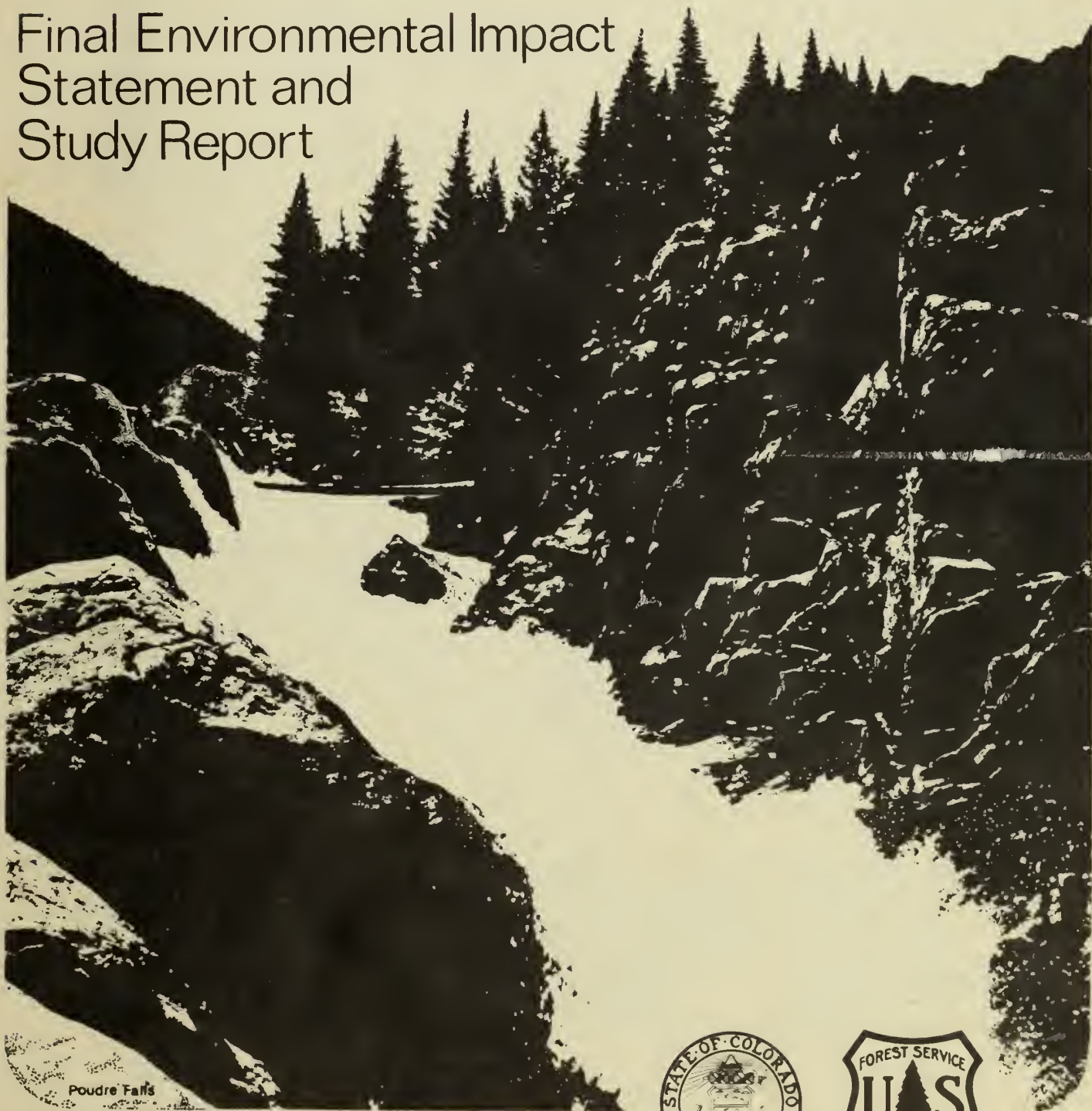


Cache La Poudre Wild & Scenic River

Final Environmental Impact Statement and Study Report



State of Colorado
Dept. of Natural Resources &
Water Conservation Board

USDA Forest Service
Arapaho & Roosevelt National Forests
Fort Collins, Co. 80522





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FINAL ENVIRONMENTAL IMPACT STATEMENT

Cache la Poudre Wild and Scenic River Study Report Larimer County, Colorado

LEAD AGENCY: United States Department of Agriculture
Forest Service
301 South Howes Street
Fort Collins, Colorado 80521

COOPERATING AGENCIES: Colorado Department of Natural Resources
Colorado Water Conservation Board
1313 Sherman Street
Denver, Colorado 80203

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ABSTRACT:

The upper 83 miles of the Cache la Poudre River of Colorado were comprehensively analyzed for possible inclusion in the Wild and Scenic Rivers System. Five alternatives were examined according to the National Environmental Policy Act process; Wild and Scenic Rivers Act of 1968 (P.L. 90542); the USDI, USDA Guidelines...; and Water Resources Council, Principles and Standards... Accordingly, alternative B recommending 39 miles for inclusion in the system was selected as the preferred alternative.

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- Appendix M. Scenic Easements
- Appendix N. Resolutions
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SUMMARY

FINAL ENVIRONMENTAL IMPACT STATEMENT

(Number 02-10-80-03)

(Legislative)

Responsible Federal Agency: United States Department of Agriculture
Forest Service
P.O. Box 2417
Washington, D.C. 20013

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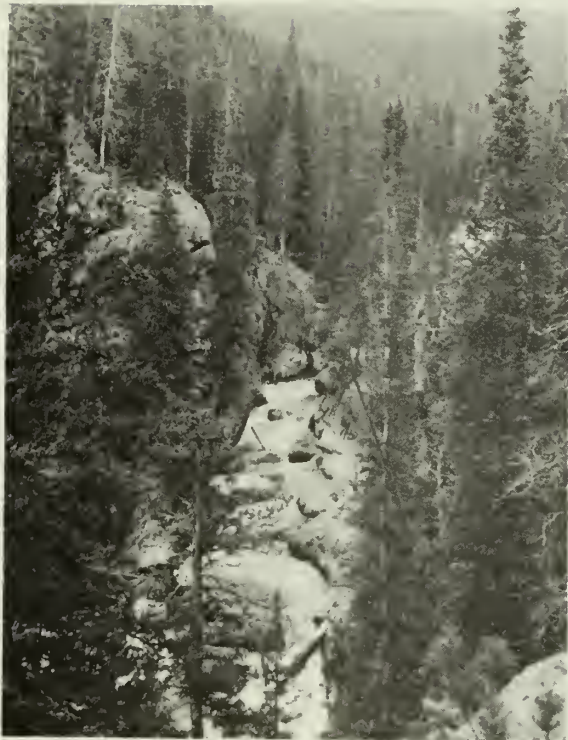
Date of Transmission to Environmental Protection Agency and the public:

Draft: April 8, 1980

Final:



Fly fishing along the upper
main stem of the Poudre River



Gorge on upper main stem of
the Poudre River



Hiking along Big South Fork Trail



Poudre River near the Big South
Fork Trail

SUMMARY

This report and environmental impact statement is in response to the 1975 Amendment to the 1968 Wild and Scenic Rivers Act, which required study of the Cache la Poudre River for possible inclusion into the National Wild and Scenic Rivers System. The river is located in the Roosevelt National Forest in northern Colorado (see map 2, page S-2).

