owner in Paonia, and have owned and operated a small fruit farm there for 19 years. I have also followed the history of the project, and read (in part) the Draft EIS.

From the standpoint of the average citizen and the area economy, this project makes no sense whatsoever.

The economic benefits are to a very, very small group of people. On the other hand, there is no doubt this would adversely affect the burgeoning recreational industry which is seen by all local and regional authorities as being the future lifeblood of the area.

With three dams already in place not counting Taylor Reservoir, there is certainly none of the traditional reasons for another diversion. Colorado Ute is already legally insolvent; they certainly do not need to be forced to purchase more electricity.

From a strict cost/benefit ratio, not to mention subjective environmental values, I strongly urge you to NOT issue a permit.

Sincerely,



Buzz Burrell  
4166 R Rd  
Paonia, Co.  
81428

June 21, 1989

Bureau of Reclamation  
Grand Junction Projects Office  
2764 Compass Dr.  
PO Box 63340  
Grand Junction, CO 81506

Dear sirs,

We are writing in support of the AB Lateral Project in Montrose County. As residents of Olathe, we have the opportunity to spend a great deal of time in the Black Canyon. We frequently spend our time fishing and hiking on the Gunnison River. It is certainly deserving of the designation "Wild and Scenic". The concerns of some people in the community concerning the environmental effect of the AB Lateral on the Gunnison river seem to be unwarranted; the regulation of flow will be more consistent and probably more beneficial to the fish and other wild life.

We do understand the concerns of the rafting industry. They will probably suffer a financial loss. However, it is our understanding that the rafting companies impacted are located outside both Montrose and Delta counties. This fact, plus the potential for increased financial resources to businesses (CUEA) and farmers within the counties, makes the

project more desirable. It will provide a clean source of power & improve the ability of local farmers to compete in agricultural markets by reducing their cost of production.

Our only concern has been the effect of the project on erosion along the Uncompaghere. However the project servers have addressed this issue to our satisfaction, setting aside ~~the~~ an amount of money to deal with this problem. Therefore we support them in their efforts.

It seems the benefits out weigh the costs. We hope the project is approved.

Sincerely,

Karen Crase

Mark P. Jomer

4445 W.25 Rd

Olathe CO 81425



LAW OFFICES  
**DARROW AND HELMSING**  
525 DODGE STREET  
P.O. BOX 106  
DELTA, COLORADO 81416-0106  
TEL. (303) 874-4405

NICHOLAS E. DARROW  
GREGG HELMSING

June 19, 1989

Projects Manager  
BuRec  
P.O. Box 603340  
Grand Junction, Colorado 81506

Dear Sir:

It is my understanding, to my great surprise, that your department has released a Draft Environmental Impact Statement on AB Lateral facility in Montrose County and that your agency is now considering granting a permit for the construction of the project.

At this time I would like to express my deep concern about the changes in river flow and environment and pertinent effects this project will have upon the Gunnison and Uncompahgre River Valleys in Montrose and Delta Counties. I have lived in the Olathe and Delta areas for 70 years and have a rather deep feeling for the welfare of this entire area, both agricultural and economic development viewpoint on the one hand and the environmental viewpoint on the other hand.

Although I have never been extremely active in promotion of economics or environmental issues, I do nevertheless retain a strong feeling for the development and welfare of the area. My feeling of strong opposition to the proposed AB Lateral electric generating project arises from the obvious damage to the environment and river flows in both streams resulting from this unusual change of use. As has been pointed out and argued by many others such a change will severely reduce, and possibly terminate, the use of the Gunnison River for fishing, recreation, and boating purposes. It will also increase the flow of the Uncompahgre River, which has been subject to flooding and land erosion from time to time over the past years so as to cause considerable damage, erosion, and loss to adjoining property owners, primarily those engaged in agriculture.

On the other hand with excess of power now existing in Western Colorado and including the problems of Colorado-Ute, the increased production of electric power resulting from this project will not greatly benefit the area and the power obviously is not needed. There may be some incidental benefits from a very small

1523 MONTANE DRIVE EAST  
GOLDEN, COLORADO 80401

June 13, 1989

Projects Manager, Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

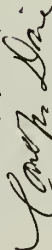
Dear Sir:

I have recently been made aware of the upcoming project that you are considering for the Gunnison and Uncompahgre Rivers in western Colorado.

Any government agency connected in the slightest with the water situation anywhere in the United States must consider seriously the history of the area, the impact on prior rights, and the long range effect of draining off large amounts of water. Most important, when private interests are concerned, all details relating to the profit-making side of the project should be clearly in the open.

It is my hope that upcoming hearings on this project will bring all of these aspects clearly into focus in great detail.

Very truly yours,



Carolyn Dain

reduction of charges for irrigation water under the Uncompahgre Reclamation Project, but this reduction will be extremely slight compared with the economic damage to the environment, recreation areas and those inhabitants engaged in recreation, fishing and boating industries.

It would seem that the only substantial beneficiaries will be the promoters and investors in the AB Lateral project, who are nonresidents, and to the best of my knowledge have no real interest in the lives of the inhabitants of the area and the continuation of our natural resources including the continued flow of these two rivers in a normal manner.

In conclusion, I urge the denial of the permit by your agency for the construction of this project.

Very truly yours,

  
Nicholas E. Darrow

NED/lm

cc: Western Colorado Congress

6/20/84

To Projects Manager:

Please don't dry up the Gunnison River.

I am an avid kayaker & rafter, and have witnessed many spectacular sights on the Gunnison River. Your disturbance of the river would cause a destruction of 2 rivers & the ecosystem surrounding it. My question: What gives you the right? It is not your land.

What disturbance I am most concerned about is that of the animals in the environment. (Time to bald eagles, elk, black bear, numerous deer, docks, peregrine falcon, and river otter. Their living situations would be altered, their food sources all but destroyed.

DONT DISTURB THE NATURAL PROGRESSION OF WATER!

Consider the paths of the river as sacred, and leave them untouched. The health and economic diversity will be destroyed so that French investors can benefit?

The Public Service Company is being forced to buy power from this project - but we don't need more power! surplus electricity is sickening - we drained our environment even more than was necessary. Allow the surplus power to be used, please. - Before destroying the Gunnison

River to make more

Because the Uncompahgre's flow will UN-NATURALLY be doubled, erosion will result, as will water pollution and loss of agricultural lands. 25% of the river's banks will be tainted. Why disturb it?

My argument, primarily, is that the progression of water is sweetening so fast, so alive, and so untouched, how could we think of tremendous change? The rivers are not years to redirect.

Thank you for reading this

Emily Eden

P.S. I would greatly appreciate any information that you could send in reference to the positive effects of redirection of the Gunnison River. I am interested to see if they exist.

Box 2742  
Telluride, Co  
81435

Tom Egan  
Box 3637  
Aspen, Colorado 81612

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, Colorado 81506

June 13, 1989

Dear Sir:

I am writing in reference to the AB Lateral Hydropower Facility and it's future effects on the Western Slope of Colorado. Simply put, I would like the Bureau to pay more attention to the potential impact the project will have on the Gunnison and Uncompahgre rivers and the lands they drain. While the idea of creating clean hydroelectric power from existing canals and water that is already diverted is an idea with merit, the value of maintaining adequate minimum stream flow to insure the rivers maintain their "integrity" (if you will) should weigh heavily against the questionable need for more power here in western Colorado.

With the recent filing of a chapter eleven bankruptcy by the Colorado-Electric Association we can perhaps assume that there is simply not enough demand to warrant the project proceeding in the first place. And while it is not our place to dictate to a private company the amount of profit they should pursue, in ANY case where it involves the potential loss and/or degradation of a public resource such as the rivers in question versus the margin of profit, I would hope that the Bureau, as custodians of the resources themselves (and not the potential for profit) would see fit to exercise caution in issuing permits. A hydroelectric project can be scaled back or altered to reflect more realistic environmentally sound objectives. The river, once sold, would be very hard to buy back.

These rivers and the right to enjoy them - and use them - belongs to all of us, not just the proponents of the AB Project. Please, when you consider issuing the permits for this project, keep the rest of us in mind. I, for one, still want a river flowing in these canyons, not a trickle. I am confident suitable compromises that appeal to all sides can be reached and I urge you to proceed with that in mind. Thank you for your time.

Sincerely,

TOM EGAN

June 21, 1989

Sirs;

I am writing this letter to state my opposition to the proposed A.B. Lateral Project. As a resident of Delta County, I feel this project will have an overall negative impact. I oppose the project for several reasons.

First, and most importantly, I feel the streamflow projections for the Gunnison River spell doom for the fishery as well as the boating uses on the river. The river has set itself, and is producing upwards of 1,600 16" trout per mile. This level of productivity is something to be nourished, not tampered with. By lowering the levels of the Gunnison year round, the ecosystem will no longer be able to maintain it's optimum level. The possible icing of the River in winter may result in a lowering of oxygen levels, as well as microbiological changes. The Uncompaghre River will be impacted even worse. I feel the bank stabilization issue has not been addressed properly. The lowering of the streamflows through Montrose in a dry year will leave nothing but a trickle. This is unacceptable.

Mitex also worries me. They are not discussing details of their contract with the Water Users Assoc. They are to receive their profit off the top over the first 15 years of the project. This is coincidentally the same time frame that Public Service is obligated to buy power from the Project. If Mitex is so sure about the need for this project; they should share the risk and have their payback spread out over a longer time frame. Their are other economic risks involved also. If construction is delayed, or if for some other reason the project is not on line by 1994, Public Service would not be obligated to buy the power. Considering the glut of power that Colorado Ute has at the moment, and looking at the financial mess they have ended up in, the whole necessity of the A.B. Project comes into question. The cost benefit ratio is alarmingly narrow. Major cost overruns resulting from lack of engineering studies or unforeseen construction problems could jeopardize the viability of the project. According to the D.E.I.S., the final choice of material for the penstock has yet to be decided. At some 38,000 feet, this figure alone could fluctuate by hundreds of thousands of dollars. In summation; I feel the Project is an economic risk that is unnecessary for the area. Environmentally, the Project impacts both river systems severely. I feel that this is the wrong project in the wrong place at the wrong time.

Thank You;



Philip V. Egidi  
2799 N. Rd.  
Hotchkiss, Co. 81419

Julia M. Emerson  
7241 South Gibson St.  
Littleton, CO 80120

Dear Project Manager,

I am writing to you about Gunnison river, the draining of hot rivers as a result of th project is not acceptable. The mainm flaws for the Gunnison P should be based on the ecological health of th rivers and not on the financial expediency of the project proponents. Thank you vermuch.

Sincerely,

Julia M. Emerson

Projects Manager  
Bureau of Reclamation

Gentlemen,

I have read the DEIS, attended public meetings, read the newspaper, talked to individuals, and come to the conclusion that the AB Central should not be approved at this time.

However, I do not totally oppose the idea. It is generally a good one with possible advantages for all concerned. However, I believe the disadvantages and unanswered questions outweigh the advantages. My overriding thought is that I see no reason why it has to be done now or never (not withstanding the hydro development laws and PSC agreement). There is too much potential for irreversible damage to make the wrong decision, so given there is no hurry, let's table the idea and think about it another time. We need assurances about its effects - not guesses given by the DEIS. I oppose its construction.

Paul Swartz  
62416 N Star  
Meridian, CO 81441

June 3, 1989

To: U.S. Bureau of Reclamation  
From: Shirley Evans, Greenwood CO.  
Re: Proposed AB Central

It has been brought to my attention that you are considering allowing hydro electric development by Uncompaghe Valley Water Users Association on the Stumison River.

I wish to state my firm opposition to said proposal. I have heard the pleasure of visiting the river Stumison from Chukar tract, and of fishing the river that that are in that section of the Stumison. I

firmly believe the Stumison should be designated wild + scenic and totally protected from further development, even to the extent of limiting boats and enforcing catch-release standards, until

The Wild/Scenic status has been decided. Nothing should be allowed to affect the lower Stumison, certainly not an unneeded hydro power project. Please send me a copy of the DEIS:

P.O. Box 83541

Faultlands, AK 99708

Sincerely, Shirley Evans

June 19, 1989

Project Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, Colorado 81506

Dear Sir,

I am writing in regards to the proposed AB Lateral Hydropower project on the Gunnison River.

My wife and I have been residents of Gunnison County for over ten years; having just moved back after a short stay in Tennessee.

We recently had the opportunity to hike into the Chukar Trail area of the Black Canyon of the Gunnison and do some fishing. It is a beautiful and pristine gorge containing a world class fishery. And one, in my opinion that should be preserved in as close to a natural state as possible. Has there not already been enough alterations to this river system?

We fished with our friends who make their livings as fishing guides. They frequent the Black Canyon along with other recreational outfitters. They show folks from across the country the tranquility and ecological uniqueness of the Black Canyon. This area and its fishery should be considered an irreplaceable and necessary resource for the people of Western Colorado.

The fishery and recreational value of the lower Gunnison River should be enough reason to disregard this project, but I also don't understand the need (or want) for more power capacity.

As you know, Colorado Ute was recently forced into bankruptcy because of the companies inability to sell all of it's available power. Why is there a need for more power and on a year-round basis?

I appreciate the opportunity to state my opinion and hope you will take these concerns into consideration. In fact, if you have time you should hike down the Chukar Trail, if only to experience the incredible stonefly hatch taking place.

Sincerely,

*Teddy Evans Guide Evans*

Teddy Evans  
P.O. Box 1542  
Crested Butte, CO 81224

Millard S. Fairlamb  
Attorney at Law

THE HERITAGE HOUSE . 540 MAIN STREET . SUITES 1 and 3 . P. O. BOX 289 DELTA, COLORADO 81416 . (303) 874 4495

June 9, 1989

U. S. Bureau of Reclamation  
Grand Junction Project Manager  
P. O. Box 603340  
Grand Junction, CO 81506

RE: AB Lateral

Gentlemen:

We don't need more power generated - we need a market for the power we are already capable of providing. We don't need to create more economic hardships for Colorado Ute; we don't need more Colorado Ute employees to lose their jobs. We don't need to alter the flow of either the Gunnison or the Uncompangre Rivers. We don't need to fatten the pocketbooks of Mitex, French investors and Montrose partners at the expense of Delta County.

We don't need or want the AB Lateral project - it should be stopped dead in its tracks and proceed no further. This project is so bad it shouldn't even be open to negotiation.

Sincerely,

*Millard S. Fairlamb*

Millard S. Fairlamb

MSF\*ce

June 17, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, Co. 81506

To Whom It May Concern:

I am concerned about the proposed AB Lateral hydropower project. I oppose the project and as a landowner in Montrose county, ask you to look beyond the immediate monetary gains the project might create and consider the long-range damage the project would create.

I believe the AB lateral project would seriously damage rafting, fishing and wildlife habitat along the Gunnison River. I fear that the Uncompahgre River flow through Montrose will be drastically altered and no longer be a source of beauty and recreation.

Frankly, I do not see that the electrical power that the AB Lateral would create is needed. Having so much to lose environmentally, how can the small monetary gains the project might create possibly be worth the risk.

As a Montrose resident for 13 years, I feel we need to set our priorities straight and consider how proposed changes will affect us in the future.

Sincerely,

*Glenda Fletchall*  
Glenda Fletchall

cc: Congressman Ben Nighthorse Campbell

June 6, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

Dear Sir,

I am concerned about the plan to divert additional water from the Gunnison River.

The Gunnison is a wonderfully scenic river, known for its trout and rapids. It is an important part of the scenic Black Canyon that so many visitors to Colorado are awed by every year.

There is a plan to divert additional water from the Gunnison in order to provide additional power to part of Colorado. It has not been sufficiently proven that additional power is needed. At any rate, draining the Gunnison is not an acceptable method.

Please do not approve any plan to drain the Gunnison. The minimum flow for the river should be based on sound ecological grounds, not on the needs of proponents of the project.

Sincerely,

*Carolyn Falke*

Carolyn Falke  
3790 Smuggler Place  
Boulder, CO 80306

2201 Dahlia  
Denver  
6-3-89

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, Colo. 81506

Dear Sir:

I repeat, along with concerned people, this wise, because it is just and right, sentence: "The minimum flows for the Gunnison should be based on the ecological health of the river and not on the financial expediency of the project proponents."

Why ruin something decent left in Colorado - why do irrigators ruin, to plead their failure to pay their debts? a French corporation with money from Boston subsidiary? degredating another resource? why not protect, quit destroying?

Sincerely,  
Louise Foster

Project Manager, Bureau of Reclamation  
Grand Junction, Colorado

Mr - Wendell Funk  
10393 Hwy 34 Grand Lake, CO 80447

Re - Proposed Gunnison/Uncompahgre hydro project

The public's natural resources, especially air, land and water, must be given the highest protection. If our environment is degraded, the dependent economy will suffer.

Stream flows in the Gunnison Uncompahgre rivers must not be cut to the extent that aquatic life and the river itself are damaged. The proposed hydro project will damage these rivers. The data supporting the postulated cost/benefit ratio has not been made public as it should be for a project involving such extensive use of the public's resource and at present the proposed production of electricity is in surplus in the region. The proposed hydro project, at least,



For the present, should not be allowed.  
The public resource and their concerns  
are of far greater importance than  
unverified private monetary gain.

Sincerely yours,

~~Wendell Fink~~

Wendell Fink

6/9/89

U.S. Bureau of Reclamation  
Grand Junction, Colo.

Attention: Projects Manager

Dear Sir:

As an Uncompahgre Water Association user, I very strongly object to the  
AB Lateral water project. I would much rather pay higher water rates than  
see money go down the drain by generating electricity for which there is no need.

Respectively,

*M.W. Gardner*

M.W. Gardner  
508 1740 Rd.  
Delta, Colo.  
81416

JONATHAN GATES  
2604 N RD  
Hotchkiss CO 81414

PROJECT Manager,  
BUREC,  
BOX 603340  
Grand Jct, CO 81506

Dear PROJECT manager.

I AM writing to state my  
opposition to the proposed AB Lateral  
Hydropower Facility in its present  
form. I work as a Fishing Guide  
on the Gunnison River in the Gunnison  
Gorge Recreation area. The AB Lateral  
as proposed will have long term  
negative impacts on the fishery in  
the Gunnison River. The DEIS says  
optimum flows for adult trout are  
at the 600 CFS range. This corresponds  
to bank flows in the river  
which will maximize adult trout  
habitat, while providing adequate swim-  
up fry habitat. People pay good money  
to catch large adult rainbow trout  
in the Gunnison Gorge. The AB Lateral  
as proposed will keep flows in the  
river at 300 CFS for 6 months of  
the year. This is unacceptable to me

as it means the demise of the  
Fishing in the Gunnison River and  
my livelihood.

If the BUREC wants the project  
they should propose a new alternative,  
a smaller project that will not  
draw the Gunnison River below 600 CFS  
for hydropower. In addition, implement  
a monitoring program to make sure that  
agriculture water calls are not diverted  
for hydropower or agriculture water  
rights are drawn the river below  
600 CFS. This might be an acceptable  
alternative if adequate public review  
and draft comment periods are provided.

I support Jack Stanford's 1988 studies  
on the Gunnison River and believe the  
BUREC should implement them by  
initiating changes in the w. appraisal  
unit operational plan.

The DEIS did an inadequate job  
in general, especially in the area  
of social and economic impacts to  
Delta County. The county is fast  
becoming a tourism based economy  
and the Gunnison River is its life  
blood. The Gunnison River is my livelihood  
and it needs 600 CFS to live so  
the people of Delta County can make  
a living. Therefore, I am opposed to the  
AB Lateral as it is presently proposed.

One further note:

The water shortage in the Gunnison River Basin could be prevented if the BREC and the U.S. Soil Conservation Service would adequately monitor the winter snowpack. This would involve more snow courses, snowfall sites, or tri monthly snow water content measurements throughout the river basin instead of monthly measurements. Pay attention to ski reports and winter weather patterns all winter long. If this is done the aspirall unit should be full after every spring runoff and the interest of all water users in the basin would be served better.