The study has concluded that 39 miles of the Cache la Poudre River should be added to the System. The preferred alternative is alternative B, which recommends the designation of 9 miles of recreational river area (segment 7), and 30 miles of wild river area (segments 5, 6, and 8), as shown on map 2, page S-2. The following clarifying statements apply to the preferred alternative:

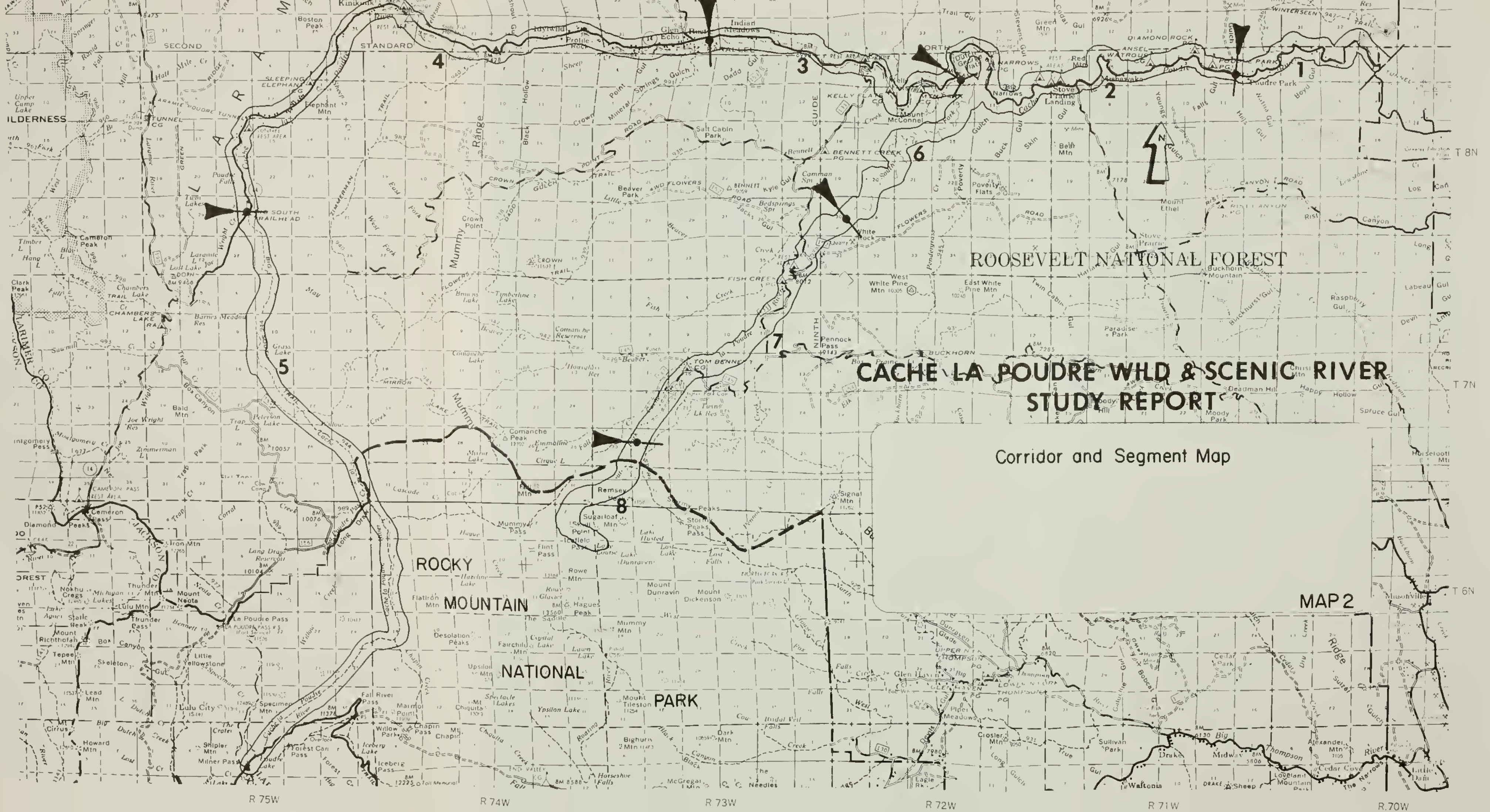
- A. The pending Colorado State University/Forest Service land exchange on the South Fork of the Cache la Poudre should be consummated. This action will have no effect on the values of the South Fork and protection afforded to the values will be provided by the State of Colorado.
- B. The segment of the South Fork in section 36, Township 7 North, Range 73 West, consisting of approximately 1.3 miles of river and sufficient land to allow for construction of the Rockwell Reservoir, is excluded from the recommended designation.
- C. The portion of the river paralleled by Colorado Highway 14 (segments 1, 2, 3, and 4) qualifies for inclusion in the National Wild and Scenic Rivers System, but no decision to designate should be made until additional information is available upon which to evaluate the trade-offs of designation or water resource development. Until a decision is reached, the "study status" protections should be extended.

Chapter I - Introduction

The purpose of this report is to respond to the Congress with an environmental analysis, study, and evaluation of the Poudre River. The report considers the suitability of the river as an addition to the National Wild and Scenic Rivers System, evaluates the existing and potential uses of the river, and recommends future management of the river. Activities necessary to complete the study and report were accomplished in accordance with the Wild and Scenic Rivers Act, the National Environmental Policy Act, and appropriate guidelines.

The United States Department of Agriculture, represented by the Forest Service, has responsibility for the river study. The State of Colorado, represented by the Water Conservation Board, is a full partner in the study. Interdisciplinary representatives of these and other Federal/State agencies composed the study team.

A Draft Environmental Impact Statement and Study Report was released April 8, 1980. The final document conforms to the format used in the draft to provide continuity for the reader.



CACHE LA POUDRE WLD & SCENIC RIVER STUDY REPORT

Corridor and Segment Map

MAP 2

Segment Descriptions

The study corridor is defined as an 83-mile-long by one-half-mile-wide corridor, occupying approximately 26,560 acres (see map 2, page S-2). The Poudre was divided into eight study segments, reflecting patterns of landownership, use, management, and level of development.

Segment 1 (approximately 6 miles; 1,920 acres) - This segment extends along the main stem from the eastern Forest boundary to the west side of the village of Poudre Park. The segment contains approximately 80 percent private lands. The remaining 20 percent is National Forest. Developments in the segment include the Fort Collins Water Treatment Plant, a low dam and diversion tunnel, and numerous private residences. Summer cabins under permit on National Forest lands reduce the visible contrast between Federal and private lands.

Segment 2 (approximately 12 miles; 3,840 acres) - Main stem from Poudre Park to South Fork confluence. Landownership in this segment is predominantly National Forest with only one block of private property. There are scattered recreation developments such as cabins authorized by special use permits.

Segment 3 (approximately 9 miles; 2,880 acres) - Main stem from South Fork confluence to Indian Meadows. This segment is similar to segment 2, and is separated at the confluence with the South Fork. There is only one block of non-Federal land. This is owned by the City of Fort Collins. There are cabins located on National Forest lands authorized by special use permits.

Segment 4 (approximately 17 miles; 5,440 acres) - Main stem from Indian Meadows to confluence of Joe Wright Creek. The primary characteristic of this segment is the over 70 percent of private lands, with both private and commercial real estate development. There are a few public recreation facilities.

Segment 5 (approximately 18 miles; 5,760 acres) - Main stem from Joe Wright Creek to source at Poudre Lake. This segment is unique because there is only trail access. There are no private lands and no commercial developments. The upper portion is in Rocky Mountain National Park.

Segment 6 (approximately 8 miles; 2,560 acres) - South Fork from main stem confluence to Little Beaver Creek. This segment contains 10 percent private lands. The segment is almost totally within the Cache la Poudre Wilderness Area. There is no commercial development; public access is limited by extremely rugged terrain.

Segment 7 (approximately 9 miles; 2,880 acres) - South Fork from Little Beaver Creek to the Comanche Wilderness boundary. Most of this segment is closely paralleled by National Forest roads. Less than 50 percent of the landownership is private. Most of the structures along the river are summer homes and cabins on private land with the exception of Colorado State University's Pingree Park campus (a land exchange between the university and Forest Service is currently being negotiated and is discussed in Chapter III). Public recreation facilities are limited.

Segment 8 (approximately 4 miles; 1,280 acres) - South Fork from the Comanche Wilderness boundary to the source near Icefield Pass and Flint Pass in Rocky Mountain National Park. This segment lies totally within Wilderness and National Park, without development of any kind.

Issues and Concerns

There are five major factors which influenced study of the river. The factors are:

- A. The river is near one of the Nation's fastest growing urban areas.
- B. The river is bordered for much of its length by Colorado Highway 14, an all-weather access into North Park.
- C. Much of the river corridor has a sizeable resident population.
- D. The river presents the opportunity for significant water and hydro-power development.
- E. The river is the only regional candidate for designation along the Front Range of the Rocky Mountains.

The identified issues and concerns are summarized into two main groups:

- A. Problems associated with increased recreation use in the study area.
- B. Water and hydropower development opportunities in conflict with designation.