Sincerely,

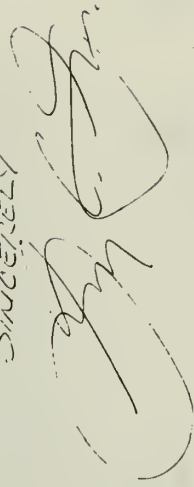
Jonathan Hester

May 31, 1989

THE PROPOSED A/B LATERAL PROJECT WILL BE THE END OF ALL RECREATIONAL ACTIVITIES IN THE BACK CANYON - GUNNISON GORGE RIVER ENVIRONMENT - I FIND THAT THE RECREATIONAL & TOURIST RELATED ACTIVITIES FAR OUTWEIGH THE MARGINAL BENEFITS OF WATER DIVERSION TO THE UNCOMPHAGRE RIVER. DIDN'T YOU GUYS JUST BUILD A MAJOR RESERVOIR (PAM) AT RIDGWAY.

PLEASE CONSIDER ME AS HIGHLY OPPOSED TO THE A/B LATERAL PROJECT.

SINCERELY



GREGORY C. GENUIT  
758 MIAMI ST.  
OURAY, CO. 81427

June 19, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

Dear Sir or Madam,

I am writing to comment on the proposed AB Lateral Facility. I have reviewed and studied the Environmental Impact Statement on this project and remain firm in my conviction that Alternative A (no action) is the best plan to follow.

Beyond the damage to the rafting industry, beyond the possible ecological damage, and beyond potential management problems lies the total lack of need for this project. The Gunnison River has more than fulfilled its requirements to meet so called needs. The power and irrigation needs claimed by the sponsors are unconvincing. Economics remain their primary reason for this project, and it is not right to damage a national treasure to serve the economic desires of a few.

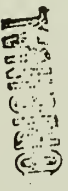
Rather than the AB Lateral Facility, I would urge the pursuit of Wild and Scenic designation for the Gunnison River. AB Lateral is damaging and unnecessary. As a 16 year resident of Gunnison County, I strongly oppose this project.

Thank You,



Scott Gerber  
Box 711  
Crested Butte, CO 81224

U.S. DEPARTMENT OF THE INTERIOR  
BUREAU OF RECLAMATION  
JUN 19 7 58 AM '89  
Montrose, CO 81401  
June 15, 1989  
A-21180  
150  
140



Don R. Gladwell  
78836 66.50 Rd.  
Montrose, CO 81401

Regional Environmental Officer  
Upper Colorado Region  
US Bureau of Reclamation  
P.O. Box 11568  
Salt Lake City, Utah 84147

This letter is written to express one individual citizen's point of view regarding The AB Lateral Project. Let me begin by emphasizing how very much I appreciate and respect the people who have worked for and directed The Uncompahgre Valley Water Users Association. Their foresight and planning has been and continues to be a first class job. Without their efforts there would be no Uncompahgre Valley as we know it. Their desire to capture yet another opportunity to improve the plight of our local farmers is fully consistent with their overall mission. They are to be commended for working so diligently toward this goal.

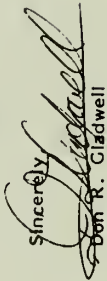
I have attended numerous meetings regarding The AB Lateral over the last year or so and have concluded that the scope and complexity of all the factors that could figure into this issue are mindboggling. I've heard so many statistics (often conflicting statistics) that the conclusion that I've drawn for myself is one that admittedly comes as much from the heart as from the head.

I have fished and otherwise recreated in the Black Canyon of the Gunnison River for the last 17 seasons. It is one of the dearest places on earth to me. My fear is that someday I'll take my grandchildren down the Red Rocks Trail to view a mossy, muddy remnant of a creek full of suckers and carp and have to try to tell them about the way it was back in the 1970's and 1980's. The AB Lateral Project alone would not create such a scene, but I will be concerned about any proposed change that would effect this priceless resource.

In my personal opinion, The AB Lateral power plant is optional. It certainly has many good and important features but none are overwhelmingly critical. The river through The Black Canyon is not optional. There is none other like it anywhere—it can't be replaced.

Therefore I must go on record as opposing The AB Lateral. No matter what the project, if it effects the environment, there will always be someone who has personal feelings and reasons as to why it's a bad idea. This one just happens to effect my beloved canyon.

Thank you for hearing my views.

Sincerely,  
  
Don R. Gladwell

NET WEIGHT/ OZ/ LBS/ GRAMS

May 19, 1989

Projects Manager  
Bureau of Reclamation  
Box 603340  
Grand Junction, CO 81506

To the Bureau:

I am a businessman here in Telluride, running Baked in Telluride, a bakery and food service operation here. I also sell my products through retail stores in the region, including Montrose. As such I recognize the value of tourism to this region.

The proposed AB Lateral project threatens to negatively impact tourism on the Gunnisson River by reducing flows. The reduced flows would harm both the growing recreational river running on the Gunnisson, recently the subject of careful planning by the BLM. In addition, the rivers status as a prime trout stream would be threatened by raised temperatures in summer and reduced flows and ice damming in winter.

Of even greater concern to me as an individual are the negative impacts on wildlife and agriculture. Decreased flows on the Gunnisson will decrease water available for riparian habitat. Increased flows on the Uncompaghe, which would necessitate channelizing and riprap, will also decrease riparian habitat, and would increase erosion, harming agricultural uses adjacent to the stream.

Please reject the AB Lateral Project.

Respectfully submitted,

*James P. Brett*  
James P. Brett  
Baked in Telluride



(303) 728-9902

P.O. BOX 575 TELLURIDE, CO. 81435  
127 S. FIR

June 18, 1989

AB Lateral Hydropower Facility  
Department of the Interior  
Bureau of Reclamation

Mr. Steve McCall:

I have studied the Draft Environmental Statement and have found it to be a good and reasonable document.

I find that the benefits far exceed anything that could be harmful to fisheries or wild life. B., C., E., & F. are all good alternatives, but I find B. as first choice and E. as second choice.

Very truly yours,

*James P. Brett*  
James P. Brett

Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

June 19, 1989

Dear Projects Manager,

I am writing in regards to the AB Lateral project on the Gunnison River. After reading the DEIS, I believe there are many unanswered questions and inconsistencies regarding the region's tourism-based economy.

The Montrose Chamber of Commerce recently recognized Tourism and Recreation the region's number one industry, the AB Lateral would seriously affect this economy. My livelihood, as well as many others, revolve around the Gunnison River and the continued ability to navigate it's waters and maintain it's standing as a Gold Medal Trout Fishery..

For the last two spring/summer seasons, we have seen flows averaging 350 cfs which make navigation extremely difficult and dangerous. The number of people visiting the Gunnison Gorge has been reduced due to the inability of boats to fit between the incredible number of rocks now exposed. People can still float the Gunnison with qualified commercial companies, who have the right equipment, but others, who once floated the river on their own, contributing to the local economies, and can't afford the cost of a commercial trip, are increasingly discouraged. Continued low flows will work against the intent of the Tourism and Recreation economies of both Montrose and Delta counties.

My name is Wilson, Swome. I live at 1347  
2700 Rd. Hatch Kiss, Co. 81419. I hope you won't  
disregard this last minute letter. In some there are  
plenty of other folks who were late or forgot to write.  
I am opposed to the AB lateral project. Everyone that  
I know is also opposed except for one person who  
is the president of the Board of Chatham. As a resident  
of Delta County I can see little or no benefit  
to Delta County with all the benefit going as usual  
to Montrose County (As in the L.P. print)

I personally am no expert on EIS's or A/Amendments  
so I won't go into it. But from what I hear the EIS  
is suspect. But as ignorant as I am it appears to  
me that a large foreign corporation will make millions  
selling power we don't need. The water users will get  
a drop of money and the Gunnison River will get the  
shaft. No good for Delta County, Colorado or the  
United States of America.

I also predicted that if the project is approved,  
there will be a messy and expensive court fight. Who  
ever is behind this project at the Bureau will end up  
with egg on his or her face. So lets just forget  
it. now common sense should tell that it just  
isn't worth the effort.

Wilson Swome

Reduced water flows are also diminishing the adult trout habitat on the Gunnison and increasing pressure on it's Gold Medal Trout waters, It is this valuable resource which continues to draw fly-fishing enthusiasts to the region. I believe sacrificing such a resource is short-sighted management for the region as a whole.

The fishery is only one significant population of many populations that will be affected by this project. What about the endangered river otter, bald eagle, peregrine falcon, as well as the ducks, geese, deer, elk and black bear? All these animals and birds will lose habitat and food sources. The Gunnison River and it's surrounding environment is a healthy ecosystem, why destroy the one gem that supports so much wildlife and draws so many visitors for the limited, short-sighted benefit of a few in the Uncompagre Valley Water User's Association? We all live here!

This project would also double the flows in the Uncompagre River causing erosion, water pollution, and loss of agricultural lands. I understand project sponsors would have to channelize and rip-rap more than 25% of the river's banks, which would cut off wetlands, shrink riparian habitat, and impact wildlife and migratory waterfowl.

It seems this project is cutting off it's nose to spite it's face. Please consider my comments and recommend "no action" on the AB Lateral project.

Sincerely,

*Diane Hackl*

Diane Hackl  
P.O. Box 1113 Paonia, CO 81428

Mr. Steve McCall  
Projects Manager  
U.S. Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, Co 81506

Dear Sir:

Please step back and consider the dire effects of the AB Lateral Project. If there is a possible reduction to irrigation costs for the Uncompagre Valley Water Users through hydro-electric production, the "Trade Off" is that economic development of tourism (the state's best industry) is severely impaired. The bad "Trade Off" continues with the adverse impact on the environment: wildlife and the ecologically-balanced fishery system.

I wish to point out the ridiculous contradiction of Bureau of Reclamation purposes. In a recent edition of The Daily Sentinel one story headline was "DOW to seek land for game habitat," and another story outlined the Bureau's rejection for added debate on AB Lateral." Does it make sense to ask ranchers to provide more wildlife habitat while you are busy working on projects to destroy it?

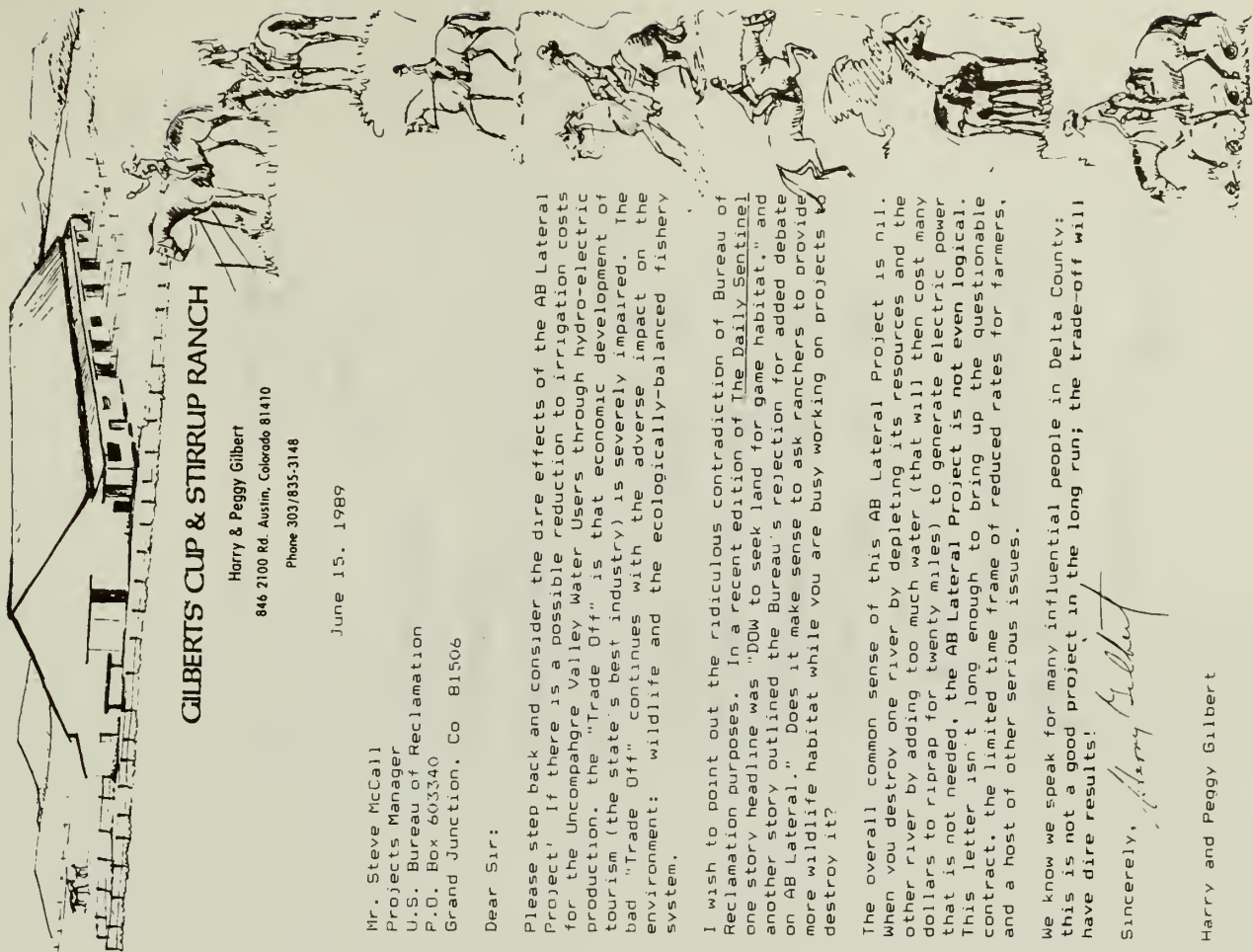
The overall common sense of this AB Lateral Project is nil. When you destroy one river by depleting its resources and the other river by adding too much water (that will then cost many dollars to riprap for twenty miles) to generate electric power that is not needed, the AB Lateral Project is not even logical. This letter isn't long enough to bring up the questionable contract, the limited time frame of reduced rates for farmers, and a host of other serious issues.

We know we speak for many influential people in Delta County; this is not a good project in the long run; the trade-off will have dire results!

Sincerely,

*Harry Gilbert*

Harry and Peggy Gilbert



## GILBERTS CUP & STIRRUP RANCH

Harry & Peggy Gilbert  
846 2100 Rd. Austin, Colorado 81410  
Phone 303/835-3148

June 15, 1989



KIT W. HADDOW, D.D.S.  
1208 Orchard Avenue  
Grand Junction, CO 81501  
245-2990

June 12, 1989

GEORGE D. HART, JR.

Dear Sir:

6.17.89

re water - Black Canyon of the  
Gunnison

I would like to offer comment  
on the BLM DEIS relating to the  
A B lateral project.

The DEIS does not address  
the destruction of fish habitat. The  
project will likely harm the Gunnison

Canyon. Let me ask you, why does  
the greed of a few and a loophole  
in the law allow for the destruction of  
one of Colorado's treasures. No mitigation  
will compensate. This is a bad  
project. Thank you. Sincerely, Kit W. Hadow

plans made sure the  
minimum flow for the  
Gunnison are based on the  
biological health of the  
river not on the financial  
expedience of the project  
proponents.

Thank you.

Sincerely,

George Hart



6/18/89

To: Projects Manager  
Bureau of Reclamation

From: Phil Hayden  
Yellowknife Electric  
Box 1321 Yellowknife.

Hello. I'm writing to tell you I'm opposed to the AB Lateral Hydropower Facility development alternatives B, C, E & F. I ask you to choose alternative A - the no action choice.

Here are several reasons this project deserves the axe.

First of all - any project which lessens the qualities which makes that portion of the Gunnison River downstream from the Gunnison Tunnel ~~with~~ currently eligible <sup>for</sup> inclusion under the Wild & Scenic Rivers System, is unacceptable.

Secondly, there is no lack of electrical generating capacity in Colorado at this time. Colorado-ED&E is going belly-up partly from over-building power plants & over projecting future energy demands.

Thirdly, has the federal senior water right of the Gunnison National Monument been quantified?

Fourth, we can't afford to compromise our no. 1 industry which is tourism. The rafting industry would be hurt & very likely the world-class Trout Fishing would be severely impacted.

There are many more detailed technical reasons relating to minimum instream flow, low-flow channel, biomass etc.  
That's all for now.

Sincerely, Phil Hayden

Kathleen Hedlund  
314 Gunnison Ave  
Grand Junction, Co 81501  
June 19, 1989

Bureau of Reclamation  
P.O. Box 603370  
Grand Junction, Co 81506

Dear Projects Manager,

I have great misgivings about the proposed AB Lateral project for the following reasons:

- 1) We do not need any more electricity produced in this area. Colorado-Lite Co is going broke w/ too much power!
- 2) Rafting and wild trout fishing take place on the Gunnison River. These two activities depend on water levels higher than the 300 cfs which will be left year round if the AB Lateral project is built.
- 3) I am a firm supporter of the Wildland Scenic designation for the Gunnison River. Changes of the river achieving this status w/ the above mentioned recreation activities

curtailed by low water levels could be destroyed.

4) It is not clear who is going to profit from this project. Could it be the Montrose farmers who will be forced to irrigate with the uncomparhge Ever and the Ridgeway Dam that's heavily contaminated with salty selenium,

and other heavy metals, who is really going to profit? French and Boston investors perhaps?

I don't see anything necessary or productive about this project.

Sincerely  
Arthur Holland

Norwood, Colorado  
June 18, 1989

Projects Manager,  
Bureau of Reclamation  
PO Box 603340  
Grand Junction, Colorado. 81506

Dear Sir:

I urge you to postpone any decision on the AB lateral proposal for the following reasons:

1. The need for more electric power—either now or in the near future is non-existent. To force a bankrupt facility to buy surplus power is counter productive.
2. If a power need does arise, the logical source is the Ridgeway dam with the proper retro-fit hydro system.
3. The recreation benefits from an unspoiled Gunnison river far outweigh the need for future electric generating capacity.

Sincerely,



Steve Herndon  
PO Box 66  
Norwood, Colorado 81423

June 22, 1989

Bureau of Reclamation  
Grand Junction Projects Office  
2764 Compass Drive  
P. O. Box 60340  
Grand Junction, CO 81506

Gentlemen

I have been reading and following the events presented to the public, through the Daily Press and other media, in regard to the AB Lateral. I have heard a lot of positive, along with negative views on this project. I have read the fact sheet passed out to me by a Board Member of the Uncompagere Valley Water Users Association. Also, the "Garbage" presented by so many people, that truly do not know the real facts. There has been a lot of misinformation presented in the papers and e.t.c. and frankly I'm tired of hearing from these types. I don't think they realize what an impact this could have, specially for our farmers, the life and base of this valley.

I am very fortunate, in so many ways, to be able to say this valley has been home for 53 years. I also can say I had a part, a very, very, small part, in some of the water issues, and policy of two entities which I worked for.

Having some misfortune a few years ago I was diagnosed with a disease called Multiple Sclerosis. I had to completely give up a job and a part of my life that was very dear to me. I am not able to get out and get involved like I should and would like but my thinking process is still intact and will always be the same when it comes to discussing water issues. My family, including a Dad, and Brother were involved in the water business and water issues, mostly domestic water and rural water companys. My Father worked on the Gunnison Tunnel, helping to make it a reality, many years ago. Also, was the Town Clerk for the Town of Olathe for 35 years. A Brother, worked for the Town of Olathe and Tri-County Water for almost 30 years. I worked for the Town of Olathe and was the manager for Menoken Water Company when this all come to a sudden halt. I guess the point I am trying to make is we do have a few years of "some experiences" in the water field and when it comes to water policy and I feel our knowledge gives me the privilege to say, "I would like to see this project happen".

This AB Lateral Project as I understand it, is vital and is needed for our valley. For the future, we need something such as this, to help pay the cost of one of the most needed, and precious commodities of this valley which is "WATER". This project is for the people who use this water, either for irrigation, domestic, municipalities, recreation, fishing or for whatever use, water is not free. It will be paid for and reducing the cost should be a priority for the future. Thank you for the opportunity to be able to express my thoughts.