Chapter II - The Affected Environment

The climate, geology, minerals, soils, scenic quality, water quality, water use, fish, and wildlife of the study area were found to be generally representative of the area of Colorado known as the Front Range. Social and economic factors such as the archeology, history, land use, transportation, and population were examined. Designation would meet the intent of the Wild and Scenic Rivers Act to preserve and protect the environment and natural resources for the benefit and enjoyment of present and future generations. Designation would reduce the maximization of water development opportunities and any major enlargement of Colorado Highway 14. Privately owned lands within the study's planning area could be minimally affected by designation. The Comanche and Cache la Poudre Wilderness areas and Rocky Mountain National Park occupy portions of the study corridor, but designation would be an enhancement to current management patterns. Additional information pertinent to the human environment is a part of the Arapaho and Roosevelt National Forest Plan, and is hereby incorporated by reference.

Chapter III - Planning Criteria

Three separate sets of criteria were employed in the study process. Eligibility criteria were used to determine whether or not the river was suitable for designation. Then, classification criteria were used to identify the level of classification for which each segment was capable. Finally, evaluation criteria were used to analyze the alternatives considered before selecting a preferred alternative.

Eligibility Criteria

The Wild and Scenic Rivers Act and the Guidelines for Evaluating Wild and Scenic Rivers form the basis for eligibility criteria. The Poudre River was rated as meeting 6 of 10 criteria and judged to be eligible for inclusion in the National Wild and Scenic Rivers System. The Poudre was determined to be a free-flowing river with high scenic value and high quality of water of sufficient volume to provide an enjoyable and diverse recreational experience as a System river.

Classification Criteria

After the river was found to be eligible, classification criteria were used to determine the potential levels of classification for each river segment. Based on the amount of development or evidence of man's intrusion in each segment, the Poudre River has the potential for the following classifications: segments 1-4 and 7, a recreational river area; segments 5,6, and 8, a wild river area.

Evaluation Criteria

These criteria were drawn from the Wild and Scenic Rivers Act, the National Environmental Policy Act, the Resources Planning Act, Principles and Standards of the Water Resources Council, and administrative guidance. The criteria and evaluation of each river segment may be found in Chapter VI.

Chapter IV - The Alternatives Considered

Five alternatives were formulated to represent various ways of addressing the issues, concerns, and opportunities. They were developed in accordance with the National Environmental Policy Act, Guidelines for Wild and Scenic Rivers (U.S. Departments of Agriculture and Interior), and the Water Resources Council's Principles and Standards.

Alternative A provides designation for all eligible study segments of the river. This alternative is the Environmental Quality Plan and most closely resembles the "citizens' alternative" identified in the public involvement process. Segments 1, 2, 3, 4, and 7 are classified recreational river; segments 5, 6, and 8 are classified wild river (see map 2, page S-2).

Alternative B provides designation of the river's main stem from its source to the confluence with Joe Wright Creek, and the South Fork from its source to the confluence with the main stem. No decision is made in

segments 1-4. Segment 7 is recreational river; segments 5, 6, and 8 are wild river. Minor water development of Rockwell Reservoir is predicted (see map 2, page S-2).

Alternative C provides no designation of the river. This is the no-action, or without-plans condition, alternative. Minor water development of Rockwell Reservoir is predicted. A continuation of current multiple-use management is projected into the future in accordance with the Forest Plan (see map 2, page S-2). Suitability for major water resource development is maintained.

Alternative D provides no designation of the river, but potentials for water and hydropower development are theoretically maximized. This is the National Economic Development Plan. In the absence of pertinent information and certainty, it also serves as a "worst case" depiction of foreseeable potential development that could be foreclosed (see map 2, page S-2).

Alternative E provides designation of all the eligible study segments of the river except segment 1. This was the preferred alternative in the Draft Environmental Statement and Study Report. Segments 2, 3, 4, and 7 are classified recreational river; segments 5, 6, and 8 are classified wild river (see map 2, page S-2).

Summary of Alternatives A through E
Formulation for the Cache la Poudre Wild and Scenic River Study

Segment	Approx. Miles	Approx. Acres	Alternatives				
			A	B	C	D	E
			Classification				
1	6	1,920	R	*	-	-	-
2	12	3,840	R	*	-	-	R
3	9	2,880	R	*	-	-	R
4	17	5,440	R	*	-	-	R
5	18	5,760	W	W	-	-	W
6	8	2,560	W	W	-	-	W
7	9	2,880	R	R	-	-	R
8	4	1,280	W	W	-	-	W
			Total				
			Designated				
			Miles				
Total	83	26,560	83	39	0	0	79

R = recreational river area

W = wild river area

- = no designation

* = no decision due to inadequate information

A number of alternatives were considered during the formulation process and eventually discarded. This was done because of only minor differences from alternatives finally considered or a failure to significantly address national objectives.

Assumptions

A proposed land exchange between the Colorado State University and Federal Government is widely supported by all parties. Finalization of the exchange is assumed as a given to each alternative.

The application of water conservation principles does not hold the promise of significantly achieving national objectives. The development of an increased conservation ethic among all resource users leads to more effective utilization, but quantifiable benefits are difficult to forecast over time. It is assumed that conservation will take place in all the alternatives at a similar rate, but at a level insufficient to alter supply/demand relationships.

Chapter V - Effects of Implementation

Effects of the alternatives are to be forecast using an interdisciplinary approach. Four accounts are used to organize information on the effects of the alternatives: national economic development (NED), environmental quality (EQ), regional economic development (RED), and other social effects (OSE). The significance of the relative effects of the alternatives are found by comparing them to the without-plans condition. Tables displaying the effects over the four accounts appear on the following pages.

TABLE V-1
National Economic Development Account
Potential Average Annual Effects on National Income 1990-2040
(Figures given in 1979 dollars; WRC discount rate of 7.125 percent)

	Amount \$1,000				
	Alternative A (EQ)	Alternative B	Alternative C (W/O Plans)	Alternative D (NED)	Alternative E
<u>A. Beneficial Effects</u>					
1. Hydropower	0	0	0	33,534	0
2. M&I Water Supply	0	721	721	2,436	0
3. Agricultural Irrigation	0	0	0	700	0
4. Recreation				1,000	
a. Developed	420	692	777	*	420
b. Dispersed	1,566	1,394	1,394	*	1,566
c. Other (fees)	65	139	190	*	65
5. Other	0	0	0	1,190 a/	0
6. Total NED Benefits	2,051	2,946	3,082	38,860	2,051
<u>B. Adverse Effects</u>					
1. Construction	29	809	839	27,259	18
2. Land Acquisition	0	0	0	*	0
3. Easements	173	47	0	*	141
4. Rights-of-Way	4	1	0	*	2
5. Minerals	35	0	0	*	35
6. Operation, Maintenance, Reserve	488 b/	676 b/	742 b/	4,630	488 b/
7. Total NED Costs	729	1,533	1,581	31,889	689
<u>C. Total Effects</u>					
1. Total Beneficial Effects	2,051	2,946	3,082	38,860	2,051
2. Total Adverse Effects	729	1,533	1,581	31,889	684
3. Net NED Effects	1,322	1,413	1,501	6,971	1,367
<u>D. Benefit/Cost Ratio</u>					
	2.8	1.9	1.9	1.2	2.9
<u>E. Comparison to Without-Plans</u>					
	-179	-88	0	5,740	-134

* Amounts are not separated in IECD, Inc. study, but are aggregated into broader categories.

a/ Includes Fish & Wildlife and Flood Control benefits claimed in IECD, Inc. study.

b/ Includes replacement of campground and picnicground facilities once during analysis period for new facilities and twice for existing facilities.