Sincerely

James Hoadley  
61409 Lobo Drive  
Montrose, CO 81401

Monday, June 19, 1989

Project Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, Co. 81506

RE: AB Lateral proposal

I am writing to make known my opposition to the proposed AB Lateral Project in Montrose and Delta Counties.

It seems clear from the draft Environmental Impact Statement that taking the proposed amount of water from the Gunnison River water-stored and diverting it to the Uncompagere River will have negative impacts on both rivers and their present wildlife and habitats.

The Gold Medal waters of the Gunnison, as now constituted, represent a very important natural resource, not only to Delta County, which is in the process of acquiring permanent public access for tourism and recreation purposes, but to the people of the region as a whole. The Gunnison River is nationally recognized as premiere trout habitat, and the AB Lateral proposal will, I believe, harm both the habitat and that national reputation.

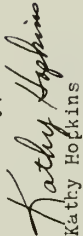
Similarly, the volume of water proposed to be diverted to the Uncompagere River will alter the character of that river, changing the wetlands habitats along its banks and requiring significant mitigation measures, perhaps even more costly than that outlined in the DEIS, to ensure that the river stays within its new bounds.

I believe the economic forecasts of the proposal are also questionable. The hydroelectric generation from the project may not be able to be sold, in view of the oversupply of electric power now being made obvious by the Colorado-Ute Electric Association difficulties. If that is true, the whole house of cards could fall, leaving local agriculturists (again) holding the bag.

For these and other reasons, I again reiterate my opposition to the AB Lateral Project, and urge the Bureau to deny the permits necessary for the project to proceed.

Thank you for the opportunity to comment on this issue.

Yours truly,

  
Kathy Hopkins  
384 Duke Hill Road  
Hotchkiss, Co. 81419  
(303) 872-3834

1013 South 11th Street  
Montrose, CO 81401

June 2, 1989

July 5, 1989

Projects Manager  
Bureau of Reclamation  
P. O. Box 603340  
Grand Junction, CO 81506

Grand Junction Projects Office  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

Dear Sir:

I recently learned about the AB Lateral hydropower project that is under your supervision, and would like to register my concern about it. I have lived and worked in Gunnison County since 1971, and have come to enjoy the variety of recreational opportunities available here. Among the things that I enjoy most are rafting and fishing, which are both available on the Gunnison River. I am strongly opposed to any project, such as the AB Lateral, that would diminish the suitability of the Gunnison for these activities.

Sincerely,



Dr. David W. Inouye  
Rocky Mtn. Biological Laboratory  
P. O. Box 519  
Crested Butte, CO 81224

current address:  
Mountain Research Station  
818 County Road 116  
Nederland, CO 80466

RE: AB Lateral Hydropower Facility

Dear Sir,

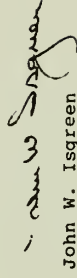
Thank you for sending the D.E.I.S. for the above project.

I believe the project has merit in that energy would be produced without adding to the burden of atmospheric pollution from hydrocarbon fuels.

However, on balance, I feel that the disadvantages outweigh the advantages:

1. Reducing the annual flow between the East Portal and the North Fork can, in no fashion, benefit the biomass along that portion of the river. The argument that little or no harm would be done is conjecture, not a given.
2. Non-polluting power generation becomes increasingly important. However, there are options in addition to hydropower. The cost of power from photo-voltaics is decreasing annually. This cost should in time compare favorably with the cost of steam power and hydropower (admittedly this is also conjecture).  
  
Nuclear power is an option. True the problem of sequestration and waste disposal has not been answered in our country. (It is interesting that the major owner of Mitec Inc. is a company based in Paris, France. Currently 60% of electrical generation in France is from nuclear generators--and a record of no nuclear accidents.)
3. Finally, I do not believe this is an urgent problem. If and when the need for additional electric power is demonstrated, the AB Lateral Project could be established at that time.

Respectfully yours,



John W. Isgreen

Hansot H. Jandine  
451 S. Monaco Pkwy.  
Denver, CO 80224

June 7, 1989

Project Manager  
Bureau of Reclamation  
P. O. Box 60340  
Grand Junction  
Colorado, 81506

Dear Sir :

I am concerned by what I have read of the so-called AB Lateral Hydropower facility project. It seems that the proposed hydro-electric generation structure on the canal might drain or divert enough water to interfere with recreational and fishing pursuits, **on the Gunnison River.**

I agree with the ecologists concerned about this that "minimum flows for the health of the river and not on the financial expediency of the project proponents". Especially if their calculations regarding project costs are not made public.

Please accept my comments for the record.

Sincerely,

Hansot Jandine

June 8, 1989

Dear Sir,

I am writing to express my concern about the proposed extensive water diversion from the Gunnison River through the Black Canyon and the Gunnison gorge.

The proposal of leaving 300 cfs in the river as stream-flow is ridiculously low. It doesn't provide enough water for safe recreational boating, it is too little to maintain the trout population, and it will destroy the low flow channel of the river.

It's too bad if diverting less than 950 cfs isn't economically feasible. Why should a public resource be degraded in the pursuit of a private project?

You should also consider notification to the operating plans of the power plant to see if more water can be



FEEDS

SEED

FERTILIZER

**WEST SLOPE AG-CENTER, INC.**

Olathe, Colorado 81425  
323-5869

June 20, 1969

Please be advised, this business, The West Slope Ag-Center, Inc., is definitely in favor of the AE Lateral Project.

Thank You,

*Leon Jensen*  
Leon Jensen

left in the summer during critical late summer months.

There also seems to be a question as to whether western Colorado ever has a need for additional power.

Straining our river as a result of these projects is unacceptable. The minimum flows for the summer should be based on the ecological health of the river and not on the financial expediency of the project proponents. Thanks for your time. Elaine & Bill Garrett

6/19/89

Project Manager, BOR  
A/B Lateral Hydropower Facility DEIS

Dear Sir or Madam:

I am concerned that extremely negative environmental impacts have not been adequately addressed in the A/B DEIS.

Specifically, leaving a 500 cfs minimum flow in the Gunnison will adversely affect river boating, trout and aquatic wildlife, and the aesthetic appeal of the sound of big water in the Black Canyon or Gunnison Gorge. As a rafter, Asherman, and frequent <sup>not</sup> climber in the Black, I can tell you this environment is best left as wild as it now is. Don't dry it up, particularly in late ~~of~~ summer. This goes to the McCompykre near Montrose, <sup>1000</sup> too.

The DEIS hasn't adequately analyzed the public benefit, in part because the diversion is subject to unquantified federal water rights which may reduce cost-effectiveness once exercised. Calculations should assume various levels of federal reserved rights which would preclude the hydro diversion.

The project's diversion rate should be based on non-impact to aquatic wildlife

-2-

and the overriding need to keep the River flowing through the Black Canyon Nat'l Monument, not cost-effectiveness of the project.

Sincerely,

Stephen B. Johnson  
P.O. Box 332  
Telluride, CO 81435

P.O. Box 1507  
Gunnison, CO 81230  
June 20, 1989

Project Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

Dear Sir:

We are opposed to the AB Lateral hydroproject project. This project is economically and environmentally unsound. It would threaten the Wild and Scenic designation for the Gunnison River.

There are too few large, free-flowing rivers left for future generations to make use of. The Gunnison River has already been sufficiently emasculated by the Blue Mesa, Morrow Point and Crystal dams. We strongly feel that it should not be further changed by the AB lateral project, which is completely unnecessary for electricity.

This project would also endanger the scaptime in the canyon, threatening endangered species such as the bald eagle and the river otter. It would also damage the Gold Medal Trout Fishery.

We feel that it is past time to always place a dollar value on our resources. In this case, if you approve this project, you are willing to destroy an ecosystem for a possible financial, as well as an ecological disaster.

Sincerely,  
Pat & Masha Julio

C.C. Congressman Ben Nighthorse Campbell

DAVID C. JOHNSTON  
ATTORNEY AT LAW  
304 GRAND AVENUE, P. O. BOX 910  
PAONIA, COLORADO 81428  
(403) 527-4101

June 23, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

Dear Sir:

I am writing to comment on your draft EIS for the AB lateral. I believe this is a disastrous project for our area and that you have not examined it carefully enough. Delta County is very dependent on the Gunnison River for tourism. The lower flows will cripple the rafting business and I believe will severely hurt fishing. You should fully consider Dr. Jack Sanford's comments on this.

Also, we have no need of the electricity generated. Colorado-Ute has already gone bankrupt from over-capacity. Why build more capacity and thus hurt us electrical consumers? This project would also mess up the Uncompahgre River.

Please do a better job on the final EIS showing the unmitigated disaster this project would be.

Very truly yours,  
*David Johnston*  
David C. Johnston

DJ:ch



Dear Projects Manager,

I am writing to express my concerns on the proposed AB Lateral Project

The project would severely impact both the Gunnison and Uncompangre Rivers. The reduction in stream flow will affect the rafting and fishing potential, which the Colorado tourism industry depends on. It will also impact the wildlife, some endangered, in the area, as well as new erosion problems on the Uncompangre as the river flow increases after leaving Montrose.

As we look at Colorado-Ute's present situation, how can we be doing this for more hydro-electricity? We certainly do not need it. There seems to be absolutely no value in this project, but many negative consequences will come out of it.

I hope that you will not approve the AB Lateral Project

Respectfully,  
Nancy Kato

Please consider carefully the effect of proposed commercial projects on the Gunnison river. I am convinced that the UWA claims faulty and not well planned so far, as leaving enough year around water available for drinking.

Bureau of Reclamation  
Project Manager  
Box 60340  
Grand Junction

I have enjoyed rafting the Gunnison Gorge both commercially and privately for the past four years, and I have grown to really love this river.

After reviewing the Draft Environmental Impact Statement, I strongly believe that the study is insufficient. I feel that it is necessary for another DEIS be prepared by an independent, impartial source who will include what effects the AB Lateral projects reduced water flows will have on threatened and endangered species that live within the Black Canyon, the Gunnison Gorge, and those habitats downstream.

The DEIS does not mention what effects the project will have on Bald Eagle, Peregrine Falcon, Colorado River Otter, and Adult Trout. Nor does the DEIS investigate what effects AB Lateral will have on insect populations, the sole food source of the Gunnison trophy trout, or of the possible impacts on waterfowl along the rivers corridor.

AB Lateral will threaten the existing trout population which make up one of Colorado's few rivers with Gold Medal status. Increased hike in-use within the Black Canyon and the Gunnison Gorge due to easier accessibility would threaten the abundant populations of trout and wildlife. Over-use would greatly reduce the Gunnison's wild and scenic qualities.

icing, due to lower winter river flows, would reduce food access for both the endangered Bald Eagle and River Otter. Higher river temperatures during summer months will adversely effect trout habitats.

AB Lateral will put a tremendous damper on any future desirability for designating the Gunnison Gorge and Black Canyon as a Wild and Scenic River by Congress, which it is now a candidate for. Also, any present chances of the Gunnison Gorge becoming designated as a wilderness area by the Bureau of Land Management, would become greatly decrease by the project.

With a surplus of electricity being produced in Colorado, I find it ridiculous to generate more unneeded power. The Uncompahgre Valley Water Users association has proposed the AB Lateral, not because there exists the need for more electricity within the state, but because under the Federal EPRA act, the already bankrupt Public Service Company of Colorado is forced to buy power produced from this orject.

AB Lateral would rob much needed tourist dollars by ending whitewater boating within the Gunnison Gorge. During a time of diminishing natural resources, I believe it is important to look towards other means of generating dollars. Money generated through tourism and recreation would be a far better use of the Gunnison River Gorge and at the same time would preserve the natural beauty of this magnificent canyon.  
Please say NO to AB Lateral.

Thank You

*Lisa J. Kerman*  
Lisa J. Kerman  
P.O. Box 16R  
Ouray, Co. 81427

3505 W. 39th Ave.  
Denver, CO 80211  
June 5, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

Dear Sir:

I am writing against the newly proposed extensive water diversions on the Gunnison River, in particular the construction of a hydroelectric generation structure. I understand that this proposal will lead to the draining not only of the Gunnison River through the Black Canyon and Gunnison Gorge, but also of the Uncompahgre River through Montrose.

Also, this is a privately funded project, which is being financed by a Boston subsidiary of a French corporation. There is no mention of the amount of profit built into the benefit-cost ratios. This should be public information if the project proponents hope to degrade a public resource such as the Gunnison while pursuing their private project. It is quite likely that more water could be left in the river if the project proponents were willing to take a smaller profit.

A major concern of Montrose residents is that the Uncompahgre River through Montrose will be almost entirely dried up as a consequence of the project.

I believe the minimum flows for the Gunnison should be based on the ecological health of the river and not on the financial expediency of the project proponents.

I would appreciate my letter being considered in making your decision.

Yours truly,

*Lorraine Lane*  
Mrs. Lorraine Lane

# MONTROSE & ASSOCIATES REAL ESTATE

179 W. BRIDGE ST. HOTCHKISS, CO 81419 (303) 872-3155  
225 GRAND AVE. PAONIA, CO 81428 (303) 527-4877

May 25, 1989

Projects Manager, BuRec  
P.O. Box 603340  
Grand Junction, CO 81506

Dear Sir,

It causes me great alarm to hear that your agency is considering granting permission for the AB Lateral Project.

Having lived and worked in the Paonia-Hotchkiss area for 20 years, I have seen many people (myself included), tenaciously eke out a living through some rough economic times. The last few years have rewarded our efforts with a local economy that's beginning to make some progress due to the many outsiders who are moving to our area. One of the main factors causing these people to move here is the great outdoor opportunities - the hunting, fishing, hiking, etc. Along these lines, the Gold Medal Waters of the Black Canyon are mentioned in most of our tourism brochures, Chamber of Commerce handouts, town promotional materials and real estate property guides.

If this project happens, it will threaten the quality of one of the best fishing streams in the world and we may lose a major attraction to our area. We cannot afford this type of setback. Please consider our very real concerns and deny permission for the AB Lateral.

Sincerely,

*Bob Lario*

Bob Lario, Broker/Owner  
Montrose and Associates, Inc.

BL/ps

June 19, '89  
Dear Project Manager:

I'm writing to strongly urge you to defeat this AB lateral proposal! The grave losses in terms of tourist recreation drawn off the jurisdiction, fish + wildlife habitat, and this area's general "natural outdoors" character are far too great to justify such a project.

I am firmly against AB lateral + want you to be aware of my views.

Sincerely,  
*Denno Leon*  
Pascoe, Co.

THE ARK  
RTI, BOX 88  
CRAWFORD, Co. 81415

June 10, 1989

RE: A.B. Lateral Project \*

To: Union St Dam Concerns:

I am writing this letter as a concerned citizen, as a business person, as a user of Deers County Recreation areas and as a lover of nature, wildlife and the earth.

The A.B. Lateral Project would drastically alter the eco system of the Gunnison River and the Black Canyon. It would readily affect (negatively) the budding economy of Deers County and change a river the Gunnison which must remain as is not only for us here and now but for future generations.

I urge you to advise generators personally, these important questions when making your decision.

cc - Mr. Tim Wirth

Mr. Don Pighi/Thomas Campbell

Mr. Bill Armstrong

Deers County Commissioners

\* Bureau of Reclamation - copy of letter sent.

Elizabeth Lelien

2202 Holyoke Dr.  
Boulder, Co 80303  
19 June 1989

Project Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, Co 81506

Dear Sir

Please approve the AT's historic hydro-power project as currently proposed. I have been through the Gunnison River gorge and think the water flowing down the Gunnison should remain there! Should this project draw off the amount of water suggested it would make the Gunnison River unrecognizable for most of the year, it would probably damage the Gold Medal trout fishery. It would threaten "Wild & Scenic" designation of the Gunnison River and would reduce the Uncompahgre River through Montrose to almost nothing. Further, I understand the electrical power is not even needed.

Water in the river is a valuable resource that should be preserved.

Sincerely,  
Paul Lewis, MD

Green, S.W. Colo  
June 21, 1989

1011 S. 13th  
Montrose, CO 81401  
June 14, 1989

Project Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, Colo 81506

Project Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

Dear Sir:

Due to my interest in the fish habitat and the natural wild beauty in the Gunnison, I am writing this letter to express my opposition to the proposed diversion of water through the East Fork Big Bend by the C.F.S., the natural beauty of this area is sure to be affected in terms of wildlife habitat, and recreational opportunities which are presently being enjoyed by fishermen, naturalists and white water enthusiasts alike.

Please help us to preserve the existing flows and the unique habitat of the Gunnison Gorge for future generations to enjoy. Thank you for your consideration, Gunnison.

Sincerely,  
Carl E. Toddobron  
P.O. Box 14  
Gunnison, Colo 81230

Dear Sir:

I wish to register my opposition to the AB Lateral hydropower project as proposed, since from all the information that I have been able to gather, it appears that this project would have a very negative effect on our area.

This project would seriously alter and degrade the presently magnificent Gunnison river which is used by so many of our people, residents and visitors alike, and would further damage our already poor economy, not temporarily but for all times.

This project would also detract from, if not destroy, all present plans and potential for recreation and enjoyment of the Uncompahgre riverway through our town by all of our residents and visitors, while at the same time degrading the scenic beauty of this riverway.

I understand that the electric power generated by this project is not needed, so it appears that it is a project proposed to make money for greedy business people and developers, with no concern for the welfare of the community.

I strongly urge you to deny the construction of this project.

Sincerely,  
Willard E. Losh

ARTHUR L. LUND  
1937 3RD COURT  
GRAND JUNCTION, CO 81501  
242-0326

June 13, 1989

Projects Manager  
Bureau of Reclamation  
P. O. Box 603340  
Grand Junction, CO. 81506

Dear Sir:

I am against the AB Project for the following reasons:

1. Our family uses the Gunnison River for fishing and canoeing. The water is already so low, that you have to drag a boat over the shallows.
2. The project will come close to drying up the Uncompahgre as it flows through Montrose.
3. Western Colorado doesn't need any more electric generating capacity.

Please scuttle this project. We don't need it or the damage it will cause.

Sincerely,

Art Lund  
Art Lund

Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, Colo 81506

Dear Sir:

I would like to express my concerns that you reject the A. B. lateral hydropower project for a number of reasons. The reduced water flow will make the Gunnison River unnavigable for rafting for most of the year. It will certainly damage, if not ruin the "Gold Medal trout fishing on that section and threaten the wild and scenic designation that I feel is important for our state. Also, it's my understanding that the electricity is not even needed. Why reduce the Uncompahgre to a trickle for no worth while reason?

Please help us keep this section of river as it is - too beautiful to destroy.

Copy sent to

Ben Night house Campbell  
225 N. 5th Street  
Grand Junction, Co 81501

Thank you for your time,  
Collin Luchs  
P.O. Box 1414  
Crested Butte, Co 81222

DELTA IMPLEMENT CO.  
Ph. 874-9796 - P. O. Box 159  
Delta, Colorado 81416



John Deere Agricultural Equipment

June 16, 1989

Walter Fite  
Bureau of Reclamation  
P. O. Box 60340  
Grand Junction, CO 81506

Dear Mr. Fite:

I am writing this in support of the proposed AB Lateral Hydroelectric Project. After reviewing the facts, it seems that area agriculture would benefit a great deal more from the project, than those who oppose it would suffer. Also, with heightened awareness of pollution, any source of "clean" power should be welcomed.

Thanks for your attention.

Sincerely,

Ralph L. Mangum  
Delta Implement Company

STEPHEN LUNDY  
240 St. Paul, #310  
Denver, CO 80206  
303-320-4327

June 19, 1989

Projects Manager  
Bureau of Reclamation  
Box 603340  
Grand Junction, CO 81506

RE: Comments on AB Lateral

Dear Sirs:

I want to express my deepest reservations about this proposed project.

I simply can't understand the wisdom or the practicality of reducing the flow on the Gunnison River to 300 cfs (about 50% of the time) so Mitex Corporation can generate more electricity which isn't needed and retire its debt earlier.

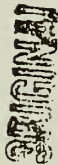
The consequences would make the Gunnison un navigable for most of the year; hurt the chances of achieving "Wild and Scenic" status; negatively impact the Uncompahgre River and Montrose; and negatively impact one of the West's greatest trout fishing rivers.

The Gunnison River has suffered enough negative impacts already. I can't imagine how we can afford any more negative impacts like the AB Lateral would produce so that some foreign corporation can generate more unneeded electricity.

Please say no. Enough is enough.

Very truly yours,

STEPHEN LUNDY



TO: Regional Environmental Office  
Upper Colorado Region  
U. S. Bureau of Reclamation

JUN 21 '89

Dear Officer of the BLM:

Once upon a time when outlaws rode into town and robbed a bank, the good citizens banded together to see that justice was done to the culprits and their assets returned to the town. Today, if vandals would blow up the new Montrose swimming facility, the citizens would rise in indignation, catch and punish the guilty and repair the damage.

It's funny then that a gang is planning on stealing our river right out of the center of town and we're barely whimpering about the crime.

Consider this: All of us paid good tax money for the Dalias Dam and Montrose residents are paying for it with increased water bills annually for decades. In return, the Uncompahgre River will be cleaner, fuller, a better fish and riparian habitat and a better civic asset.

But the river will be missing....

Consider this: Public money has just funded the Chipeta Lakes project so we can enjoy its water-based recreation. Taxes built and maintain Riverbottom Park, an area made lovely by the presence of the river.

And we're giving the river away.....

Consider this: Small cities and towns elsewhere in America are letting public school classes "adopt" local rivers and creeks to teach the children the meaning of fresh waters and their natural habitats to the community.

And Montrose is letting the river get away....

Consider this: Our fellow community, Grand Junction, is turning itself inside out to repair, restore and make accessible its entire riverway.

Would they let someone sneak off with their river?...

This time the bandits do not wear black hats. They are among us as well as far away in Boston and France. But their intention is the same as the old time bank robbers. They want our assets for their gains.

No sensible city in the US let alone Colorado would allow this to happen. Do we want the smear of being known as the city that let its river disappear?

Too bad we can't put up the old time poster all over town:: WANTED!  
The Gang that Stole A River!

*Sharon R. Manhart*

Sharon R. Manhart  
UWVWA Share Holder  
16500 6300 Road  
Montrose, CO 81401

Project Manager  
By Rec

Box 603 340  
Grand Junction,  
CO 81506

179

Re: AB Lateral Project

Dear Project Manager

I am quite astounded that you are considering reducing the flow of the Gunnison River. I am a rafter and the the project will render the river unrunnable most of the year, and will undoubtedly affect the quality of fishing. As the electricity is not needed. We already have surplus power in the region.

Are we constructing this project just to launch a foreign corporation?

It seems quite illogical to further burden the environment for something we don't need. Hope you come to your senses.

Yours truly,

Carl Marcus  
Box 834  
Telluride  
CO 81437

cc Ben Nighthorse Campbell



THOMAS P. MCKENNA  
P.O. Box 1356  
Fort Collins, Colorado 80522  
303 226-5704

8 June 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

Dear Sir:

I am writing to oppose UVMUA's proposal to build their AB Lateral power project.

We need the recreational rafting and fishing available on the river as it is. We do not need any more electricity.

I hope this unnecessary and environmentally damaging project will not be approved.

Sincerely,

  
Thomas P. McKenna

P.O. Box 146  
Guray, CO 81427  
June 21, 1969

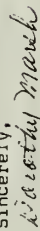
Project Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

Dear Sir:

In my opinion, the AB Lateral Hydropower Facility project represents a poor cost/benefit trade-off for the public.

The Gunnison River is a valuable public resource for the western slope. Year-round reduction of stream flow on the Gunnison, with associated ecological damage and undesirable impact on a developing recreation industry for the benefit of a few developers on the eastern slope and foreign investors, is unacceptable.

The Bureau of Reclamation should not approve this project unless controls to prevent damage to the environment and existing recreational use are assured.

Sincerely,  
  
Dorothy Marsh

cc: U.S. Congressman Ben Nighthorse Campbell

May 30-89

Project Manager  
By lcc  
G. J. Co 81506

Sir,  
This letter concerns the AS lateral  
D.E.I.S. It was a poorly prepared document for a terrible  
project that will have far more negative than positive  
impacts. I particularly object to the fact that foreign  
owners want to rape the Gunnison river and that the Ellicott  
appears willing to help them do it.

The Gunnison river and its rapids and  
trout fishery will be wiped out. Numerous negative  
impacts from doubling the Uncompagrade's flows below  
Montrose will occur such as erosion, channelization and  
loss of wetlands.

Rewrite the DEIS and have more  
respect for Gunnison and aquaculture when you do it.

Sammy  
Aug McKinzie

June 17, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 603740  
Grand Junction, Co 81506

Dear Projects Manager:

I am writing in regard to the proposed AB Lateral hydro-  
project scheduled to ruin scenic western Colorado! I am a young  
active professional with a long list of scholastic and experien-  
tial credentials enabling me to live and work just about anywhere.  
I have in fact, just returned to Western Colorado from a year in  
New Zealand, the "Utopia" of the world. Yes I returned to this  
area by choice. This is where I choose to live - work & play as  
I have done since 1980.

Being an avid outdoors person I choose to live here for  
various (and obvious) reasons. One of the main reasons however,  
is the amount of water (ie; scenic rivers) free flowing through  
Montrose and surrounding areas making Montrose an appealing base  
for me. The availability of rafting through the Black Canyon is  
another draw for me and for all of my out of town and out of  
state visitors. That amounts to dollars and cents to those of  
you involved in tourism. I do not care to live/work in an area  
where the rivers are dried up and have lost their natural beauty  
to unnecessary man made demands and dams.

Ahh yes - unnecessary electricity.... Been reading any head-  
lines regarding Colorado Ute lately??? I suppose they speak for  
themselves don't they???

I myself am not a trout fisher-person but over half of my  
elderly patients are. That is why they live here and that is  
how they spend alot of their time and money. The fact that they  
live here provides ME with business! Ruin their fishing -ruin  
my business. Remember dominoes???

page 2

Bureau of Reclamation  
Re: AB Lateral

So if all the above information/comment doesn't make  
enough sense to scrap the project you are either blind or  
being paid off!!!!

Yours Sincerely,



Karen A. Mercer M.A. CCC  
Clinical Audiologist  
P.O. Box 952  
Montrose, CO 81402



**OLATHE STATE BANK**

Post Office Box 489 • Phone 323-5565  
OLATHE, COLORADO 81425

June 22, 1989

Walt Fite  
Bureau of Reclamation  
P.O. Box 1889  
Grand Junction, CO 81502

Dear Mr. Fite:

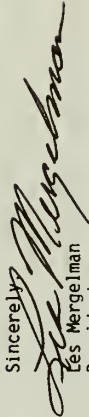
This letter is in support of a proposed AB Lateral Hydro Project. As a fourth generation native of western Colorado, I am proud to support a project that is as far reaching and innovative as the AB Lateral Project. I have had the opportunity to review the various scenarios listed in the environmental impact statement and can find no justifiable reason to decline the Uncompangre Valley Water Users from continuing with this project.

Although the opponents are very vocal and seem to make a lot of impact with the local and state media, I would like to point out that through the efforts of organizations as the Uncompangre Water Users and the Bureau of Reclamation in their Blue Mesa Project, we have been able to greatly control the flow of the Gunnison River. I can recall without much strain, the many times in late fall when one could walk across the Gunnison River at the Cory bridge in loafers and not get their socks wet prior to the building of the projects upstream. By same token, the spring flooding of the lower Gunnison River used to be an annual occurrence that we all looked forward to each and every spring.

I realize that some rafters may have to do a little portage from time to time with a 300 cfs water flow, but the revenues back to the agricultural community of the Uncompangre-Gunnison Valley is a great deal more than the few dollars lost from the rafting industry.

Please place this letter among those who are strongly in favor of the approval of the AB Lateral.

Sincerely,



Les Mergelman  
President  
Olathe State Bank

June 5, 1989

Dec- Projects Manager,

Following are some comments on the Draft Environmental Impact Statement for the proposed AB Lateral project.

To whom it may concern,  
I have received a copy of the Environmental Impact Statement on the AB Lateral project. I would like to express my sincere concern about several factors.  
Unfortunately, the statement did not address potential impacts on the Gunnison River below the confluence of the North Fork or above the Uncompadre. Therefore the project implications on the trout population and eagle population cannot be ascertained with any sensible data. I would hope that such a major omission can be addressed.

It would seem entirely possible that the nature of reduced stream flows thru the Black Canyon will increase the water temperature below the confluence which currently holds an accessible and high density trout population. As the temperature increases to more days above 70 degrees, the trout population will either perish or relocate in less accessible reaches of the canyon. Not only would the Tourism industry in Delta County suffer, but the County Commissioners decision to buy access near the confluence become absurd.

I would seem entirely possible that the increased stream flows in the Uncompadre would have very costly and detrimental impact on the wildlife and erosion of the streambed. I realize that the water users intend to establish a million dollar trust and include nearly 25% of the river initially to be channeled. It is very possible that channelization creates a domino effect whereby the entire streambed will eventually require expensive channeling well beyond the trusts capacity. Clearly, the increased flow and velocity will inhibit duck and trout populations. Further, I am dismayed that the contract between Mytec and the water users has not been made public. We have a right to know the financial implications.

Finally, the Purpose/Need statement of the project clearly suggests the benefit in debt repayment which the water users need. It is questionable that our oversupplied power grid needs such additional high priced contributions.  
My heartfelt impression is that a vast number of person in Delta County will suffer the long range detrimental impacts of the project. It would seem that only a few water users will benefit. Projections clearly indicate that the role of agriculture will continue to decline in our area while tourism offers hope for a more productive and diversified economy. Please recommend further study of these issues or lacking sensible information focus effort on termination of the application. Our children would probably thank us.

Sincerely,

Dottie Miller

The impacts on the Gunnison River and its wildlife could be devastating. It seems that they would be devastating. Lower flows would cause high water temperatures in the summer and ice jams in the winter, and would generally shrink and alter the riparian habitat. Insect life would be affected, thus impacting the trout that feed on them. We don't really have a complete view of how, and how severely, wildlife would be affected, however: No studies have been done on the impacts to migrating and wintering waterfowl or on aquatic insect populations.

Besides the moral questions involved in impacting biological communities, there are very real economic problems with the proposed project. Tourism is growing in Western Colorado. Tourists come to see wildlife, raft unspoiled rivers and fish Gold Medal trout streams such as the Gunnison River in the Gunnison Gorge.

Finally, the power that would be generated by the AB Lateral isn't needed. In fact, the regional electrical system is bankrupt because of costs incurred by producing unneeded power, and Colorado-Ute currently has a vast surplus of power.

Sincerely,

Mary Moran

Box 1090

Paonia, CO 81428

1384 2600 Road  
Hotchkiss, CO 81419  
June 8, 1989

Projects Manager  
U.S. Bureau of Reclamation  
PO Box 603340  
Grand Junction, CO 81506

To Whom This May Concern,

I have perused a friend's copy of the AB Lateral Draft Environmental Impact Statement. There are several issues with regards to this document about which I would like to express concern.

The statement failed to address the potential impacts the project would have on the Gunnison River both between its confluence with the North Fork and where it meets the Uncompahgre River in Delta. As you're aware, that stretch of the river houses a world famous trout fishery as well as numerous migratory and wintering birds, endangered Colorado river otters, bald eagles, peregrine falcons, and insects all associated with that ecosystem. The implications of the project upon those populations cannot be ascertained due to the omission of such data. Habitat for black bear, deer, and elk would also be affected.

One can speculate that a result of the AB Lateral Project would be a reduction of stream flows through the Black Canyon to its minimum flow 50% of the year. This in turn would increase the water temperature below the confluence with the North Fork in the summer and lead to icing and ice jams in the winter. Such radical shifts in temperature could induce long-term stress upon the adult trout population leading to their death or relocation to more inaccessible parts of the canyon. The end result would be the potential loss to the Gunnison Rivers Gold Medal Trout status as well as threatening the proposed Wild and Scenic River designation for the river. Tourism (eg. growing commercial and private rafting, and fishing) in Delta County would suffer. Such a situation would also undermine the Delta County Commissioners decision to buy land along the confluence to create a larger recreation area.

I am also concerned about the dramatic consequences this project would have for the Uncompahgre River. The flows in the river would double from north of Montrose to Delta causing riverbed erosion, water pollution and the loss of agricultural land. This would create a very costly situation with 25% of the river needing to be channelized. Although there is a one million dollar trust established to assist with channelization, it's probable that a domino effect would be created resulting in the whole river eventually needing channelization. Such a situation would be well above the cost of the established trust. Since Mytec's contract with the water users in that area is not public, such potential financial implications cannot be ascertained. Additionally, the water flow in the Uncompahgre River would be a trickle in the town of Montrose; this would negate any possibility of creating a proposed riverway park and fishery in town. Finally, farmers upstream from Montrose would be forced to irrigate with

1438 Chipeta Avenue  
Grand Junction, CO 81501

June 23, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

AB LATERAL PROJECT

The AB Lateral project will generate unnecessary electricity and damage the Gunnison and Uncompahgre rivers.

Reduced flows on the Gunnison will damage the Gold Medal trout fishery and threaten Wild and Scenic designation of the Gunnison River. The Western Slope of Colorado is known for its rivers and fishing. It would be a poor decision to risk ruining such wonderful natural resources.

Please consider these comments when making your decision.

Pat Morencuz

June 16, 1989


Projects Manager  
Bureau of Reclamation  
P.O. Box 6430  
Grand Junction, CO 81506

We are writing to oppose further dam-building and flow diversion projects on the Gunnison River. There are already several major dam projects on the Gunnison. Further exploitation of the river's water for power and/or irrigation would seriously damage the river downstream from the project. Decreased water flows will destroy whitewater

recreational opportunities and greatly impair the scenic values of the river, including its flow through Black Canyon of the Gunnison National Monument. Ecologic impacts on wildlife (non-game and plants) will be effected. The cumulative effect of all these dams has reached the point of not being manageable. Additional mitigation measures are not viable with so many dams on one river.

Again, we urge you to scrape additional water diversion projects on the Gunnison River.

Sincerely,

  
George Osterlag  
Rhonda Osterlag

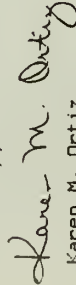
4303 25th Ave. NE, #13  
Salem, OR 97303

Ridgway Dam and Uncompahgre River water which is heavily contaminated with salts, selenium, and other heavy metals and sediments resulting from old mining operations. Crop yields would be reduced as land becomes contaminated by these materials.

One of the most disconcerting implications of the AB Lateral Project is that the Public Service Company of Colorado would be forced to buy power from the project under the federal PURFA Act. The recent streamlining and bankruptcy of Colorado Ute is a result of its excess (i.e. unmarketable) electric-generation capacity. The 48 megawatts of electricity the Project would produce is power that Colorado Ute could provide to Public Service, thereby improving its financial position.

In light of the above concerns, the passage of the AB Lateral proposal would have long-range detrimental impacts on the people in Delta and Montrose Counties for the benefit of a few water users and a foreign company. Both the growing tourism and declining Agricultural industries in the counties would suffer. I am encouraging you to request more time to study the above issues. Lacking sensible answers to the above concerns, please focus your efforts toward the termination of the AB Lateral application. Future generations will thank us for preventing such a marginally profitable proposal from being implemented.

Sincerely,

  
Karen M. Ortiz

CC: Delta County Commissioners  
Senator Bill Armstrong  
Senator Tim Wirth  
Congressman Ben Nighthorse Campbell

CHARLA HATHAWAY PALMER  
P. O. BOX 323  
STEAMBOAT SPRINGS, COLORADO 80477

Dear Project Manager,

6/9/89

In Steamboat Springs we citizens are fighting an unwieldy new Ski area development. It has tied and a whole town into skeptics of Draft EIS that are bad, grossly negligent in their omissions and assumptions, and downright a farce.

I hope your DEIS on the AB Natural facility carries the true intent of the law, an honest look at the social/econ impacts. We are redefining economic viability and sustainability, re-evaluating the importance of infrastructure & the effects our projects have downstream, understanding the value of our fisheries, etc. Get on the bandwagon of new citizen thought, we are your new constituency base and are alienated if the "new vision" →

of the west is legitly history aside. The natives are restless and you must prove yourself more so than ever before.

Sincerely,

Charla Palmer

Community organizer

Northwest Review Alliance

Citizens for Quality Growth

Dan Paradis  
64669 West Ranger Road  
Montrose, Colorado 81401  
5 June 1989

Bureau of Reclamation  
Projects Manager  
P.O. Box 603340  
Grand Junction, Colorado 81506

Dear Mr. McCall:

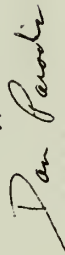
Has the Montrose Region of the Bureau of Reclamation collectively lost their senses en masse? How can you morally, ethically, and with good business sense support the AB Lateral Project? This is a classic case of a boondoggle if I ever saw one!

How can you support a project that cannot even stand on its own merits? You want to allow to be built, from scratch, a project that would generate 48 megawatts of power that is neither needed or even wanted. Colorado Ute is on the verge of Chapter 11, or worse, bankruptcy, because of: 1) mismanagement, and 2) they have excess generating capacity which cannot be sold. And you want to add 48 megawatts to the surplus! A dam was just completed some 20 miles south of here that, as I understand it, was designed to accept power generators some day, but these prudently were not installed at this time because there is no need for the power. Yet, you want to start a project from scratch and add unneeded power, and possibly (probably) jeopardize one of this areas' greatest assets, namely the Black Canyon of Gunnison.

If this project was based, as in reality it should be, on the basic business tenet of supply and demand, it would have been dismissed right from the beginning. Simply because Public Service Company of Colorado would be forced to buy the power because of the Public Utilities Regulatory Policy Act, has this asinine project even gotten this far. How many farmers would love to plant hay, knowing that the federal government, or some entity of same, would be forced to buy this hay, whether it needed it or not, and at a predetermined price?

Please forget this loophole in the law, and evaluate this project on need only, and therefore stop it now before any more time and money is wasted.

Sincerely,



Dan Paradis

DP/kw

cc: Representative Ben Knighthorse Campbell


Kenneth & Ida Parks  
P.O. Box 96  
Delta, CO 81416  
June 19, 1989

Steve McCall  
Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO 81506

Dear Mr. McCall:

We are in complete agreement with the Grand Junction Sentinel's editorial of June 18, 1989 (copy enclosed). We feel very strongly that a permit for the AB Lateral should not be issued.

Sincerely,



Kenneth & Ida Parks



### The Sentinel's editorials

## Enough said

Conservation activists were dismayed this week when the U.S. Bureau of Reclamation decided not to extend the period during which public comment is being taken on the controversial AB Lateral Hydroelectric Project.

That comment period will expire June 22. The conservationists claim neither of the two environmental impact studies that have been prepared on the project adequately address the most serious effects the project might have. They would prefer that the comment period drone on indefinitely.

But the fact of the matter is, the project is a loser and shouldn't be allowed to go forward. An extended comment period, another round of studies and another pile of paperwork isn't at all necessary to prove that point. The Bureau of Reclamation is right in having decided to bring the comment period to a close.

The AB Lateral project would divert Gunnison Tunnel irrigation water through an underground pipe to a hydroelectric plant north of Montrose. This would have a huge impact on the Gunnison and Uncompahgre rivers, signifi-

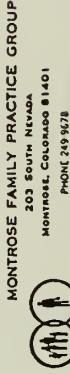
cantly lowering water in the Gunnison east of Delta and in the Uncompahgre through Montrose. Levels in the Uncompahgre River between Delta and Montrose would be heavily increased.

The very nature of those rivers in Delta and Montrose counties and the area immediately around them would be changed — drastically. Stream flows in the spectacular Gunnison Gorge will be significantly reduced.

The project's payoffs would include slightly cheaper irrigation water for the Uncompahgre Valley Water Users group, some totally unwanted and unneeded power sales from its hydroelectric generation and nice, juicy tax cuts for the investor groups involved, including the Boston-based firm Mitex Inc.

What project backers plan to do, in short, involves imposing a great many undesirable changes on the entire area in exchange for some very narrowly distributed gains.