TABLE V-2
Environmental Quality Account
Potential Effects on EQ Resources and Attributes

	<u>Alternative A</u> (EQ)	<u>Alternative B</u>	<u>Alternative C</u> (W/O Plans)	<u>Alternative D</u> (NED)	<u>Alternative E</u>
<u>Water Resource</u>					
Freeflowing river (miles)	83 preserved & protected	39 preserved & protected	no miles protected	44 miles lost (15 inundated)	77 preserved & protected
Water quality	least impairment	less impairment than C	less impairment than D	greatest impairment	less impairment than B
<u>Air Resource</u>					
Air quality	least impairment	less impairment than C	less impairment than D	greatest impairment	less impairment than B
<u>Visual Resource</u>					
Scenic quality	least impairment	less impairment than C	less impairment than D	greatest impairment	less impairment than B
<u>Cultural Resource</u>					
Prehistoric/historic sites	no impact	no impact	no impact	7 sites inundated	no impact
<u>Biological Resource</u>					
Natural riverine system	no modification	moderate modification	moderate modification	severe modification	no modification
Habitat suitability for big game species (acres)	no impact	reduced on 5,920	reduced on 5,920	9,280 eliminated	reduced on 1,500
Wild trout spawning area	no impact	reduced 5%	reduced 5%	reduced 40%	reduced 2%

Table V-2 (continued)

<u>Recreational Resource</u>	<u>Alternative A</u>	<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
Usable river (miles)	83	81	81	68	83
--Quality trout area	55	50	50	35*	51
--Whitewater	37	37	37	24*	37
Usable flatwater (Acres)	none	140	140	3,500*	none
Developed recreation (units)	288	488	588	588	288
Dispersed recreation opportunity					
--Water oriented	high	moderate	moderate	high	high
--Land oriented	high	moderate	moderate	low	high
--Access	enhanced	maintained	declines	declines	enhanced
<u>Wild & Scenic River Miles</u>					
--Wild river classification	30	30	0	0	30
--Recreational river classification	53	9	0	0	47
--Total designated	83	39	0	0	77
<u>Net EQ Effects</u>					
Overall plan effect	beneficial	beneficial	no effect	adverse	beneficial

* Recreation experience opportunity and quality are subject to fluctuations in water flow/level as a result of project operation.

TABLE V-3
Regional Economic Development Account
Potential Average Annual Effects on Regional Economy 1990-2040

	<u>Current Data</u>	<u>A</u>	<u>B</u>	Alternatives <u>C</u>	<u>D</u>	<u>E</u>
A. Gross Regional Product (thousands of \$)	3,274,895	1,208	853	1,030	1,316	1,208
B. Income (thousands of \$)	1,142,585	515	359	434	544	515
C. Employment (human-years)	141,578	76	52	63	81	76
D. Value Added (thousands of \$)	1,934,063	937	646	780	970	937
E. Comparison to Without Plans		178	-177	0	286	178

TABLE V-4
Other Social Effects Account

Category	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
I. Urban & Community					
a) Income	Slightly greater increases than Alt. C. Similar rural effect.	Increases slightly more than Alt. C but less than Alt. A.	Net income increases with some second-half decrease in rural community.	High magnitude changes from construction workers and permanent project residents. Rural decreases postponed.	Greater increases than Alts. C, B, and A but not as great as Alt. D.
b) Employment	New tourist-related employment opportunities approx. 15% more than Alt. C.	Slightly less than Alt. A but more than Alt. C.	Net increase of employment opportunity in all communities.	Construction and support services sector greatly expanded for short duration. Reservoir-based recreation services somewhat similar to Alt. A over long run.	(Same as above)
c) Population	Similar to Alt. C except that populations will be concentrated on developed enclaves in the canyon.	Similar to Alt. C.	Total populations will increase but rural share will decline.	Similar to Alt. A: populations concentrated between inundations.	Similar to Alt. A except segment I remains available for development.
d) Fiscal	No net difference.	Similar to Alt. C.	Higher costs for law enforcement, search and rescue, etc., offset by tax base increases from valuation and population increases.	Greater valuation increases than Alt. C create broader tax base, hence more fiscal stability.	No net difference from Alt. C.
e) Quality of Life	Preserves existing lifestyle to the highest degree, though disruptions will occur in developed enclaves. Maintains Canyon recreation experience levels, including symbolism of the free-flowing river. Water use conflicts occur earlier than in Alt. A or C.	Similar to Alt. C except there is uncertainty about future development. Maintains widest choice of future options.	Increased disruption of existing peace, quiet, and privacy for canyon community. Gradual erosion of recreation experience over time, accessibility of river declines, conflicts with residents increase. Rural, municipal, industrial water conflicts postponed for first half of period.	Greatest disruption of canyon residential life-style. Recreation activities are changed along with experience levels. Rural/municipal water conflicts postponed for the longest period.	Similar to Alt. A except segment I would have effects similar to Alt. B, i.e., uncertainty.
II. Displacement	No displacement of present residents. Agriculture displacement occurs sooner than Alt. C.	Similar to Alt. C.	No displacement in canyon or urban community. Water use conflicts lead to some agriculture displacement.	Inundation of 40 residences displaces 150 people. Agriculture displacement postponed for longest time.	(Same as above)
III. Life, Health, & Safety:	Fire danger similar to Alt. C. Vulnerability to drought is greater than Alt. C.	Similar to Alt. C.	Increased fire danger and traffic problems in canyon. Slightly less vulnerability to effects of drought.	Vulnerability to drought is reduced considerably over Alt. C. Structural failure/flood risk increased.	Similar to Alt. A
IV. Energy Requirements				Creates new hydropower equal to approx. 110,000 tons of coal used for peak power generation.	

Chapter VI - Evaluation of the Alternatives

The various criteria used to evaluate the alternatives, in combination with applicable legislative and regulatory guidance, are designed to allow consideration of the relative merits of each alternative. The overall level of satisfaction provided in each alternative rates as follows:

Alternative A - Moderately High
Alternative B - Moderate
Alternative C - Moderately Low
Alternative D - Low
Alternative E - Moderately High

The P&S require that a recommended plan, when considered on the basis of the with-plan versus without-plan comparison, must have combined beneficial NED and EQ effects that outweigh combined adverse NED and EQ effects. Alternatives A, B, and E successfully pass the net beneficial effects rule; alternative D does not.

Chapter VII - The Preferred Alternative

This chapter identifies alternative B, as modified by additional considerations, as the preferred alternative, based on an evaluation of all the effects and concerns at issue (see map 14, page 14).

The clearly stated purpose of the Wild and Scenic Rivers Act is to recognize that certain rivers should be protected for the benefit and enjoyment of present and future generations. Analysis of the Poudre River indicates its eligibility for inclusion in the Wild and Scenic Rivers System. Evaluation of alternative proposals and public participation in the study process suggest that the Poudre River is an excellent candidate for designation. Absent unresolved conflicts concerning the alternative uses of the Poudre's water resource, the conclusion of this final study would be to recommend alternative A (the "citizens' alternative") or alternative E (the preferred alternative of the Draft Environmental Impact Statement and Study Report). In the opinion of the study team, such a recommendation cannot be made at this time.

Uncertainty is a major contributor to the lack of resolution. The center of controversy is segments 1-4 of the corridor. Inadequate knowledge exists to support either a designation or development recommendation for these reaches.

Before long-range resource decisions are made in segments 1-4, additional data is required.

The presence of unresolved conflicts led to an additional assessment of the alternatives for their contribution to social well-being. In assessing social well-being, decisionmakers are asked to view their land and water resources as setting contexts in which different groups will have a variety of conflicting preferences. The problem is to sustain the widest possible diversity of choice opportunities on how these resources will be used.