The AB Lateral's potential value doesn't come close to outweighing its adverse impacts, and a permit for its construction ought not to be issued.



MONTROSE FAMILY PRACTICE GROUP  
203 SOUTH NEVADA  
MONTROSE, COLORADO 81401  
PHONE 249 9678

14 June 1989

Project Mgr  
Bureau of Reclamation  
PO Box 603340  
Grand Junction, CO 81506

Dear Sir:

I would like to go on record as being concerned that the AB Lateral hydro-power project as proposed would not be a good thing for Western Colorado & more particularly for the Uncompahgre valley. I would implore you to reject this proposed development.

*Demetrius*

*Jeff Fink*

J.W. PEAK, D.O. ABFF  
203 S. NEV.  
MONTROSE, COLO. 81401

Walt Fite  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, Colo 81506  
June 21, 1989

Dear Sir:

The AB Lateral Hydroelectric Project, presently under consideration, could help the economy on city, county, state, and federal levels, improve an irrigation system while producing power, and benefit the environment in several important ways.

The project would promote the economy in many ways. Locally, estimates indicate it would provide fifty to sixty jobs and inject \$25 MILLION into the economy through purchase of local materials and labor. The City of Montrose would collect approximately \$300,000 in sales and use tax. The county could conceivably collect as much as \$700,000 per year in property taxes (equivalent to a 1 to 2 mill assessment reduction countywide). Since the project is subject to income taxes, state and federal economies would also be positively affected.

AB Lateral Hydro Project could improve the reliability and efficiency of the Uncompahgre Water User's irrigation system. Nearly three-thousand water using families and the agricultural community would profit. Installation of remote gate operators, water level telemetry, and reduced water charges would increase system productivity and help local farmers compete in today's markets. Farmers could also gain from the projects bank stabilization program, designed to reduce annual loss of cropland. An improved system is better for everyone.

This improved irrigation system would also be producing power, generating a potential \$1,000,000 per year for the Uncompahgre Water User's. Power from the project would be sold at 4.1 cents per kWh to Public Service Company of Colorado. That rate is half the predicted local retail. Eventually project power could benefit local utilities at well below average rates.

Finally, the project would have a positive impact on the environment. The Gunnison River would retain eligibility for Wild and Scenic designation. Production of a clean, non-polluting resource would replace coal to the extent of 1.6 million pounds less sulphur oxides and 2.7 million pounds less nitrogen oxides being discharged in emissions per year. These pollutants cause acid rain. One-thousand forty four tons of salt could be kept out of the Colorado and Gunnison River system. The Gunnison fisheries could substantially benefit (net estimated benefits for fishing industry of \$100,000 to \$150,000 per year) with increases to weighted habitat for all life stages of brown and rainbow trout.

A cold water fishery could potentially be developed between Montrose and Delta. Better fishery conditions predictably would benefit bald eagles and river otters. Waterfowl habitat should be substantially increased by the project. The water quality of the Uncompahgre River for twenty-two miles between Montrose and Delta would improve. A positive effect is the only impact predicted on the environment.

There are no significant negative impacts predicted with the project. In fact, the only negative impact might be for the rafting industry located outside of Montrose and Delta counties. Predicted net losses are miniscule compared to predicted positive impacts.

The investment in the economic and environmental future of our lives and those to come is worth our whole-hearted support. The AB Lateral Hydroelectric Project needs to be implemented.

Thank you,

Tom Secord 790 Spruce Creek Blvd #1 Montrose, Colo  
Harvey Edmond 470 Chapin Rd Montrose, Colo  
Rob Haselwood 63880th Lateral Montrose Colo  
Maurin Dab 316 Riverbent Dr. Montrose, Co.  
Michelle Hays 9000 1/2 #116 Montrose, Colo  
Clayton Tabor J + J O Lathrop Co.  
Pat Wakefield 503 E. Main Montrose Co  
Dwayne Wherry 14500 Marine Rd Montrose, Co.  
Don Dwyer 63146 Jade Rd Montrose  
Mike Hays 11550 62.50th Montrose  
John Hays 22075 Hwy 550 Montrose Co  
Ray Chappell 1808 Locust Montrose Co  
Ted Lawson 1221 Commercial Dr Montrose Co.  
Paul Lupton 226 Beach Lane Montrose Co.  
David Hays 1510 65th Rd Montrose Co

Donald E. Potter, M.D.  
1426 Lombard Avenue  
Canon City, Colorado 81202

8 June 1989

Project Manager  
Bureau of Reclamation  
PO Box 60340  
Grand Junction, CO 81506

Ref: AB Lateral Hydropower Facility

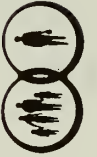
Dear Sir:

I have read of the plans of the Uncompahgre Valley Water Users Association to construct a hydroelectric generation structure on the AB Lateral canal. While it sounds excellent to use existing canals to generate clean hydroelectricity and help the farmers cut costs at the same time, this project is not acceptable if it will drain the Gunnison River through the Black Canyon and Gunnison Gorge and Uncompahgre River through Montrose.

Please be informed that we would not favor lowering the minimum flow for the Gunnison to endanger recreational boating, to eliminate the trout population, and damage the low-flow channel of the river.  
Thank you.

Respectfully yours,

DEPUTY, MO



SIR,

AS A PRIVATE BOATER &  
FISHERMAN I AM VERY UPSET  
OVER THE AB LATERAL PROJECT.  
LAST YEAR THE WATER FLOW  
FROM AUSTIN DOWN WAS SO  
LOW I COULD NOT EVEN FLOAT  
THE RIVER IN A 12' RAFT.  
THE RIVER ABOVE THE FORKS  
WAS ALSO TOO LOW TO BE  
USED BY MY FAMILY. I FISH  
THE RIVER ON A REGULAR BASIS  
AND DO NOT WANT TO SEE  
THE RIVER GO DOWN FOR NO  
REAL GOOD REASON.

Harry J. Pierce

HARRY J. PIERCE  
1720A HWY 133  
PAONIA CO. 81428

Rod Pyland  
P.O. Box 341  
Paonia, Co. 81428

June 1, 1989

Steve McCall  
Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, Co. 81506

Dear Mr. McCall,

I am writing to express concern about the A B Lateral Project currently being considered in Montrose County. I am a native of Colorado and have always enjoyed the incredible offerings of our state. In that I believe that the Gunnison River teamed with the Black Canyon are most spectacular.

There are already two dams extremely close to each other and blocking the full effect of nature's creation. The water is being controlled, but the amount of water is relatively consistent. The fishing is excellent at the dams, but even far superior down inside of the canyons after the waters leave the flood gates of the dams.

I have been fishing those waters for the past 15 years. I have climbed down inside of the canyon from every available trail and some spots where no trail exists. I have been through the entire canyon from Crystal Dam to the Twin Forks. I've caught fish (trout) that weigh over 5 lbs. and, having fished many other states as well as countries in North America, I know that fishing doesn't get much better.

If those waters are diverted out of Delta County the remaining waters WILL change. The Sucker fish population is already abundant in the warmer waters just above the confluence of the Twin Forks. The canyon keeps those waters cooled because of its natural depth and amount of flow. Decreasing the flow would cause the waters temperature to rise thus allowing the suckers to control larger amounts of the waters.

Also there is natural barrier created by the size of the stream. At present it is virtually impossible to walk through the canyon, however, if the water flow is lessened to the amounts prescribed by this project that natural barrier would be eliminated. That would make those waters that contain excellent fishing because of their inaccessibility more available to the less hardy outdoorsman. That would mean that the Black Canyon of the Gunnison would become just another one of Colorado's overfished and "stocked" rivers. Leave us this sanctity. Stop this unworthy diversion. What good does it truly do? It's there nothing we can preserve for our children?

Sincerely,  
Rod Pyland MSW, MPA

Project Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, Colorado 81506

Dear Sir:

As a very concerned Republican Voter, retired to the beautiful Western slope of Colorado, namely Montrose, it is frightening to learn of the havoc A B Lateral Project will create on both the Gunnison and Mancoshyge Rivers. Also, with a few more dry years as this one and 1988, it is conceivable that no drinking water and that for irrigation to the water Dept. holders will be depleted to the point of wiping out our fish and wild life. The Mancoshyge will become a cesspool and mosquito breeding ground from the beaver at Ridgeway through Montrose. Beyond Montrose, at the proposed hydroplant site, the Mancoshyge will be at flood stage to the junction of the Gunnison in Delta! More destruction!

In the foreseeable future, the cost of living, and the loss of recreational areas, will create an exodus fleeing the area to a more economical location. Montrose-Montrose!

The only benefactors of the proposed plant will be Mitec Inc., a few senior water right holders of the Uncompaghe Valley Water Users Group, and many local politicians.

Please help us.

Sincerely

Notte L. Ferguson  
2268 Elizabeth Way  
Montrose, Colorado 81401

cc: Congressman  
Ron Righione Campbell

6/12/89

To Whom it may concern,

In regards to the AB lateral project after reviewing the E.I.S. report and evaluating the consequences and drastic changes that would occur it seems to me that it would be a victory for the future generations if the project was defeated. In the long run it would be much more desirable to prioritize wilderness designation of the Gunnison waters rather than service farmers and create a new source of energy. I agree that there is a need for progress and development but I also feel that there is not enough value placed on the importance of maintaining areas that cater to outdoor pristine environments that are protected from exploitation and alteration. By servicing a few, the population as a whole would loose a unique and healthy canyon. As far as economics are concerned, the defeat of the project is PRICELESS.

Signed,  
M.M. Ray  
Crawford, Colo.  
8/14/85

Colorado White Water Association  
7600 East Arapahoe Road  
Englewood, Colorado, 80110

Bureau of Reclamation  
Project Manager  
P.O. Box 603340

Grand Junction Co 81506

RE: AB Lateral Hydroelectric Facility  
Gentlemen:

As the River Conservation Chapter of the Colorado White Water Association, a 450 member organization we are opposed to the AB Lateral Project (Hereafter ABT). We are opposed for the following reasons:

1. The CBWT is harmful and destructive to the Gunnison and Clearwater Rivers and the surrounding environment.
2. The ABT has die implications for the local economy. The rafting and fishing and other tourist

3. The project is a distinct threat to the selection of the Gunnison River as a National Wild and Scenic River.

4. There is no demonstrable need for the power generated by this project. Currently, there is unused generation capacity at the Hayden and Cary coal-fired plants.

5. The PURPA Act has been or ~~is~~ will be repealed. The Act is an absurdity that Congress has belatedly realized.

To have tax and rate payers subsidize private enterprise defies any logical argument or rationalization!

6. The DEIS itself is woefully flawed. Scientific studies are shallow, limited, and incomplete in scope. Nowhere does the DEIS reflect the true, widespread and detrimental effect that the ABL project would have on the natural environment and the local economies

7. The CBL Federal is such a White Elephant that it should be given out of its misery at this point. Very further study of this project is throwing good money after bad.

8. The CWA strongly objects to this misquile waste of Federal Funds to do or administer projects like the ABL Federal. Some disinterested should be mandated as to the suitability of projects to be studied where there is overwhelming public opposition to a project. Proposals like the the CBL Federal waste everyone's money and time.

Sincerely yours,

DON KAVESHLI, CWA Chairman  
620 E. Fremont  
Littleton Co 80122 (303) 747-7797

Gregory A. Robison, M.A.

Science/Math  
Computer Education

63124 Opossum  
Montrose, Colorado  
(303) 249-0885

June 18, 1989

Projects Manager  
U.S. Bureau of Reclamation  
P.O. Box 503340  
Grand Junction, CO. 81506

Dear Manager,

The proposed AB Lateral project by the Uncompahgre Valley Water Users Assoc. seems to address only two needs: JOBS and PROFIT! As a member of the UMWUA and a resident of Montrose, you would think that I along with other local residents would support the AB Lateral. After all, what Western Slope town doesn't need jobs and an influx of money into the local economy? In the words of Montrose Mayor Tricia Dickinson, spoke at the Montrose City Council Meeting on June 14, 1989, "It's (AB Lateral) only a question of money" speaks to my point. With this comment she abstained from voting on the endorsement for the AB Lateral.

I believe that the Draft Environmental Impact Statement on the AB Lateral facility does not fully address the complete impact of all related ecosystems connected with the change of flows in the Gunnison, Uncompahgre and Colorado River systems. I suggest that your office give more time for study and review of the following before allowing the UMWUA to continue with the AB Lateral.

1. Reduction of flows in the Uncompahgre River through Montrose would have adverse effects on aquatic ecosystems, esthetic beauty, bird and mammal habitat, and recreational opportunities.
2. Reduction of flows in the Gunnison River in "dry years" during the summer and severe winter flow reduction with possible drastic implications to wildlife and recreation.
3. Increased river erosion from Montrose to Delta requiring channelization and rip-raping of the banks, thus impacting migratory waterfowl, riparian habitat and wetland reduction.
4. The production of unwanted power in an economic environment which precludes the need for additional power needs.
5. Questionable "private" contract with between Mytec and UMWUA which casts a shadow on all the evidence being evaluated before a unbiased decision on the AB Lateral project can be made.

Let's not make a hasty decision on a project with such wide ranging ramifications. Please give additional thought and time before making a lifelong and untractable decision.

Sincerely, *Gregory Robison*

cc:  
Governor Roy Romer  
Representative Ben Campbell  
Senator Bill Armstrong  
Senator Tim Worth

*BUREAU OF RECLAMATION*

*I would like to express support of the proposed AB Lateral project. As this project would give a economic boost to the Montrose Delta County area. As a resident and employed in Agri Business in Montrose County any relief of taxes & increased revenues to agricultural is positive to all business and this project should have a positive effect on our environment.*

*Sincerely IN FAVOR*

*Red Lead  
Clady Colorado*

1031 County Road 736  
Crested Butte, Co.  
June 21, 1989

Bureau of Reclamation  
Upper Colorado Region  
Grand Junction Projects Office  
P. O. Box 1889  
Grand Junction, Colorado 81502

Gentlemen:

With all the opposition to nuclear power plants and the opposition to coal fire plants it appears to me that the need for the AB Lateral Project far overshadows any of the EIS statements that claim harm to the environment from the AB Lateral Hydro-Electric Plant.

The economic benefits to the merchants and farmers of the Uncompagne Valley should be recognized when considering the opposition statements to this important project.

Thank you.

Very truly yours,



Charles E. Ruland  
1031 County Rd. 736  
Crested Butte, Co. 81224

540 N. 5th St.  
Montrose, CO 81401  
May 24, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 603370  
Grand Junction, CO 81506

Dear Projects Manager:

This letter is in response to the AB Lateral Project. I oppose this project, given the environmental impact it will have on the area I live in. For example, it will reduce water levels in a 45 mile stretch of the Gunnison River from the Black Canyon National Monument and the Gunnison Gorge Wilderness Study Area to the confluence with the Uncompagne in Delta. Many of us hike, maintain bikes, and boat in these areas and enjoy the scenic value the river provides. Tourism and recreation are a mainstay for this area and damage to the rafting and fishing industries in the area would be devastating. We do not need any of the surplus power that would be generated, especially given that our regional electrical system is back



rupt due to debts incurred from producing  
unnecessary power. In addition, this project  
would force farmers to irrigate w/ water from  
Pahare River water that is heavily con-  
taminated and will cause erosion and water pol-  
lution due to increased flows. Reducing the  
Gunnison's flows will adversely affect  
threatened, endangered, and rare species living  
along the Gunnison not to mention the  
overall status of the trout found in  
the Gunnison.

Thank-you for considering my comments.

Sincerely,  
Doris  
Gabe Schmitt, Conservation  
Colorado Mtn Club  
Western Slope Group

4/18/89

DEAR SIR,

WE ARE AGAINST THE AB LATERAL.  
WE ARE CONCERNED THAT THE  
GUNNISON RIVER WILL LOSE ITS  
WILD & SCENIC RIVER DESIGNATION.

THE WILDLIFE AND BIRDS ALREADY  
ARE HAVING A TUGH TIME WITHOUT  
TAKING MORE OF THEIR WATER AND  
HABITAT AWAY.

WE LIKE TO RAFT AND FISH THE  
GUNNISON. THE AB LATERAL WOULD MAKE  
THE GUNNISON RIVER UNNAVIGABLE MOST  
OF THE YEAR.

THE FACT THAT CONTRACTS ARE BEING  
KEPT SECRET AND PROFITS WOULD BE  
GONE TO FRANCE IS REAL SHAKY  
TO ME. OUR OWN REGIONAL ELECTRIC  
SYSTEM IS NOW BANKRUPT. THIS  
PROJECT WOULD FURTHER BURDEN THEM.

Sincerely,  
Tom Seabrook  
Elaine Seabrook

The water would be delivered to the Uncompahgre River which has a flood stage capacity of near 3500 cfs. The impact would be little removed from present conditions. Dallas Dam as designed will prevent further flooding.

For those who are disturbed and disappointed in the variation of stream flow from the flood stage of '84-'85 to the drought of '88 and '89, the frustrations are understandable by all of us. For those impacted the most, may a pay raise be surmounted for a troop of more effective rainmakers or better still suggest more diligent attendance at church on Sunday!

There would have been no object in the early miners settling this valley anywhere without firm mining, home-stead, water, and grazing rights. In the hundred years which have transpired they have built the infrastructure and developed the economy the late comers enjoy today. Without establish the conditions the e would be no attraction for the late comers trumping up tourism and recreation. Those who would deride the farmer and his contributions would spite their own stomach and their own welfare. Before he sneaks too loudly, he had best study his lesson and come prepared.

Before the late comer holds the farmer, his land and water rights in contempt, he should recognize that the American farmer and his ability is the envy of the world. The farmer not only supports himself, but sets the table with abundant food for 70 other people in America and around the world.

The farmer by choice is a conservationist and is very much aware of the environment for he has first hand exposure to air, land, and water resources.

Everyone is invited to tour the Uncompahgre Valley westerly from Montrose across the mesas, and northerly to Delta. Viewing the fair, lush fields, distinguished farms and progressive feed lots is an irrefring experience equal to the river gorge or Engineers Mountain tour!

So long as the consumer expresses need for food, land, water, and environmental resources are going to be exposed whether in the Uncompahgre Valley or elsewhere.

I would challenge anyone to speak as eloquently or contribute as much as the farmer and rancher as he does quietly about his business. Let the Uncompahgre Valley Water Users decide their own fate!

A famous quotation: to wit: "Human vanity can best be served by the judicious reminder that irrespective of his accomplishments, sophistications, or his artistic

9453 5700 Rd.  
Olathe, Colo. 81425  
June 8, 1989

Grand Junction Projects Office  
Bureau of Reclamation  
2764 Campus Dr.  
P. O. Box 60340  
Grand Junction, Colo. 81506

Gentlemen:

In Support of the AB Lateral Project

"The AB Lateral has little social utility, inherent merit or intrinsic value" are very caustic observations coming from an editor, the stature of the Daily Sentinel. If this farmer were to make such rash testimony, speaking out of turn and out of his bullwink, he would deserve to be rigger out of town or a rail and not invited back. Perhaps this quote expresses the sentiment of residents in Beaver, Grand Junction, Panna, and Telluride, but the values radically cranks to the positive side and be due quite dear when viewed by the locals in the Uncompahgre Valley dependent upon irrigation and domestic water.

A few months ago the Montrose Development Corporation announced a substantial award to anyone who could support and bring to fruition a new industry for Montrose. What better way to industrialize the area than with a non-polluting resource development with little environmental impact, non consumptive water, than building the AB lateral?

The Uncompahgre Valley Water Users possess a very unique water facility. They deliver some 1170 cfs six miles through the Gunnison Tunnel to irrigate 80,000 acres which would otherwise be dry, arid valley land. They also deliver raw water to Project 7 which in turn is distributed to all domestic users, urban, residential, rural, and for livestock from Colona to Delta.

The terrain is such that a portion of this 1170 cfs absolute decree can be diverted to a hydro power plant having 700' head, near Montrose. The AB Lateral project will not irrigate on anyone else's territory nor use anyone else's water. The Association intends to honor all decrees superior to the Association and edicted by the U. S. Government.