Preferred Alternative

ion

er

on River

rridor

44 miles

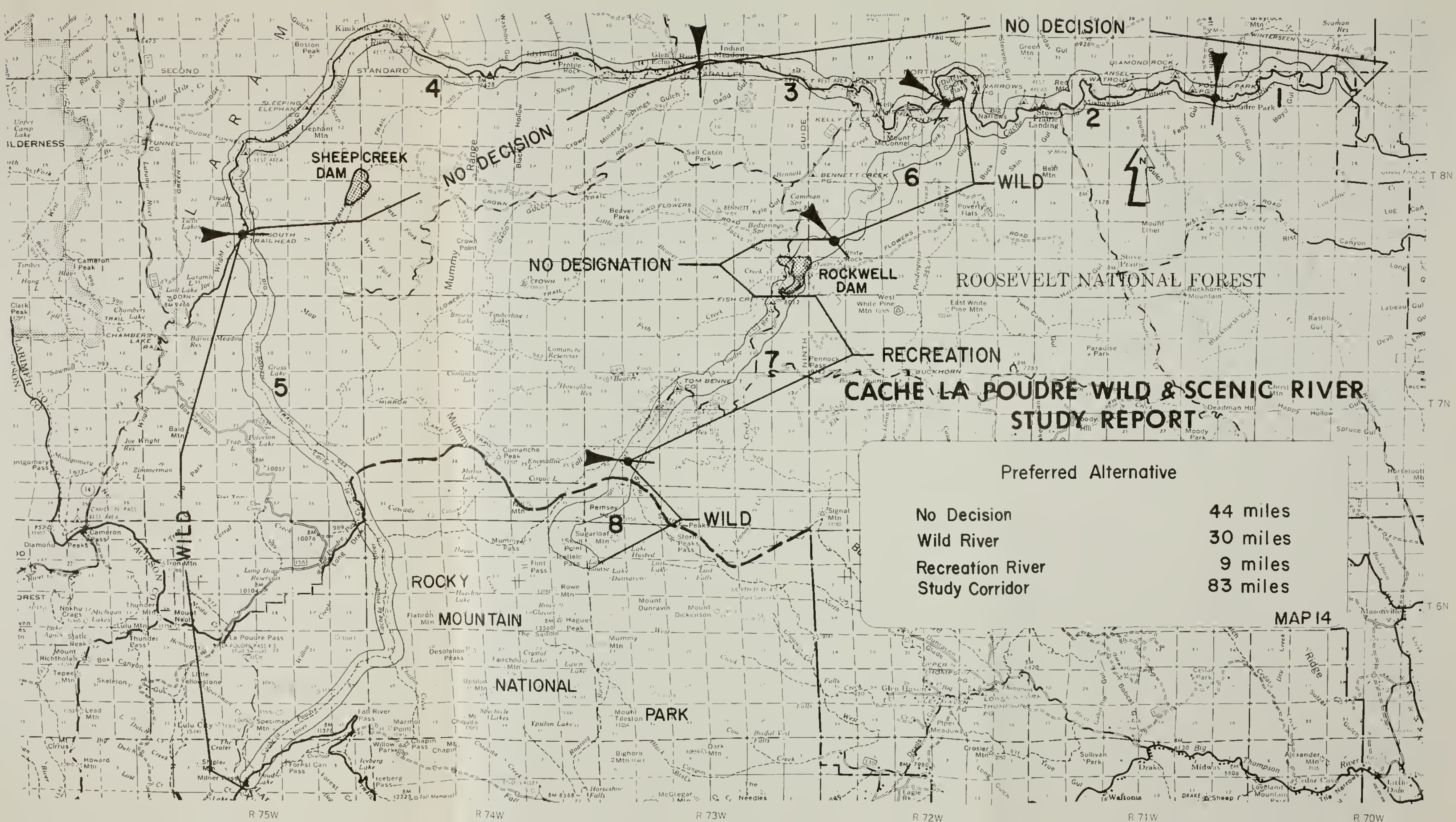
30 miles

9 miles

83 miles

MAP 14





MAP 14

Alternative B was identified as the most favorable alternative in terms of social well-being. Segments 5-8 are designated. Segments 1-4 are maintained in their current status with the opportunities for either development or designation left open at this time. No futures are lost for any interest group, whether they believe that designation or development would most contribute to their quality of life. The unique opportunities that the Poudre provides in its present state--a free-flowing river, various types of river-based recreation, and the symbolic meaning of a Wild and Scenic River--are maintained. The opportunity for dam construction is also maintained, in the event that the evaluation of new information recommends such a project.

Chapter VIII - Consultation With Others

An interagency, interdisciplinary team was formed for the purpose of collecting, analyzing, and evaluating data pertinent to the river study. The principal participants are identified in appendix B. Represented on the team were the following:

Federal

U.S. Department of Agriculture:
 Forest Service
 Economic Research Service
U.S. Department of the Interior:
 Heritage Conservation and
 Recreation Service
 Bureau of Reclamation
 National Park Service
 Geological Survey
 Fish and Wildlife Service
 Bureau of Mines
 Environmental Protection Agency

State of Colorado

Water Conservation Board
 Division of Wildlife
 Division of Parks and
 Outdoor Recreation
 State Historical Society
 Colorado Geological Survey
 Colorado Forest Service
 Division of Planning
 Division of Highways
 State Archeologist

Four public meetings were held between June 1977 and March 1979 to facilitate public understanding of the legislation and the issues, to determine public concerns, and to obtain additional information for the study. In addition, members of the interdisciplinary team conducted informal visits to the Poudre Canyon and other locations in the planning area to accumulate information and public perceptions. The study process was covered in mass media located in the planning area.

The Draft Environmental Impact Statement and Study Report was released to the public on April 8, 1980. During the public review period, nearly 1,200 individual pieces of correspondence were received from individuals, groups, government agencies, and elected officials. All of the received comments are incorporated into this document by reference.

Thirty-five public meetings were conducted between April and September of 1980. These included audiences of local civic organizations, professional societies, church groups, and interested citizens. Comments and responses from these meetings were summarized and are included by reference.

Some of the comments received, particularly from water development interests, suggested that the river study and DEIS/SR recommendations were biased, inadequate, or based on incomplete information. Special efforts were subsequently undertaken to develop additional comments from this group. Correspondence was directed to water development interests who felt that the study did not reflect the development potentials foregone by designation of the Poudre. These interests included: Cache la Poudre Water Users Association, Northern Colorado Water Conservancy District, Larimer-Weld Council of Governments, Bureau of Reclamation, the Cities of Fort Collins and Greeley, and others. Additional factual information related to water development potentials was not received.

Personal interviews were conducted with a variety of experts and professionals associated with water development. While the meetings were instrumental in developing a better understanding of the study process, they did not yield significant amounts of new information.

The absence of useful data has influenced the selection of a preferred alternative in this final report by identifying the need for better information.

Response to individual and group comments is found on pages 117-185. Content summary information is found on pages 109-117.

FINAL ENVIRONMENTAL IMPACT STATEMENT AND
WILD AND SCENIC RIVER STUDY REPORT
OF THE
CACHE LA POUDE RIVER
COLORADO

I. INTRODUCTION

A. Legislative History

On October 2, 1968, the Wild and Scenic Rivers Act was passed by Congress. The act states, in part:

It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historical, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes. (1)

The Wild and Scenic Rivers Act directs the Secretary of Agriculture or the Secretary of Interior to study and report on the suitability or nonsuitability of selected rivers for addition to the National Wild and Scenic Rivers System, and further directs the Secretaries to evaluate the existing and potential uses of the selected river and to recommend future management of the river.

The State of Colorado contains the headwaters of four major river systems; it yields water to 18 other states and to Mexico. With the exception of a part of the Green, no rivers flow into the state. None of the rivers of the state were included in the original act. However, a 1975 amendment (P.L. 93-621) required the study of 12 rivers in the state, one of which was the Cache la Poudre. The other 11 are the Big Thompson, Colorado, Conejos, Dolores, Elk, Encampment, Green, Gunnison, Los Pinos, Piedra, and Yampa. The status of studies on other Colorado rivers may be found in appendix A.

In this report, the Cache la Poudre will often be referred to by the commonly accepted local names, Poudre River, or the Poudre.

Consideration of the Poudre as a Wild and Scenic River actually began much earlier than the 1975 amendment that directed this study. Six years prior to the passage of the Wild and Scenic Rivers Act of 1968, the Colorado Governor's Conference on Parks and Recreation recommended

in a task force report on unique, natural, and primitive areas that, "Colorado preserve the mountainous portion of a natural river on each slope of the Continental Divide. The Poudre is suggested for the Eastern Slope." (2) In 1963 the Secretaries of Agriculture and Interior examined more than 650 U.S. rivers in a Wild Rivers study. The Poudre was one of the 67 rivers selected for preliminary field study, but did not appear as one of the 17 finally chosen. (3) The campus of Colorado State University, in Fort Collins, was a training site for participants in the Wild Rivers Study, employing the Poudre as a field laboratory for practical application of evaluation techniques. A study team member recalls that while some felt the Poudre qualified under early criteria, some participants did not select it. (4)

B. Purpose of Report

The Wild and Scenic Rivers Act requires the preparation of a report that identifies and evaluates characteristics which do or do not make the study river a worthy addition to the Wild and Scenic Rivers System; reasonably foreseeable potential uses of resources enhanced, foreclosed, or curtailed; and administrative information. The study report is also to contain an environmental impact statement, required by the National Environmental Policy Act of 1969. The Water Resources Council's Principles and Standards for Planning Water and Related Land Resources (5) provide guidance for developing, displaying, and evaluating the effects of different planning proposals.