Dieters, that ones his very existence to 6 inches of  
top soil, the rest that it ruins, and the food Lord allows  
the sun to shine."

AGRICULTURE IS YOUR HEARTBEAT, AMERICA!

Let's quit reconstruction and get on with the  
program of building the AB Lateral.

Very truly yours,

*A. E. Seymour*  
A. E. Seymour

HJ AN  
June 23, 1959  
June 25, 1959  
170

ORIGINAL

Public Comment AB Lateral  
Montrose, Colo.

I wish to extend this comment  
in favor of the proposed project.  
The indispensability of impacts are  
many and varied but has a long  
range & believe plans have been  
put in place to mitigate the damages.  
Hydro electric power generation is  
a clean use of a minimal resource. The  
physical status for ~~power~~ hydro-power  
generation abound in the mountain area  
and should be developed. This beneficial  
development is an alternative to coal  
fired power generation which is pollution  
(atmospheric) prone. This hydro electric  
power generation offer opportunity should  
be utilized to reduce atmospheric quality.  
Power generated through this project  
is an excellent economic demand.  
Opportunities for clean minimal power generation  
are in a most supply and there for in good  
demand.

The demand for power when  
related to economic returns may be one  
of the most sound reasons for development.  
Currently the economic basis for the  
mountain area is agriculture - an  
environmentally dependent industry. Current  
federal expenditures total many thousands  
of dollars to reduce the impact of  
coal load in the lower Colorado. Power  
generated from the sale of power could be

Daniel ...  
...

would affect the cost of water removal from our irrigation water. The hydro electric project is financially responsible undertaking and could help through the environment economically through application of revenues toward improving the water quality of the lower project tail water.

The long term environmental impacts of this A-B project can be well investigated and management can environmentally respond and financially respond opportunity that should not be allowed to pass by. Previous capital water storage and storage projects at should be implemented.

Finally, the water storage as proposed in this project is of the most benefit to the western states and will solve the water economic and environmental impact cost when used in the A-B lateral project. We get the greatest return on our investment financially and environmentally by keeping the water in the western states.

Let's put our natural resources to their best, most beneficial, environmentally sound use.

Don't mullup the A-B lateral!

Sincerely,  
David Sargman

David Sargman  
PO Box 5769  
Olathe, CO 66046

Sirs:

I would like to comment on the A-B lateral project proposed for the Gunnison River near Montrose Colorado. I would like to go on record as recommending the No Action Alternative.

There are several reasons for this recommendation. 1) The recent development + financial trouble that the local electric Co has been in is a good indication that more power is NOT needed.

2) As a kayaker, fisherman, and lover of wilderness I have traveled many canyons + rivers of the world. I have traveled the length of the monument from Crystal Dam through to the North Fork confluence, there is no place like the Black Canyon of the Gunnison any where on earth. The natural beauty, the lack of human tracks, the total experience of being down in the canyon has made me think that it deserves wild + scenic designation and not hydro power development.

3) The trout fishing will not only be disturbed from it's present state, but I think will tend to get more pressure therefore quality will drop. Don't mess with a good thing, let things alone.

NO ACTION ALTERNATIVE

Rich Smith  
Box 365  
Crested Butte, Colo

John Spezia  
Box 2255  
STEAMBOAT, CO  
80477

JUNE, 10, 1989

AB Lateral Proj. Manager,

I have briefly looked over the DEIS and would like to make several comments.

- 1- The AB Lateral will drastically reduce the flows on the Gunnison River. The reduction from 1000 cfs to 300 cfs will destroy fishing and brooding, both commercially and privately. This does no good to the local economy, Tourist related economy is number one in the Montrose County. What happens to it? What happens to the Gold Medal Trout waters? What happens to Wild & Scenic status for the Gunnison? What happens to rafting and fishing industry?  
2 - There is not a demand nor need for the electricity produced. Why produce it? Colorado We just want bonfire, they have to much electricity and not enough customers.  
3- What happens to the Uncompahgre River by doubling its flow? The farmers irrigation water would be contaminated, Crop yields would be reduced. The Uncompahgre would be channelized to prevent erosion. What about wetlands?  
What about fish and waterfowl? What about the Montrose City Park?  
4- Wildlife will be affected greatly by flows in the Gunnison. What will be done about habitat & wetland destruction? And fisheries?

Sincerely, John Spezia

June 20, 1989

Projects Manager  
Bureau of Reclamation  
Box 60340  
Grand Junction, CO 81506

RE: Proposed A-B Lateral Hydromower project

Dear Sir:

The wilderness character of the Black Canyon and the Gunnison Gorge and its management will be severely impacted by the current design parameters of the above project. The proposal to leave 300 cubic feet per second (cfs) in the Gunnison River will foster changes in the ecological dynamics of the river environment.

Managing the wilderness resources of the Black Canyon and the Gunnison Gorge in their existing unimpaired condition is vitally important.

The A-B Lateral project, as designed, destroys the existing wilderness character and makes managing the resource virtually impossible. Given the fast track posture of the project leads one to suspect that little attention has been given to what effects large water diversions are going to have on the health of the river and its surrounding environment.

Because the Gunnison River is a Colorado treasure, this proposed project must be restructured to reflect the importance of the Gunnison River ecosystem.

Sincerely,  
*Martin Sorensen*

Martin Sorensen  
Chairman: Wilderness Management Subcommittee  
Sierra Club  
Box 422  
Golden, CO 80402

14 June 1959 - W.

To: Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO. 81506

From: Er. Frank and Emmy Starr  
124 Rusticore Drive  
Richway, CO. 81432

Subject: AB lateral project

- We strongly oppose the proposed AB lateral project. The project  
is not a sound or positive economic investment for any  
resident of the western slope. The electricity is not needed.  
The assured economic base we already possess in tourism  
from river rafting and a World Medal trout fishery will be  
obliterated or seriously damaged. The city of Montrose will  
not be able to create a fishery and river park and north of  
Montrose, below the AB lateral penultimate, flows in the  
Uncompahgre will triple, causing erosion and reduced  
riparian habitat all these negative aspects, so people in  
Boston and France benefit economically. We must realize  
our western slope wealth is in our natural resources.  
Our resources need our intelligent management and should  
benefit permanent western slope residents.

Respectfully,

Ermy S. Starr  
Frank Starr  
Copy to: Cong. Ben Nightow  
Campbell

Bureau of Reclamation,

AB Lateral project,

Please take consideration of

my opinion of opposing the AB

Lateral project.

Our Electrical needs in Southern

Colorado do not need another burden.

Colorado Uta already has a surplus.

The Gunnison River is priceless,

perhaps we could keep it!

Thank you

Ermy Starr

Box holder

Telluride Co.

144 Main Street  
Delta, Colorado 81416  
June 6, 1989

Steve McCall  
Projects Manager  
Bureau of Reclamation  
P.O. Box 603346  
Grand Junction, CO 81506

Dear Sir:

I am opposed to the 4B Lateral project for the following reasons:

Having lived in Colorado most of my 76 years (45 years in the Delta and Montrose area), I am a hunter, fisherman, businessman, landowner and water user. I believe that the 4B Lateral project will have a negative effect on the above mentioned uses.

It is my opinion that at this time, the only bright star in the future of Delta seems to be the Gunnison river and the benefits it can provide for our area. For that reason it would be wrong to tamper with the natural functions of the river. The river, as it is now, can and will benefit a greater number of people longer than the 4B Lateral project.

Yours truly

*John Sukle*

John Sukle  
(303) 874-4720

*Wayne also - Thru Sukle*

To whom it may concern  
I have read the environmental impact report on the proposed expansion of the AB Lateral. And I am completely against any more water being taken out of the Gunnison River

I know you have read the pros and cons on this issue, but what I want to know is when are we going to start leaving things alone? So other people and generation can enjoy them. Why is it that we think more is better? When in reality having less is much simpler and better for all.

Sincerely  
*Jane Swigons*

**JOHN TRAMMELL**

Geologist

2040 BARBERRY AVE. - GRAND JUNCTION, CO 81506  
(303) 243-4304

11 May 89

Dear Ben Roe,

I am totally against  
the A B Lateral Project,

we already have too much

Electric power and it will

deplete the flow in the

Common Puma and the

poor for fishing. also the

Ecological change in the

Common is unacceptable,

Sincerely, Bill Trammell

June 19, 1989

Projects Manager  
Bureau of Reclamation  
P. O. Box 603340  
Grand Junction, CO 81506

Dear Sir:

I inform you of my opposition to the AB Lateral project. There seem to be no present good reasons to allow the project to proceed, and several good reasons against it. Tampering with rivers should be avoided unless it is absolutely necessary. A diversion of 390,000 acre feet is serious tampering, and clearly is unjustified at this time.

Sincerely,

*John Trammell*

John Trammell



2040 Barberry Avenue  
Grand Junction, CO 81506

June 19, 1989

Projects Manager  
Bureau of Reclamation  
P. O. Box 603340  
Grand Junction, CO 81506

Dear Sir:

I inform you of my opposition to the AB Lateral project. The effects of a diversion of 390,000 acre feet on the Gunnison and Uncompahgre Rivers will be enormous, and appear to be wholly unjustifiable. Therefore I hope that the Bureau of Reclamation will not grant a permit for the project.

Sincerely,



Melissa Trammell

June 13, 1989

Project Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, Co 81506

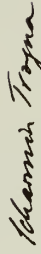
Dear Project Manager:

It has become known to us that you are researching a project which involves the diversion of water from the Gunnison river to the Uncompahgre Valley. With this letter we would like to voice our strong objection to the water diversion. The Black Canyon of the Gunnison is our favorite spot in Colorado, the only place where one can still catch trophy rainbow trout, the only place that still feels like true wilderness.

Already the dam above the canyon has just about eliminated the excellent rafting opportunities in the canyon. If even more water is diverted from the river than now, the trout will not survive and the once impressive river will be reduced to nothing but a trickling creek.

While clean power is nice and many farmers may benefit from the water diversion, we think that approving the project solves only short term problems. In the long run we will loose one of the most beautiful places in Colorado. For Colorado's sake, please let the Gunnison river live!

Sincerely,



Scharmin and Wayne Trzyna  
1012 Tantra Park Circle  
Boulder, CO 80303

Glenn Underwood  
P. O. Box 552  
Olathe, CO 81425  
June 16, 1989

U. S. Bureau of Reclamation  
Grand Junction Projects Office  
2597 B-3/4 Rd.  
Grand Junction, CO 81501

Dear Sirs:


I am writing in support of construction of the AB Lateral Hydroelectric Project by Montrose Partners.

This project offers considerable benefits to recreation in the area and to the environment downstream as well as locally. However, the greatest benefit would come from the increased tax base.

As the former state representative for the 58th district, I am very aware of the fact that Montrose County is among the poorest in the state. Our low tax base has an extremely adverse effect on our education system. Montrose County School District Re-1J struggles constantly to educate our young people with a minimum of funding; while we taxpayers struggle to provide the best funding possible. The monetary benefit to our schools alone could very well make the AB Lateral a viable project.

Thank you for your favorable consideration.

Sincerely yours,

  
Glenn Underwood

2950 Cortina Drive  
Colorado Springs, CO 80918  
17 June 1989

Projects Manager  
Bureau of Reclamation  
P. O. Box 60340  
Grand Junction, CO 81506

Re: Gunnison River Water Diversions

It has been brought to my attention that the UVMWA proposes to construct a hydroelectric generation structure. This project would lead to the draining not only of the Gunnison River through the Black Canyon and Gunnison Gorge, but also of the Uncompahgre River through Montrose.

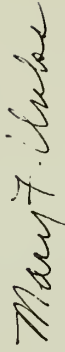
The plan is to leave only 300 cfs in the Gunnison as a minimum stream flow. This amount is far too little, and will result in damage to the low-flow channel of the river.

I am concerned with the amount of profit built into the benefit/cost ratios for this privately financed project by a Boston subsidiary of a French corporation.

While the clean power generated would be nice, it is highly questionable whether there is a need for this additional power in western Colorado, since the current provider has a great surplus of generating capacity.

I feel that the minimum flows for the Gunnison should be based on the ecological health of the river, and not on the financial expediency of the project proponents.

Sincerely,

  
Mary F. Unks

Projects Manager  
Bureau of Reclamation  
P.O. Box 603340  
Grand Junction, CO. 81506

Dear Sir,

I am writing to express my concern over the proposed AB Lateral project near Montrose. My husband and I have been residents of this area for over 16 years and have watched with pride as the area has grown and been developed. We are also members of the Uncompahgre Valley Water Users and have used and appreciated their services for several years. However we don't feel they should be going into the power business for several reasons:

- 1) No need to generate more power as evidenced by the recent Colorado Ute demise.
- 2) We are seriously concerned and seek designation of the Gunnison River as "Wild and Scenic" and protection of it's Gold Metal trout fishing and Bald Eagle habitat.
- 3) Our income is directly based on tourism in this area. We are interested that everything possible be done to encourage the development of this area as a final destination for the traveler and sports enthusiast. That includes doing nothing to threaten the flows in the Uncompahgre or Gunnison rivers.
- 4) The community of Montrose is working hard to make this area attractive for relocation of business and individuals. We have a new airport, swim center, bike path, fishing area etc. We need to protect the development of a fishery and the river park in town. Reduced flows in the Uncompahgre would certainly threaten that.

We appreciate your time in soliciting public comment and sincerely hope that this project will not come to pass. It is time to take a look at more responsible ways to conserve our water and protect our precious resources.

Sincerely,  
*Bill Wilson*  
Bill and Nancy Wilson  
1988g Pahgre Rd  
*Nancy Wilson*  
Montrose CO.  
81401

Dear Sir William,  
We are very concerned about the Gunnison River. We feel that the minimum flow for the river should be based on its ecological health and not on the financial expediency of the project proponents. If there is not enough water flow it will cause problems for the fish. This is an area where we live and return frequently for visits. Please consider this matter carefully.

Elizabeth van der Meer

~~Arnold Yaandermeer~~

Arnold Yaandermeer  
714 S. Shipin  
Larvland, CO 80537

10 Congressman Ben Nighthorse Campbell

6/27/89

To who it may concern,  
the proposed AB lateral  
project is not needed,  
wanted or concainable.  
I am concerned about  
this wild an scenic river  
being reduced to the point  
that it will lose its  
designator as such.

It will also adversely  
affect the already  
struggling economy of  
our area by making rafting  
undesirable or impossible  
most of the year and good  
fishing gone.

As a business owner  
voter and resident of the  
north fork valley, I strongly  
oppose this project and

"On hopes the  
peoples desired take  
precedence over profit  
motives"

Andrew Alcott

Box 246  
Paonia, CO 81428

6/22/89

Dear Sirs:

I am a store owner in the North Fork Valley and I depend on trade from tourists, locals, river rafters, fishermen and all others who come to this area & use the rivers & need services.

I am also concerned about: the threat to the "Wild & Scenic" designations of the Gunnison River: the damage to the Cold Medal trout fishing: the reduced flows of the Gunnison River making it unnavigable; and the fact that the electricity created from the project is not needed.

I am, therefore, very

opposed to the AB lateral hydropower project. I do not want it!

Victoria Welcott  
SUNNYSIDE MARKET  
Box 246  
Poncha, Co 81428

June 13  
1989

can't find  
original

Wells Mr. McCall,

I went rafting June  
10 down a stretch of the  
Gunnison that is currently under  
proposal for diversion -> the  
"A B Lateral" project.

The river was so low  
it was barely passable.  
As a native Coloradoan,  
I implore you to leave the  
River alone. Tampering  
with nature is expensive  
and risky, and all too common.  
We need to express  
wonders and reverence toward  
this providential River.

Thank you for your  
time, Millicent Young

June 8, 1989

Dear Sir:

I am writing to you concerning diversion  
of waters from the Gunnison River for  
use of the proposed construction of  
the AB Lateral Hydropower Facility. I  
acknowledge not knowing all the details  
surrounding this issue yet it seems  
to me that once again profit reigns  
for the few is getting higher priority  
than environmental concerns of the  
many. From what I've read about  
the proposed project, all the necessary  
information for diversions to be made to  
and it have not been provided to  
those who will be most impacted by  
its construction. It seems that  
provided a more global picture of  
the issues surrounding the project  
might provide a framework for  
thoughtful comparisons to be made  
that may satisfy all citizens  
involved. After all, the flow of  
the Gunnison must be considered  
on the basis of its ecological balance  
maintenance.

Thank you for your time -  
Riviera Wood



# The Colorado Mountain Club

PIKES PEAK GROUP  
COLORADO SPRINGS, CO

JIM MCGANNON  
1155 NORTHFIELD RD  
COLORADO SPRINGS, CO 80919



# The Colorado Mountain Club

PIKES PEAK GROUP  
COLORADO SPRINGS, CO

JIM MCGANNON  
1155 NORTHFIELD RD  
COLORADO SPRINGS, CO 80919

6-20-89

STEVE McCALL

SUBDIVISION OF RECREATION  
GRAND JUNCTION, CO.

RE: A0 LATERAL PROPOSAL FOR GUNNISON RIVER

Mr. McColl:

Upon a recent backpack/ fishing trip into the Gunnison Gorge I learned of the A0 LATERAL proposal to divert more water from the river. I find this pretty hard to believe when the river is so low already. I understand that the standard CFS flow is about 300-350.

Since the D.I.T. is recommending this area as wilderness designation I believe it is imperative to deny any further diversion of water from this area. I believe that your agency and all other Federal agencies involved in this project have a major responsibility in denying any permission to allow this project to go any further.

→ p.2

6-20-89

It is very imaginable for any of us in this state to keep wanting more and more water diversion projects. Let's stop allowing waste of water and promote WATER CONSERVATION measures!!

Please send me a copy of the DRAFT EIS for this project.

Thank You,

Jim McGannon  
Conservation Chairman



Box 31 • Terlingua, Texas 79852 • (915) 371-2489

Projects Manager  
Bureau Reclamation  
Grand Junction, Colorado

RE: AB Lateral Project DEIS

June 20, 1989

Dear Sirs:

I am writing to express opposition to the proposed AB Lateral Project on the Gunnison River. There is no doubt that implementation of AB Lateral would reduce flows in the Gunnison River through Black Canyon National Monument and the Gunnison Gorge.

I believe that you should consider the adverse impact of such reductions on river recreational activity and wildlife (fish) habitat.

Any reduction of flows would effectively terminate our commercial rafting operation. We have observed and endured two seasons of 300 cfs-range flows. We have no doubt that trout size and trout populations have been shrinking as a result of such flows.

In an area interested in developing its tourism industry, harming the fishing and rafting potential of the Gunnison would be folly.

PLEASE, Reject the AB Lateral Project!

Yours,  
Steve Harris

Putting People and Rivers Together



MONTROSE INDUSTRIAL DEVELOPMENT CORPORATION

"Home of the Black Canyon"

P. O. Box 1492  
Montrose, Colorado 81402

Montrose  
I'd Rather Be In Colorado

June 14, 1989

Mr. Steve McCall  
US Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, Colorado 81506

Dear Mr. McCall:

The Montrose Industrial Development Corporation is a non-profit organization devoted to furthering the economic vitality of the Montrose area. We have reviewed the AE Lateral Draft Environmental Impact Statement, and would like to offer our full support of the project.

This proposal is in the economic and environmental best interests of Montrose and Delta Counties. Construction dollars, in addition to tax payments and revenues to the Uncompahgre Water Users will be a significant benefit to our local economy.

The Draft EIS fully and adequately addresses the environmental impacts of the project. There is no need to hold this project up any longer. If it is delayed, we only risk losing what could be an extremely valuable resource to this community. That would send the wrong message to other corporations willing to invest in the Montrose area.

In response to the acid rain and greenhouse effect crises, President Bush recently announced new administration policy to aggressively encourage non-polluting renewable resources. The AE Lateral would be an ideal example of this community's contribution to that effort.

Please do not be fooled by the loud voices of a minority of opposers. This project deserves and has the support of our community. We strongly encourage the Bureau of Reclamation to approve the Draft EIS, complete the NEPA process, and grant the Uncompahgre Valley Water Users Association and Montrose Partners the necessary permits and approvals to move ahead.