The purpose of this report is to respond to the Congress with an environmental impact statement, study, and evaluation of the Poudre River, consistent with the requirements discussed above. This Final Environmental Impact Statement and Study Report will be released to the public and sent to the President and the Congress at some time. Congress may accept or modify the recommendations of this report when considering the Poudre for possible inclusion in the National Wild and Scenic Rivers System.

C. Study Procedure

The United States Department of Agriculture, represented by the Forest Service, has responsibility for the Poudre River Study. (6) The Secretary of Agriculture, concurring with the State of Colorado's request that the study be conducted on a joint Federal-State basis, established full partner status for the Colorado Department of Natural Resources, represented by the Water Conservation Board. A Memorandum of Agreement was prepared outlining the respective roles and responsibilities of the State of Colorado and USDA, Forest Service. A complete listing of participating personnel, agencies, and groups may be found in the List of Preparers, Appendix B.

Public meetings were held June 13, 1977, December 14, 1977, March 21, 1979, and March 29, 1979, to facilitate public understanding of the legislation and the issues, to determine public concerns, and to obtain additional information for the study.

A Notice of Intent to file an Environmental Impact Statement was filed and published in the Federal Register on April 3, 1979.

On April 8, 1980, the Draft Environmental Impact Statement and Study Report was released to the public. A 90-day comment period followed, when over 1,100 letters were received from concerned groups, individuals, and government agencies. During the comment period, nearly 50 presentations were made to organizations and interested groups, offering an opportunity for additional public response to the draft recommendation. All these comments were analyzed and assimilated into the study process, affecting the final conclusions of the study. Interagency consultation and public participation was a major factor in finalizing this report. A more thorough discussion of the public involvement appears in Chapter VIII, Consultation With Others.

A revised Notice of Intent to file an Environmental Impact Statement was filed and published in the Federal Register on June 1, 1981.

The format of this environmental impact statement and study report is the same as that utilized in the draft document. This has been done to provide continuity for the reader. The format is consistent with the direction provided for Forest Service environmental statements prior to adoption of the Council on Environmental Quality guidelines for documentation.

D. Location

The Poudre River is located in the Front Range (7) of Colorado.

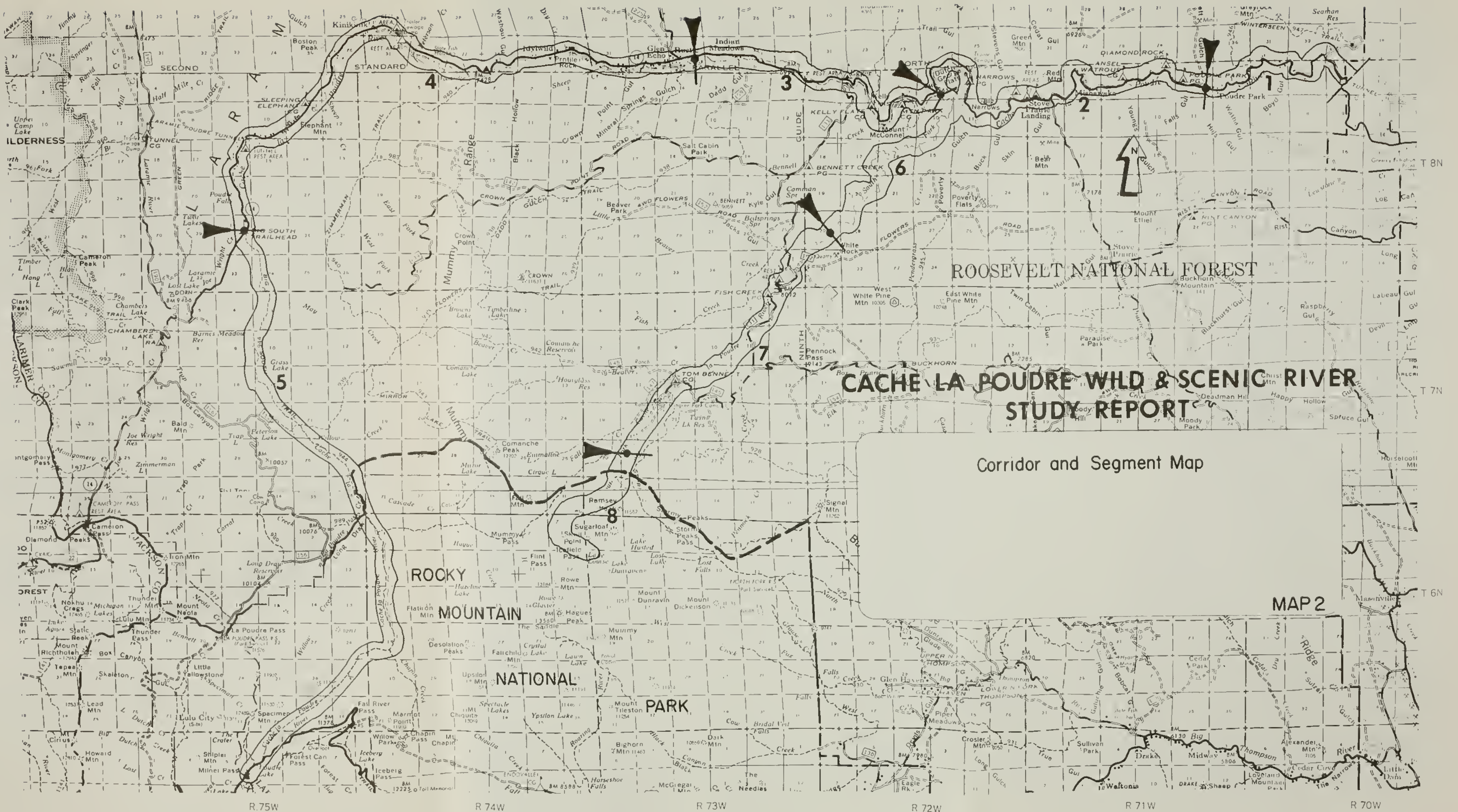
The section of the Poudre River that was designated by Congress to be studied is located in Larimer County, Colorado, northwest of Fort Collins. The river originates in Rocky Mountain National Park and flows through the Roosevelt National Forest, eventually passing through the city of Fort Collins and joining the South Platte River. The study corridor is located on the upper portions of the river, within the boundaries of the National Park and the National Forest (see map 1, page 4).

Description of River Study Corridor

The study corridor encompasses an area one-quarter mile wide along each side of the Poudre River from its intersection with the eastern boundary of the Roosevelt National Forest, northwest of Fort Collins (about 4 miles west of the intersection of U.S. 287 and Colorado 14), to the river's source at Poudre Lake in Rocky Mountain National Park, and an area of equal width along the South Fork of the Poudre River from its confluence with the main Poudre River to its source near Icefield Pass and Flint Pass, also in Rocky Mountain National Park (see map 2, page 5).

The study corridor consists of approximately 83 miles of river length. Included in this are 21 miles of the South Fork of the Poudre. Since any decision regarding the Poudre River impacts a broader area than that defined by the study corridor, a more sizeable portion of the Poudre River drainage was selected as the planning area (see map 1, page 4).





The Wild and Scenic Rivers Act, as amended in 1975 (Section 5(a)(31)), designates the following portions of Poudre River to be studied for possible inclusion into the National Wild and Scenic Rivers System:

(31) Cache la Poudre, Colorado: Both forks from their sources to their confluence, thence the Cache la Poudre to the eastern boundary of Roosevelt National Forest.

The description of the river designated to be studied under this act does not precisely coincide with the actual physical makeup of the river on the ground. The act calls for the study of "both forks from their sources to their confluence..." The North and the South Fork, however, never join. They both join the main stem at different places. To resolve this ambiguity, the Forest Service requested a clarification as to the Congressional intent concerning which parts of the river were to be studied. It was concluded that Congress intended the South Fork and main stem of the Poudre River should be studied, and not the North Fork of the Poudre River. Throughout this report the term "main stem" identifies the Cache la Poudre from its headwaters at Poudre Lake in Rocky Mountain National Park to the point it leaves the National Forest boundary. "South Fork" identifies the reach that originates near Icefield Pass on Rocky Mountain National Park to its confluence with the main stem at Dutch George Flats.