Sincerely,

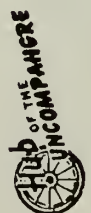
*Lonnie J. Olsham*  
Lonnie J. Olsham  
President, Montrose M.I.D.





THE OLATHE POTATO GROWERS CO-OPERATIVE ASSOCIATION

CARLOT GROWERS AND SHIPPERS OF ONIONS - BEANS



Projects Manager  
Bureau of Reclamation  
P.O.Box 60340  
Grand Junction, CO 81506

June 20, 1989

Bureau of Reclamation  
Grand Junction Projects Office  
2764 Compass Drive  
F.C. Box 60340  
Grand Junction, Co. 81506

Dear Sir or Madam:

I am writing in support of the proposed AB Lateral Hydroelectric Project. I have heard many of the arguments, both for and against, this project. However, I am convinced that the benefits from this project would greatly outnumber the problems.

The Western Slope of Colorado is still primarily an agriculture community. The dollars generated by agriculture production will usually turn over several times within the area. The agriculture economy has been depressed for the past few years and, as I understand the facts on this project, it would have a positive effect on the farmers crop in-put expense.

This project would contribute tax dollars to the local Governmental agencies and would also employ several people in it's construction.

Therefore, I believe the proposed AB Lateral hydroelectric Project would be a solid investment in the economic future of Montrose and Delta Counties.

Sincerely,

*Richard M. Percival*

Richard M. Percival  
General Manager  
Olathe Potato Growers  
Cooperative Association

To Whom It May Concern:

This letter is written on behalf of the officers of the Relief Ditch Company. We are very concerned about the AB Lateral Hydropower Project.

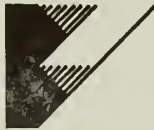
This diversion would result in a 300 cfs flow in the Gunnison River for part or even most of the year. This would cause us to do considerable bulldozer work in the streambed in order to give us enough water for our ditch company.

We oppose the AB Lateral proposal. Please consider the concerns of everyone regarding this project.

*Carol Morrell*

Carol Morrell, Secretary  
Relief Ditch Company

*Recheck Address*



a citizens' group  
for the defence  
& preservation  
of southwestern  
Colorado's high  
country

Box 389  
Telluride  
Colorado 81435

June 20, 1989

U.S. Bureau of Reclamation  
Project Manager  
P.O. Box 603340  
Grand Junction, Colo. 81506

Gentlemen:

The Sheep Mountain Alliance of Telluride, a citizens conservation group consisting of 145 members, wishes to go on record as opposing the proposed AB lateral hydro power project near Montrose.

While there are many facets to this project, both positive and negative, our opposition is based on one reason. We believe very strongly that the reduced flows in both the Uncompahgre and Gunnison rivers as a result of this project to be detrimental to the long term interests of the general public. Rivers, with their associated riparian habitat and ecosystems are precious. The continual water development impacts upon free flowing rivers is destroying the natural and original condition of many of our finest river systems. Witness the impact of the three dams on the Gunnison to date on the river as the type of river that existed in its natural state. In our view, the further reduced flows, particularly on the Gunnison, but also on the Uncompahgre (with the associated increased flow below the AB hydro power plant) make this project unacceptable. We ask that you consider strongly in your decision our stated concerns. The Gunnison river has been impacted severely and should not be further degraded. What remains of this natural resource must be protected.

Sincerely,

*Jack Pera*

Jack Pera, President  
Sheep Mountain Alliance  
Telluride, Colo. 81435

# Telluride Institute

Fostering community & culture  
from the high mountain West

Project Manager:  
Bureau of Reclamation

The Telluride Institute would like to express concern over the proposed AB Lateral Project on the Gunnison River, as described in the Draft Environmental Impact Statement. There are many reasons for our concern.

The main reason we oppose the project as presented in the DEIS, alternatives B,C,E, and F, is the probable loss of the biodiversity of the Black Canyon National Monument and Gunnison Gorge Wilderness Study Area as they exist today.

The Western slope shares a growing dependence on a tourist recreation economy with the rest of the state. It is our number one industry. We can NOT afford to compromise the quality of our environment as we come to depend on it for our livelihood more every day. The profits of project sponsors must NOT be considered on an equal basis with this precious, non-renewable resource.

The DEIS does not adequately address adverse impacts to riparian habitat, especially as that habitat provides homes to migrating and wintering waterfowl, and threatened, endangered and rare species that currently live along the Gunnison and Uncompahgre.

The world-class Gunnison River Trout Fishery would be threatened by reduced flows in the Gunnison. Loss of adult habitat and long-term stress on fish resulting from lower flows and greater water temperature fluctuations may cause loss of Gold Medal status.

Another problem with the project as proposed involves the reduction of flows in the Uncompahgre River through Montrose, where citizens have been working to create a fishery and river park. A related problem would involve the increased flows below Montrose, which would shrink riparian habitat and demand extensive riverbank stabilization efforts.

A further issue involves the lack of a need for the electricity generated by the hydropower project, which would further burden our regional electrical system, which is currently in bankruptcy.

The Telluride Institute is not against all hydropower projects. A project which protected the national treasure of the Gunnison River ecosystem with greater minimum instream flows, rather than protecting the financial status of project sponsors might be worthy of our support. The AB Lateral Project, as proposed, is severely lacking in concern for this valuable resource.

It is critical that minimum flows for the Gunnison River be based on the ecological health of the river, not on financial considerations of a foreign investment firm!!!

Sincerely,

*Leigh Sullivan*

Board of Trustees: Patricia Aburdene, John Clute, John Liffon, Amory B. Lovins, L. Hunter Lovins, John Naishitt, Pamela Ziline

Box 1770, Telluride, Colorado 81435, USA — tel: (303) 728-4981 & (303) 728-4402

A Colorado non-profit corporation



2291. 4-25-1989  
Montrose CO  
Gunnison

Project Managers  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

RESOLUTION

WHEREAS, the A-B Lateral Project is of primary importance to the residents of Montrose and Delta Counties and the region; and

WHEREAS, in view of the local depressed economic conditions, the additional employment opportunities and income resulting from the project construction and operation, will significantly benefit the future economy of the area; and

WHEREAS, the Project will increase the County tax revenue by \$400,000 to \$700,000 dollars per year; and

WHEREAS, agriculture is vital to the area and the revenues realized from the Project will directly reduce the repayment obligation of the irrigators under the Uncompangre Project; and

WHEREAS, the favorable economic feasibility of the Project has been established; and

WHEREAS, the environmental impact of the Project is minimal and extensive mitigation measures are provided to protect the environment.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF TRI COUNTY WATER CONSERVANCY DISTRICT:

1. That the achievement of the Project is of the highest priority to the Uncompangre Valley;
2. That Tri County Water Conservancy District will fully cooperate to effect the construction of the Project at the earliest possible date;
3. That the appropriate Officers and Agencies of the State of Colorado and the United States of America are respectfully requested to give their unlimited support to the Project in order to effect its immediate realization.

ADOPTED this 21st day of June, 1989.

BOARD OF DIRECTORS TRI COUNTY  
WATER CONSERVANCY DISTRICT

ATTEST:

Roger Seuf  
Secretary

William Renzfell  
President

By acclamation, at our June 21, 1989 meeting, it was resolved to take a stand against the proposed AB Lateral Hydropower Project. This stance is not based on deficiencies of the Draft Environmental Impact Study (DEIS) (although we feel there are some) inasmuch as it is based on the following reasonings:

- We concur with Colorado Trout Unlimited that we should ask how long our priceless natural resources should be exploited for questionable commercial gain by small, special interest groups.
- We have grave concerns about the long-term impact on the fishery in the Gunnison River with the frequency and duration of the minimum flows as proposed by the project.
- Also important, is the degradation of wilderness values that will probably occur along the Gunnison as a result of reduced water flows and increased human usage.
- Most relevant to many of us is the effect on the Uncompangre River as it flows through the Montrose area. As rivers go, it isn't a "Grand" river, but it is the only one we've got. To see any river squeezed dry is sad; to see a "reborn" river snuffed out before knowing its potential is especially disheartening.
- While recognizing the importance of agriculture in our community, we also believe that tourism and recreation are of vital economic concern. The project will help one segment while hindering the other, making the net effect less appealing.

It is not necessary to dissect the myriad facts and figures found in the DEIS to arrive at the "correct" judgement. Listening to the rush of a flowing river, feeling the current tug at your soul or gazing at the dancing whitewater can render a conclusion just as valid as can an erudite approach. The rivers have "told" us that the AB Lateral Project should not be allowed to impact that which is so precious to so many.

# WESTERN GRAVEL INC.

3001 N. TOWNSEND  
MONTROSE, COLO 81401  
(303)-249-2431

## Environmental and Economic Analysis of AB Lateral Project

June 16, 1989

Walt Fite  
Bureau of Reclamation  
Box 60340  
Grand Jct, Colo 81506

I am writing in reference to the issue known as AB Lateral Hydro Project. It is the belief of myself and corporate board of directors that this project would be beneficial to Western Colorado for a variety of reasons.

There are several direct economic benefits, including but not limited to the following: \$25 million of local construction work, 50 to 60 construction jobs for a 2 year period, 3 to 4 long term operations jobs, increased county property tax revenues of some \$300,000 to \$700,00 per year, which could result in either a mill assessment reduction or increased services of between 1 and 2 mills. This project will also be subject to state and federal income taxes, city sales and use taxes and state sales taxes.

The project will provide benefits to UVMWA which include the early retirement of federal debt burden. The construction of the AB Lateral Hydro Project will reduce assessments to approximately 3,000 water users in Montrose and Delta counties. The irrigation system will be more reliable through the installation of remote gate operators and water level telemetry.

The development of a clean, non-polluting renewable resource is invaluable. This project will eliminate the need to burn approximately 135,000 tons of coal per year in existing or future power plants. Over the 50 year life of the project this will result in a savings of some 7 million tons of non-renewable fuel. Based on EPA mid range estimates for low sulfur coal, this coal offset would result in emissions reductions of 1.6 million pounds of sulphur oxides per year, and 2.7 million pounds of nitrogen oxides per year.

The forementioned benefits of reduced emissions is a substantial environmental benefit. There would also be substantial benefits to Gunnison Fishery, and improved water quality on 22 miles of the Uncompahgre River from Montrose, to Delta.

Western Colorado is primarily an agricultural community. This project would benefit the farmers and has many listed benefits to all others in the area. Whenever a project seems to benefit all spectrums of a community, with only a slight proposed impact to a select small industry, it would seem that one should rule in favor of the greater good of all.

I hope you will consider the ideas in this letter, and support the AB Lateral Hydro Project.

Sincerely,  
*Jerry W. Trudell*  
Jerry W. Trudell  
CEO Western Gravel Inc.

The following report is the result of a study made by James R. Guadagno (Colorado Professional Engineers' License No. 13854) under contract to the Western Slope Energy Research Center. The study was restricted to the potential effects of the construction of the AB Lateral Hydropower Facility on riparian habitat along the Gunnison and Uncompahgre Rivers, and manifestations of these effects on the economic feasibility of the project.

### A. The Present Riparian Environment

The character of the plant growth which occurs along stream-sides, commonly known as riparian vegetation, together with the nature of the wildlife which exists in such habitat, is determined by a complex interrelationship among such parameters as the type and depth of the soil found along the streams, periodic replenishment of this soil by floods, ambient temperatures, precipitation, supplemental ground and surface water supplied to the soil by the stream, and the seasonal variation of all of these parameters.

In the portions of Delta and Montrose counties which would be affected by the construction of the proposed AB Lateral Hydro-power facility, annual rainfall is quite sparse, ranging from about seven inches per year to no more than twice that amount. Thus the existence of the riparian habitat along both rivers is dependent almost entirely upon both soil and water supplied by the streams themselves. For centuries in the past, this soil and water supply was very reliable, and when combined with the effects of a relatively long growing season in the area, it led to the development of riparian growth which is quite rich in both the variety and abundance of plant species. This, in turn, has led to a parallel development of an equally rich animal community, particularly with regard to the numbers of birds.

While many types of plants grow in riparian areas along these two rivers, the dominant species, and an obvious indicator of the health of such habitat, is the Fremont cottonwood. It grows naturally everywhere, with two exceptions: areas where soil is too thin, too dry, or too rocky, and other areas where a surplus of water has created wetlands instead. A survey of the pattern of this indicator species along the streams shows that it is found in quantity only where soil deposition, rather than erosion, is taking place. This occurs where the stream gradient is relatively low, and where the flood plain is relatively broad. In most of the Gunnison Gorge, where the canyon walls are made of rock or steep clay cliffs, and where active erosion is occurring, riparian habitat is scarce. The soil being deposited in other areas is washed down from the high mountains by the steep, fast-flowing Gunnison and Uncompahgre Rivers and their tributaries. Without this erosion and deposition, riparian habitat along the lower stretches of the rivers could not exist.

During the last century, however, the equilibrium conditions which led to the creation of this rich habitat have been upset by man. Earlier diversions from the two rivers for irrigation had minimal effect on the soil regime, since the deposition which took place during the April-June runoff season occurred at a time when diversions were relatively low; this deposition was easily able to replace any soil lost to erosion. With the construction of Paonia Reservoir, the series of dams along the main stream above Black Canyon National Monument, and the Ridgway Reservoir, however, the amount of sediment has been greatly reduced. This has been in part counteracted by lower flows in the rivers due to increased diversion, thus maintaining a kind of uneasy equilibrium which has allowed the riparian habitat to survive, at least in the short run. But there can be no doubt that this riverine environment has already been severely stressed, and is subject to drastic alteration by any new changes in flow pattern, regardless of the direction of these changes.

The El Nino years of 1983-84 taught us much about the nature and needs of riparian vegetation. The unprecedentedly widespread flooding during this period demonstrated that the bulk of the streamside soils which nourish such vegetation are deposited during only a small fraction of the time. It also showed us that periodic recharging of these deposits with water during peak runoff is critical to the maintenance of healthy riverine growth. During this period, millions of new cottonwood trees sprouted and grew, whereas virtually none had successfully taken root for many years previously. This explains the growth pattern of many cottonwood groves throughout the region: a staircase pattern of clusters of even-aged trees, with few others with ages in between these. It is obvious that nearly all of the cottonwoods have taken root during such rare years of heavy runoff, whereas few of them can sprout in an ordinary year.

Since the effects on the two rivers due to the construction of the proposed AB lateral power project will be so different, they will be treated separately.

#### B. Effects on the Gunnison River

The area of greatest concern if the proposed power plant is built is that stretch of the river between its confluences with the North Fork and the Uncompahgre (While the effects described here will also occur above the upper junction, it will be lesser in extent, since less riparian habitat exists there). Unfortunately, any effects on this section of river have been overlooked in the Bureau of Reclamation's Draft Environmental Impact Statement.

Because of the storage and diversion of water upstream in the Gunnison Gorge, the riparian habitat along this stretch of river is now largely dependent on flows from the North and Smith Forks for both soil replenishment and sediment recharge water during the spring and early summer months. During the remainder of the year, and particularly in winter, the higher flow from the main stem is critical to the maintenance of some semblance of health of this growth.

It is probable that some damage to the water supply of these

riparian groves has already been done, especially since the construction of the Aspinall series of dams. Such damage is very difficult to measure, however, since many years may elapse before it becomes evident. As the riparian water table drops, the larger trees can send their roots down deeper in search of water, and will thus be able to maintain themselves for a long time before dying out and dying. Ironically, the younger and smaller cottonwoods (together with smaller trees and shrubs of other species) are likely to be the first to succumb to the deficiencies of a lowered water table. In the long run, however, the greatest effect will be the inability of the vegetation to regenerate. Existing groves may persist for several decades after such an event, not showing much visible change, until the largest specimens finally begin to die. When this finally occurs, however, the grove is gone forever; the microclimate which has fostered its existence has been irretrievably altered, and the environment has been permanently altered toward a more arid regime.

There is no doubt that lowering the flows of the Gunnison River still further through the additional diversion of upstream water for power generation will severely aggravate an already critical situation. Moreover, the proposed seasonal power production pattern will also introduce another factor which is likely to accelerate this deterioration greatly: winter kill. When the state of Colorado was first settled by people from the eastern United States, the immigrants tried to bring part of their heritage with them by planting many varieties of deciduous trees native to their previous homes. They soon found that these trees were prone to die during the winter months. At first, they attributed this mortality to some vague "severity" of the western winter climate. It was only a few decades ago that it was determined that "winter kill" was due instead to a drying out of the roots of the trees, and not to cold temperatures, and that it took place more often after the milder winters.

Cottonwoods and other riparian plants are also subject to winter kill. They need moisture in the soil surrounding their roots even during the period of dormancy. The persistent lowering of the winter flow of the Gunnison River due to power plant diversions will inevitably result in a concurrent lowering of the riparian water table. Trees -- even large ones -- growing now at the upper edges of the riparian habitat zone will feel the effects of this much more quickly than they will the effects of summertime water shortages. Thus the disappearance of the existing riparian vegetation could be greatly accelerated, as well as aggravated, by the proposed diversion of water out of the Gunnison River for power generating purposes.

The Bureau's DEIS states that the riparian zone will merely be displaced toward the smaller stream which will remain in the former river bed. But this is not strictly true. While some riparian habitat will remain, it will be far more restricted than that which exists today. The new streamside will be lined with cobbles instead of the rich alluvium which characterizes today's river groves. This is not an attractive environment for the growth of trees or shrubs. Moreover, it is likely to take many decades before any significant alteration of these conditions

will occur due to the deposition of sediment along the new stream boundaries. This is due to the reduction in sedimentation which has already resulted from the construction of upstream reservoirs and which will be even further aggravated by the additional power diversions. The primary source of sediment, in fact, is likely to come from erosion of the desiccated banks currently occupied by riparian vegetation. Then many additional decades -- or perhaps even centuries -- must elapse before plants growing on this narrowed verge can attain the state of growth achieved by those of the present riparian zone. And the extent of the growth could never reach that which exists today. Thus it is inevitable that the construction of the power project will result in the permanent decimation of the rich riparian habitat which now exists along the Gunnison River.

#### C. Effects on the Uncompahgre River

The situation regarding changes along the Uncompahgre River would be quite different; here we are dealing with the effects of greatly increased flows, rather than reduced ones. The Uncompahgre River between Montrose and Delta, while appearing to traverse a flat plain, actually has a very high hydraulic gradient for a river of its size. This high gradient has been maintained in the past because of a state of equilibrium which has been achieved between the large amount of sediment brought down by the river from its headwaters in the San Juan Mountains to the south and the relatively small flow of the river.

Events of the past few years, however, have upset this equilibrium in a number of ways. First of all, the construction of the Ridgway Reservoir has interrupted the supply of sediment, excepted for that furnished by Cow Creek and a few smaller streams. This change alone would have resulted in increased net erosion below the reservoir, for two reasons. First of all, clarified water has a greater ability to erode sediment than that which is loaded with silt. Secondly, the sediment which is being eroded away today below the reservoir will no longer be replaced by other sediment brought down from above.

Considering the effects of the Ridgway Reservoir alone, however, we find compensating factors at work. The intended purpose of the reservoir was to provide additional water for increased demands due to projected growth in the downstream area. These increased diversions would have reduced flows in the stream, counteracting to a certain extent the effects of the smaller sediment loads and clarified water, and resulting in a lesser alteration of past patterns.

It is now becoming apparent that this projected demand for water has failed to materialize, and that these diversions will not occur. Downstream erosion can indeed be expected to increase as a result of the construction of the Dallas project alone, an effect which has been overlooked in the Bureau's analysis. This erosion would be multiplied many times over with the drastic increased flows in the river resulting from the construction of the AB lateral power project. Because of the low resistance to erosion of the unconsolidated sediments making up the bed of the river in this area, this process would proceed quite rapidly

virtually unchecked, unless severe countermeasures were to be taken.

The Bureau of Reclamation appears to have greatly underestimated the potential effects of this increased erosion, and has proposed minimal measures to compensate for it. Stating that the "channel bed is well-armed with cobbles", the agency has limited their measures solely to the prevention of lateral erosion of the river banks. Moreover, it claims that no more than 25 percent of the river's length need be so treated.