Segment Descriptions

The Poudre River was subdivided into segments for purposes of the study to reflect the differences in the river's character and features. Segmentation of the river was modified for this final report to reflect the boundary delineations of the Colorado Wilderness Bill (P.L. 95-560) and in response to comments. This represents a minor change from the DEIS/SR. By adjusting the lengths of segments 6 and 7 and creating a new segment 8 it was possible for the new segments to more accurately reflect the river's differences in general level of development, prevalent management direction, and comments received from reviewers of the DEIS/SR. Total length of all segments were reviewed and corrected in this final report.

Segment 1 (approximately 6 miles; 1,920 acres) - This segment extends along the main stem from the eastern Forest boundary to the west side of the village of Poudre Park. The segment contains approximately 80 percent private lands. The remaining 20 percent is National Forest. Developments in the segment include the Fort Collins Water Treatment Plant, a low dam and diversion tunnel, and numerous private residences. Summer cabins under permit on National Forest lands reduce the visible contrast between federal and private lands.

Segment 2 (approximately 12 miles; 3,840 acres) - Main stem from Poudre Park to South Fork confluence. This segment is predominantly National Forest with only one block of private property. There are scattered recreation developments such as cabins authorized by special use permits.

Segment 3 (approximately 9 miles; 2,880 acres) - Main stem from South Fork confluence to Indian Meadows. This segment is similar to segment 2,

and is separated at the confluence with the South Fork. The only unit of non-Federal land is owned by the City of Fort Collins. There are cabins located on National Forest lands authorized by special use permits.

Segment 4 (approximately 17 miles; 5,440 acres) - Main stem from Indian Meadows to confluence of Joe Wright Creek. The primary characteristic of this segment is the over 70 percent of private lands, with both private and commercial real estate development. There are a few public recreation facilities.

Segment 5 (approximately 18 miles; 5,760 acres) - Main stem from Joe Wright Creek to source at Poudre Lake. This segment is the only one accessed only by trails. There are no private lands and no commercial developments. The upper portion is in Rocky Mountain National Park.

Segment 6 (approximately 8 miles; 2,560 acres) - South Fork from main stem confluence to Little Beaver Creek. This segment contains 10 percent private lands. The segment is almost totally within the Cache la Poudre Wilderness area. There is no commercial development; public access is limited by extremely rugged terrain.

Segment 7 (approximately 9 miles; 2,880 acres) - South Fork from the Little Beaver Creek to the Comanche Wilderness area boundary. Most of this segment is closely paralleled by National Forest roads. Less than 50 percent of the landownership is private. Most of the structures along the river are summer homes and cabins on private land with the exception of Colorado State University's Pingree Park campus (a land exchange between the university and Forest Service is currently being negotiated and is discussed in Chapter III). Public recreation facilities are limited.

Segment 8 (approximately 4 miles; 1,280 acres) - South Fork from the Comanche Wilderness boundary to the source near Icefield Pass and Flint Pass in Rocky Mountain National Park. This segment lies totally within Wilderness and National Park, without development of any kind.

Table I-1 provides additional information on the character of the lands within the study corridor. Terrestrial habitat is that land area that supports growth or life of land-based plants and animals. Aquatic habitat is the water area that supports growth or life of water-based plants and animals. When added together, they account for the total habitat area. Riparian habitat is an edge or transition zone of the terrestrial area characterized by free and unbound water. Riparian habitat is productive and preferred by wildlife.

TABLE I-1
Landownership and Ecosystems Within the Study Corridor

Segment	Miles Study Corridor	Ownership Acres			Habitat Acres		
		Total	Federal	Other	Aquatic	Riparian	Terres- trial
1	6	1,920	400	1,520	96	360	1,824
2	12	3,840	3,620	200	117	1,220	3,723
3	9	2,880	2,630	200	90	1,150	2,790
4	17	5,440	1,600	3,840	205	3,100	5,235
5	18	5,760	5,760	0	89	1,840	5,671
6	8	2,560	2,420	140	19	128	2,541
7	9	2,880	1,600	1,280	35	1,110	2,845
8	4	1,280	1,220	60	15	346	1,265
Total	83	26,560	19,320	7,240	666	9,254	25,894

E. Issues

Public issues concerning the Poudre River arise from five factors that are generally not present in other Colorado Wild and Scenic River studies. The factors which will be discussed later are:

1. The river is near one of the Nation's fastest growing urban areas.
2. The river is bordered for much of its length by Colorado Highway 14, an all-weather access into North Park.
3. Much of the river corridor has a sizeable resident population.
4. The river presents the opportunity for significant water and hydropower development.
5. The river is the only candidate for designation along the Front Range of the Rocky Mountains. All other eligible Colorado rivers are on the West Slope.

The complex impacts of a growing, urban, outdoor recreation-oriented society so close to a possible Wild and Scenic River are a combination of beneficial and adverse effects.

Initially, the primary issue that concerned interested parties was the consequence of Congressional designation of the Poudre as a Wild and Scenic River and the role the Forest Service would play subsequent to designation. The discussion focused on Federal versus private property rights and issues.

The central public concern expressed by local residents was what constraints could be placed on private landholdings, personal freedom, and economic development. There was also local concern about the extent, provisions, and consequences of easements negotiated with private landowners.

A preliminary Forest Service study of "special areas of concern" that could be influenced by Forest Service management policies on the Arapaho and Roosevelt National Forests found the following issues in the study area:

In the Pingree Park area: (a) Residents want a cooperative agreement with the Forest Service for road maintenance; (b) Because of high use of the area, there is a high demand for additional trailheads and new trails; (c) The Forest Service should build trails around private land near Hourglass Reservoir.

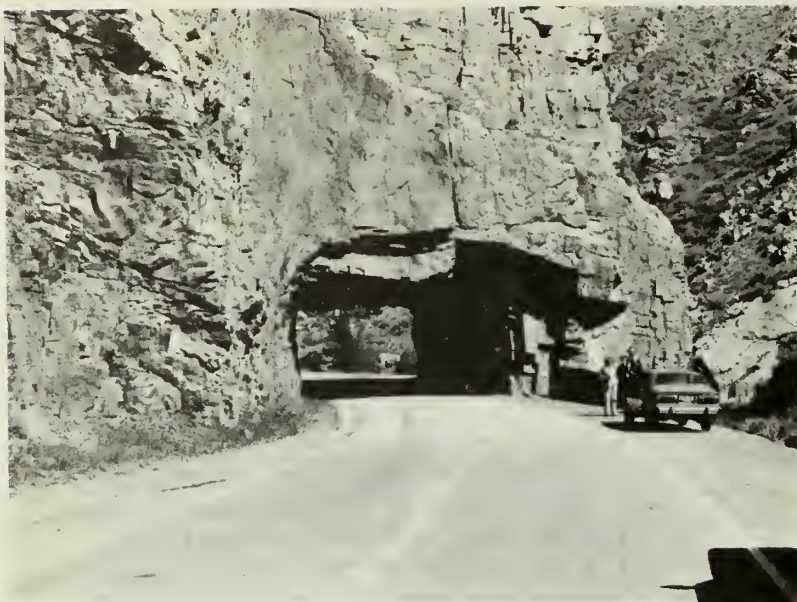
In the Poudre District: (a) People crossing the Rocky Mountain National Park-Roosevelt National Forest boundary face problems due to differences in policies of Park Service and Forest Service; (b) The possible construction of a reservoir by the City of Fort Collins could cause additional management problems for the Forest Service; (c) Present recreational facilities are already overused.