Three types of erosion control have been proposed. The first of these consists of bank revetments made up primarily of riprap materials placed along the top of the banks, depending on erosion by the river itself to place these materials in the proper position. The second is the construction of rock jetties designed to divert the flow of the stream away from vulnerable bank sections. The third is the channelization of river meanders into better defined channels. The Bureau estimates that 25 percent of the river's length would be modified by one or another of these techniques, and they state that no significant alteration of the riparian habitat or wetlands along the river will result.

First of all, the proposed method of building revetments, while it may be inexpensive, is also inherently unpredictable, and whether or not it will work in this area, especially in light of the greatly altered flow conditions, is quite uncertain. But even if all three methods should prove to be successful, they would still alter the hydrological nature of the sections where they were installed. Each of them would inevitably withhold the water supply from the existing riparian habitat and wetlands wherever they were installed, with effects comparable to those outlined in the previous section of this report. And twenty-five percent of the river's environment cannot in any case be considered to be insignificant.

The total effect will be much greater than this, however, due to some very important factors which the Bureau's analysis has failed to take into account. First of all, experience with other channelization projects elsewhere, especially those built by the U.S. Army Corps of Engineers in the Midwest and South, shows that this technique, while reducing flooding and erosion in the channelized sections, invariably increases the potential for more severe flooding and erosion in areas downstream from the treated portions of the rivers. In many cases, these sections have also had to be channelized for their own protection, leading to even further danger to the remaining natural portions. Channelization cannot be thought of as a final solution to problems of either flooding or erosion, since it results only in relocating the affected area from one spot to another, and very often aggravates the very problem it is intended to solve. This fact is now becoming quite clear; the state of Tennessee recently passed a law prohibiting any further stream channelization within its borders.

The gradient of the Uncompahgre is already extremely high, and the shortening of the river's length due to channelization would raise it even more. The downstream erosional effects of channelization are thus likely to be more severe than they would be elsewhere. Moreover, this effect has already been compounded

by the recent loss of the river's sediment supply. A tripling of the river's flow, when added to all of these other factors, is likely to lead to increased erosion everywhere along the river's length, including places where no problems exist today. It would not be surprising, in fact, to see demands for channel stabilization gradually extended to cover the entire length of the river from the power plant to the Gunnison River, and not just the 25 percent cited in the DEIS.

But even this drastic step is not likely to check erosion in the river. We must remember that the combined effects of the Dallas and AB Lateral projects would create a totally new situation along the Uncompahgre: a new river three times the size of the old one, traversing unconsolidated sediments which are no longer being renewed, carrying water which has been deprived of the moderating influence of its normal sediment load, and flowing through a channel with an extremely high hydraulic gradient. This new environment would be completely out of harmony with the equilibrium conditions which exist today. The new river would follow the laws of nature in seeking its own balance. And this balance would include the carving of a canyon along the present river bed until a new equilibrium state is achieved.

The Bureau's proposed mitigation measures -- riprap, jet-ties, and channelization -- are all designed to check lateral erosion. None of them, however, would be in the least effective in preventing the headward erosion which the new river would pursue in trying to attain its own balance. There is nothing in the nature of the river bed which would offer much resistance to this erosion; the cobble bed cited in the DEIS as an erosion preventative would be removed almost as fast as the finer sediments when attacked from below. The resulting headward erosion would proceed fastest at the lower end, near Delta, but would quickly move upstream until the entire channel became entrenched, scores of feet below its present level.

All the riparian habitat along the Uncompahgre River at present would completely disappear if this were allowed to happen. The five thousand acres of wetland would go first, but they would soon be followed by the cottonwood groves, left high and dry by the lowering of the river and the water table supports. Nor would this loss of riparian habitat be the only effect. The dropping water table would dry up many of the shallow wells now found along the river. And the irrigation ditches taking water from the river between Montrose and Delta would find their headgates suspended high above the river's new channel. These changes in the Uncompahgre's streambed would occur much faster than the previously cited alteration of the riparian habitat along the Gunnison, and would thus be far more obvious. And none of the mitigating techniques cited by the Bureau would be effective in halting the process, even if their magnitude were to be multiplied many times over.

The only steps which could prevent these changes effectively would be a dividing of the waters coming from the tailrace of the power plant. An amount commensurate with the needs of the riparian habitat and the downstream irrigation demands would be allowed to flow into the present bed of the river. The remainder, which would constitute at least two-thirds of the tailrace flow,

would have to be enclosed in an erosion-proof concrete-lined channel leading all the way from the power plant to the Gunnison River.

#### D. Effects on Wildlife

The Bureau's DEIS also states that wildlife would not be significantly affected by construction of the project. The only issue considered in any depth is that of increased winter ice on the Gunnison River due to reduced flows. But this is a very small part of the total wildlife environment. While it may be true that the populations of large game animals such as deer and elk would be only marginally reduced, many other species would suffer severely. Both Delta and Montrose counties are very rich in the variety of birds found locally, with total species counts exceeding those of some entire eastern states. The total population of birds in this area is also rather remarkable, but it is very unevenly distributed. Local regions which are dry support relatively few birds, while those habitats with dependable water supplies have populations which are many times greater. Farmlands, irrigation ditches, and forested areas are among the richer habitats, but for sheer numbers and variety of birds, they must all take a back seat to the riparian areas, and especially the lower elevation portions of the Gunnison and Uncompahgre Rivers. The tall deciduous trees provide nesting sites for a large number of species, while the lower shrubs and annuals furnish the birds with an abundant supply of food, in the form of fruit, seeds, and insects.

It is quite remarkable, in fact, that most of the birds nesting in Western Colorado's riparian zones are insectivorous. Robins, orioles, chats, tree and violet-green swallows, woodpeckers, several varieties of warblers, and an even greater number of flycatchers depend on the large cottonwoods and other riparian plants for nest sites. Nor can the importance of these insect-eating birds to the agricultural economy of the region be ignored. Despite all our dependence on aerial and ground spraying of insecticides, birds still remain as the primary control mechanism for insect pests. Any significant reduction in their numbers due to a loss of habitat would cause serious problems in the agricultural community.

#### E. Economic Effects

It is common practice among U.S. government agencies, in determining the economic feasibility of any project, to include in their analyses both direct and indirect economic effects. It is, in fact, the indirect effects which more often than not determine whether the project is pursued. In the case of the AB Lateral Hydropower Facility, however, the Bureau of Reclamation seems to have considered only the costs to the sponsors and the potential revenues which may accrue to them. Indirect costs, with a few exceptions, have been overlooked.

One potential cost which was considered was the loss to commercial boaters of the revenue they would otherwise receive if normal flows were allowed to pass through the Gunnison Gorge. It

is stated, however, that these losses, due to a decrease in boating activity because of insufficient flow of the river, would be balanced by a concurrent increase in hiking along the river banks. The river bed exposed during low water, however, would consist largely of boulders and sand. Such an environment is no more conducive to hiking than it is to riparian plant growth, and many decades would elapse before the newly exposed terrain became sufficiently natural to attract hikers. But there are other differences as well. Most of the land along the Gunnison below its confluence with the North Fork lies on private land and is closed to hiking, while the river running past these same lands is open to all who might use it. Even more important from an economic standpoint is the fact that boating is a cost-intensive activity, wherein the average person can participate only by contracting for equipment (and perhaps guides as well) from a commercial supplier. Hiking, on the other hand, is a less costly and more personal pursuit which generates little revenue. This fact is borne out by the number of commercial boating firms which are able to subsist on their customers' willingness to pay for their services, while few if any hiking guides can do the same. Thus the two activities are in no way comparable economically; the trading of the one for the other would inevitably result in a significant and rapidly growing loss of local revenue.

Delta County, and to a lesser extent Montrose County as well, is just now beginning to recover from the severe economic depression left by the collapse of the energy boom. The new economy, which all concerned hope to prove more stable, is based largely on tourism and an influx of retirees. Both of these potential sources of revenue are dependent in turn on the natural scenery of the area, which is a harmonious combination of the pastoral and the spectacular. The valleys of both the Gunnison and Uncompahgre Rivers, located as they are along the principal travel routes, play a central role in the attractiveness of the region, and the future economic health of the area cannot be guaranteed if significant damage is done to these resources. There is no question but that the construction of the AB Lateral power facility with its attendant effects on these valleys would produce such damage. It should be carefully quantified and included in any objective economic analysis of the project.

The costs of a concrete-lined tailrace channel leading from the proposed powerhouse to the Gunnison River, as described above, must also be included among the unavoidable costs of the project. So must the increased cost of power which would be absorbed by all the customers of the Public Service Company. Even though this utility company is quite large, and can therefore spread out these added costs among its many customers, the fact still remains that they must pay more for the power generated by the proposed hydroelectric plant than they would if it came from other sources instead. Among these potential sources is the Colorado Ute power company, which has recently filed for bankruptcy because it cannot sell enough power to meet its costs. The customers of this utility, which include most of the people living in the area to be directly affected by the project, can expect their electric bills to rise as well as the company tries to compensate for the loss of a portion of its potential market.

These costs, too, must be taken into consideration.

Nor have right-of-way costs been adequately assessed. The total acreage of right-of-way which must be purchased will be much greater than that which has been estimated, due to the incremental need for the additional facilities along the Uncompahgre River, as described in a previous section. Moreover, these added facilities, especially the long tailrace canal, would be located in areas away from the river where a great deal more development, such as roads, houses, and farmland, is located. Right-of-way costs here will be much higher than those in undeveloped areas. Another important factor which has not been adequately considered is the difficulty of obtaining rights-of-way. Unwillingness to sell, which has already been expressed by some of the landowners, is likely to generate prolonged and costly negotiations and even lawsuits. The probability of this happening, and the possible legal costs involved, must be incorporated into any realistic cost analysis.

Finally, there is the matter of selling the power produced by the hydro plant after the contract with the Public Service Company expires. A market for this excess power is not likely to be found unless it is sold at a considerably lower rate. This deficit must be subtracted from the potential revenues to be derived from the project.

When all of the above economic factors are added in, it is quite likely that the benefit-cost ratio of the proposed project will fall far below the 1.0 break-even point. Thus if the normal procedure of considering all of the costs and benefits, direct and indirect as well, is followed, the project will be found to be economically infeasible.

The importance of this factor cannot be underestimated, since it could have a profound influence on the economic well-being of the people of the affected area for a long time to come. The cost-benefit ratio of the total project, even when calculated by the unrealistic methods employed, is quite marginal. Consideration must be taken of the possibility that even those costs which were considered may easily have been grossly underestimated. A good example of just such an occurrence can be found in the Bureau of Reclamation's recently completed Dallas project. In this case, costs were underestimated by approximately a factor of three, while the predicted revenues have almost entirely failed to materialize. As a result, the residents of Ouray, Montrose, and Delta counties have seen their water bills increased enormously in an attempt to compensate for part of the cost overruns. And they still face the prospect of even greater future deficits which must be made up somehow.

The economic prospects of the AB Lateral project could be even more bleak. In the case of the Dallas project, the majority of the unforeseen deficit was absorbed by the federal government itself. But the AB Lateral project is supposed to be financed without government funding. If a comparable deficit occurs here, the burden of paying for it will fall directly on the local population, and especially on the members of the Uncompahgre Valley Water Users' Association. It would be grossly unfair if they were not warned of the high probability of such an occurrence.



# City of Delta

City Manager

## F. Summary

The Draft Environmental Impact Statement prepared by the U.S. Bureau of Reclamation for the proposed AB Lateral Hydropower Facility is incomplete because it does not properly address the severely damaging effects that the project would have on riparian vegetation along the Gunnison and Uncompahgre Rivers.

The DEIS exhibits further inadequacy in its failure to address the effects on wildlife which would result from the above effects on riparian habitat.

The benefit-cost analysis accompanying the DEIS is inadequate because it omits the costs of a concrete-lined channel between the proposed power plant and the Gunnison River, a facility which would be necessary to prevent damage to the natural channel of the Uncompahgre River.

The benefit-cost analysis is further lacking because it does not include indirect costs which would be occasioned by construction of the project. Nor does it address the issue of selling the power produced after the current contract with the Public Service Company expires.

In order that a true evaluation of the economic and environmental feasibility of the project can be made, a new analysis should be conducted which incorporates all of these matters. If the resulting benefit-cost ratio does not exceed the break-even value of 1.0, the Bureau of Reclamation should reject the proposal.

June 16, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, Colorado 81506

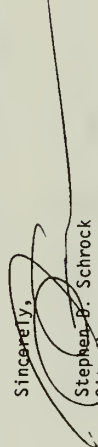
RE: Draft EIS - AB Lateral Hydropower Facility

To Whom It May Concern:

In our review of the Draft EIS we have found there to be adequate assurances for protection against bank erosion and flooding on the Uncompahgre due to the increased water flows from the AB Hydropower project. This has been the major concern of the City with respect to this project.

The City Council's position on this project is therefore supportive so long as both the Uncompahgre River is protected against flooding and the Gunnison River is protected against environmental degradation.

Sincerely,

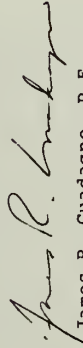


Stephen B. Schrock  
City Manager

SDS:jk

cc: Delta City Council  
Uncompahgre Valley Water User Association  
Dr. James Clark  
Delta County Commissioners

Respectfully Submitted,



James R. Guadagno, P.E.  
Colorado Professional Engineers'  
License No. 13854  
P. O. Box 208  
Paonia, CO 81428

BOARD OF COMMISSIONERS  
DELTA COUNTY, COLORADO

District No. 1, J.V. "Jim" Coan  
District No. 2, Robert "Bob" Watson  
District No. 3, Ted H. Hayden

June 13, 1989

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

Re: Draft Environmental Impact Statement  
AB Lateral Hydropower Facility

TO WHOM IT MAY CONCERN:

The Board of Delta County Commissioners has spent a significant amount of time analyzing and considering the various aspects of the proposed AB Lateral Hydropower Facility. The Board has attended several meetings regarding the project, and the Board is sensitive to the differing public perspectives on the proposed facility. Though the public is strongly divided over the question of whether or not to proceed with the project, the Board believes that there is a win-win answer.

The economy of the Uncompahgre Valley is strongly dependent on agriculture, community development, and tourism. The AB Lateral project has potential impacts on all three sectors of the economy: Enhancement of the UJVWUA's irrigation system and revenue base will benefit agriculture; the estimated \$60 million in construction costs will enliven the area's economy during the development period; and the diversion of waters from the Gunnison River to the Uncompahgre River changes historic flows in the respective river systems. It appears that the controversy on this proposed project centers on the environmental effects of diverting waters and on the secondary effects to the area's recreational and tourist industries. The Board believes that such concerns are substantial, and that such concerns should be addressed in any approval of the project.

Each of the Commissioners has recreated on the Gunnison River below the East Portal, and each of the Commissioners feels a heavy responsibility in preserving this natural treasure for future generations. However, the Board strongly believes there is middle ground between resource preservation and development--middle ground that preserves the natural treasure while allowing for economic development of renewable resources. The Board does not take its responsibility lightly in making the following recommendation for a win-win solution:


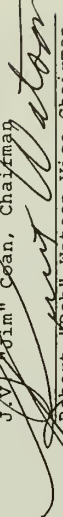
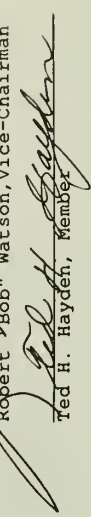
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We strongly urge responsible officials and competing interest groups to give serious consideration to approval of Alternative E, as outlined in the Draft Environmental Impact Statement, with the provision that the UJVWUA dedicate an additional 200 cfs to the Gunnison River, such dedication being secondary only to the need for irrigation water. The Board believes that this recommendation, if implemented, will enhance the UJVWUA irrigation system, improve the Association's financial condition, allow for the generation of electricity with surplus water, and help maintain the integrity of the Gunnison River, with a qualified minimum flow of 500 cfs, for current and future generations.

The Commissioners urge persons on both sides of this issue to sincerely attempt to find common ground that protects the integrity of a non-renewable resource, the river systems, while allowing for the economic and productive use of a renewable resource, surplus water.

Sincerely,

Board of County Commissioners  
County of Delta, State of Colorado

  
J.V. "Jim" Coan, Chairman  
  
Robert "Bob" Watson, Vice-Chairman  
  
Ted H. Hayden, Member

DRE:csc

cc: Jim Hokit, Manager  
Uncompahgre Valley Water Users Assn.  
P.O. Box 69  
Montrose, CO 81402

# CITY OF MONTROSE

June 19, 1989

Project Engineer  
Bureau of Reclamation  
P. O. Box 60340  
Grand Junction, CO 81506

RE: AB Lateral Hydro Power Facility  
Uncompahgre Hydropower Project

Gentlemen:

The City Council of the City of Montrose, Colorado has authorized and directed me to provide the following comments to you regarding the Draft Environmental Impact Statement on the proposed AB Lateral Hydropower facility.

The City Council has discussed the AB Lateral Project and has reviewed the DEIS. The Council supports this project, however they have expressed the following concerns:

1. Impact of flows on the Uncompahgre River through the City.
2. Ability to extend utilities beyond the location of the proposed penstock.
3. Impacts on the quality of the Uncompahgre River adjacent to the City Wastewater Treatment Plant.

The City of Montrose is in favor of this project as proposed by the sponsor. We wish you luck in the successful completion of this project.

Sincerely,

Tricia Dickinson  
Mayor

J

AD 11/72

PLANNING BUILDING  
AND SANITATION  
DEPARTMENT

P.O. Box 548  
Room 11, Courthouse  
Telluride, Colorado 81435

TELEPHONE:  
(303) 728-2083

June 14, 1989

Project Manager  
BUREAU OF RECLAMATION  
P.O. Box 603340  
Grand Junction, Colorado 81506

Re: AB Lateral Hydropower project

Dear Sir:

I am writing to express my objection to the proposed AB Lateral hydropower project. I believe that it is time this Country stopped destroying the riparian ecosystems of the west under the outdated premises of the old "use it or lose it" school of thought. We must begin to protect the remaining riparian ecosystems by leaving water in our rivers where it belongs.

My objections to this project are based upon the following facts:

1. The project will make the Gunnison River un navigable for most of the year to rafting because of reduced flows.
2. It may damage the Gold Medal trout fishery over the long term.
3. The project will threaten "Wild & Scenic" designation of the Gunnison River by diminishing the resources that make it eligible.
4. The electricity from the project is not needed.
5. The project will reduce the Uncompahgre River through Montrose to a trickle, nullifying attempts to create a fishery and river park in Montrose.

Bureau of Reclamation  
June 14, 1989  
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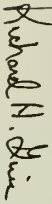
TOWN OF RIDGWAY  
Post Office Box 10  
Ridgway, Colorado 81432

June 15, 1989

If the demand for water is increasing on the eastern slope of Colorado, then the citizens of the eastern slope should put their energy into conservation, not more dams based on short-sighted purposes which ignore the long-term damage to the ecosystems.

Thank you for your careful consideration of these comments.

Sincerely,  
SAN MIGUEL COUNTY PLANNING DEPARTMENT



Richard H. Grice, Director

cc: Congressman Ben Nighthorse Campbell

Projects Manager  
Bureau of Reclamation  
P.O. Box 60340  
Grand Junction, CO 81506

Dear Sirs,

The Board of Trustees of the Town of Ridgway has passed a resolution of opposition to the Proposed A.B. Lateral Hydropower Project in Montrose.

At a time when the production of surplus generating capacity may force our local power supplier into bankruptcy, there seems to be no need for projects designed to provide more kilowatts combined with the probable harmful ecological consequences on the Gunnison and Uncompahgre rivers, this project appears to profit only the few.

It is long past time to widen our view to encompass the consequences of "down stream" as well as the narrowly defined "bottom line."

Sincerely,



Donald Batchelder, Mayor  
Town of Ridgway

DB/jm

cc: Rep. Ben Nighthorse Campbell  
Sen. Timothy Wirth  
Sen. William Armstrong  
Rep. Margy Mason