In the Poudre Canyon, residents are concerned with the following: (a) The possibilities of condemnation of private property and maintaining their privacy if the Congress designates the Poudre a Wild and Scenic River; (b) The problems of trespass and litter normally associated with visitors; (c) The possible construction of Grey Mountain Dam near the mouth of the Poudre Canyon; (d) Fire protection; (e) Impacts of Highway 14 as an all-season highway; (f) Concern with the future plans of the Forest Service regarding the Hornbre Ranch; (g) Potentially hazardous traffic conditions are being caused by touring bicyclist and vehicular conflicts along State Highway 14. (8)

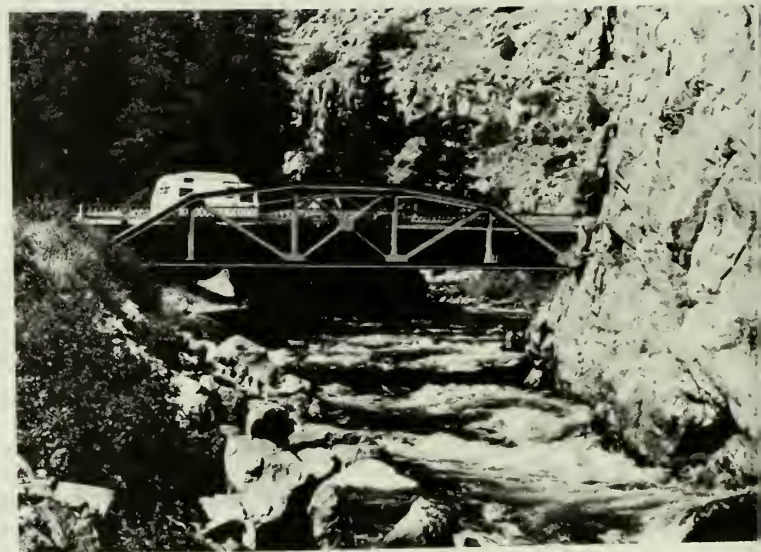
Late in the study process, simultaneous to release of the DEIS/SR, these issues became overshadowed by the broader question of whether or not the main channel of the Poudre should be dammed. Attention shifted from many smaller questions to two polarized viewpoints: preserve the option to develop water and hydropower potentials versus preserve the Poudre in its present state.

Furthermore, broad-based interest was expressed by concerned citizens and groups outside the study corridor. The participation of these additional publics served to further polarize the question of designation of the river.

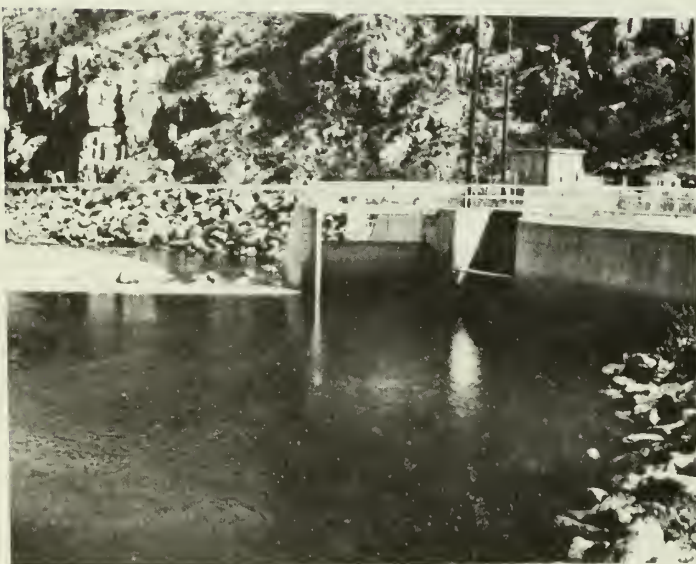
A complete analysis of public response appears in Chapter VIII, Consultation With Others.



Tunnel on Highway 14



Highway 14 bridge in the
Narrows



Water Diversion Structure on Segment 1

II. AFFECTED ENVIRONMENT

The Wild and Scenic Rivers Act of 1968 and the National Environmental Policy Act of 1968 require a thorough evaluation of the current and expected future condition of physical, biological, economic, and social factors within the area of study. The description that follows attempts to clarify major issues, concerns, and opportunities in order to increase understanding of the complex factors involved in the decision.

A. Physical Factors

Climate

Within the planning area, the Poudre River flows from an elevation of 10,758 feet in the alpine tundra to 5,000 feet in the high plains. This, coupled with the river's mid-latitude interior continental location, results in wide variations in localized climatic regimes. As a consequence, care must be exercised when making general comments about the study corridor or the planning area. The following climatic descriptions convey a sense of the range of conditions encountered within the area.

Large temperature changes are observed at Fort Collins, where the monthly average varies from 26.9° F in January to 71.0° F in July. The mean maximum varies from 41.0° F in January to 85.5° F in July, while the minimum varies from 12.7° F in January to 56.2° F in July. The difference between the average maximum and minimum is 28° F in January and 30° F in July.

Precipitation ranges from 14.4 inches on the plains near Fort Collins to 17.4 inches at Red Feather Lakes located north of the study corridor. Amounts over 25 inches per year can be expected in the mountains and about 13 inches along the eastern portion of the planning area. Maximum precipitation occurs in spring and early summer with a minimum in the winter. Thunderstorm activity is common during late spring and summer months, bringing the potential for flash flooding.

Average snowfall ranges from 48 inches per year at Fort Collins and 70 inches per year near Estes Park to over 110 inches a year at Red Feather Lakes.

"Chinook" winds occasionally occur in the winter months and can produce winds in excess of 100 miles per hour. (9)

Geology and Minerals

The Poudre River basin lies in the Southern Rocky Mountain physiographic province. The lower one-third of the basin, located on the plains, lies in the Colorado Piedmont section of the Great Plains physiographic province. (10)

The study corridor is largely located in the mountainous section of the Poudre River basin. Narrow valleys and steep-walled canyons cut through a rugged plain and, at places, have a depth of about 1,000 feet. The mountainous two-thirds of the Poudre River basin is made up of igneous

and metamorphic rocks. No sedimentary rocks are present. In this Precambrian terrain, gneisses and schists were formed by metamorphism of pre-existing sediments and igneous rocks, often associated with severe geological forces. This activity was accompanied or followed by the formation of dikes composed of quartz, monzonite, diorite, and granite. Faulting is also evident. The upper Poudre River basin has undergone alpine glaciation. West from the Idylwilde vicinity, the steep valley displays a U-shape, is relatively straight, and has a prominent moraine, and the valley floor contains glacial deposits. The Home Moraine Geological Area exhibit near Kinikini illustrates this type of glaciation. In the non-glaciated areas, variations in the shape of the valleys are caused both by differences in rock types and by structural features. Generally, the geology of the Poudre River basin is representative of other Front Range river basins.

The Poudre River basin is about 30 miles north of the Colorado "mineral belt." Mining of copper, gold, lead, and uranium has been limited and production has been poor. Granite pegmatites, beryl, feldspar, mica, quartz, and rare earths have also been periodically mined with marginal success. Sand and gravel have been produced from the alluvial fans and valley fill deposits. This resource has been used in the construction and maintenance of Colorado Highway 14.

Currently there is no evidence to indicate any economic mineral deposits in the study area. However, one should not discount the possibility of future economic mineral potential.

Soils

Because of the major changes of elevation in the study area, the soils are highly variable and diverse. Cool to cold temperatures, abundant moisture, and forest vegetation have favored the formation of podzolic soils. Soil patterns within the Rocky Mountains reflect the variation in local climate caused by elevation differences. These changes in soil type parallel those found in the progression from southern to northern latitudes.

The soils associated with this study can best be described by dividing the study area into three very general units based on elevation, vegetation, and land form.

Alpine Unit

The headwaters of the Cache la Poudre River are located in alpine areas which straddle, or are near, the Continental Divide. The soils in this unit occupy alpine slopes and alpine meadows and the unit includes massive mountain peaks, rock outcrops, and rock slides. The soils are formed in materials weathered in place or locally transported, largely from crystalline rocks.

Pergelic cryumbrepts make up about 35 percent of this unit, pergelic cryoschepts about 15 percent, and rock outcrops about 50 percent.

Soils in the alpine are used almost exclusively for wildlife, recreation, and watershed purposes. Except for very small acreages that are parts of mining claims, the land is Federally owned. About half of the area is unvegetated except for mosses and lichens on the rocks. A wide variety of alpine forbs and shrubs, along with a few grasses and sedges, vegetate the turf-like slopes. Willows, sedges, and tufted hairgrasses dominate the plant cover on moist or meadow-like concave slopes.

Erosion hazard is high in this unit and revegetation of eroded areas is slow and difficult. This unit is severely limited for all uses that in any way disturb the vegetation.

High Mountain Unit

The soils in this unit occupy timbered mountain slopes and are interspersed with rock outcrops. Valleys are narrow and not extensive. Slopes are frequently broken by ledges and escarpments. The soils are formed in materials weathered from a variety of crystalline rocks.

Typic cryoboralfs make up about 50 percent of this unit and rock outcrops about 20 percent. The remaining 30 percent includes soils with a shallow depth to bedrock; dark-colored soils generally acid in reaction along the ridges; and wet, dark-colored soils along the mountain stream valleys.

Soils in this unit are used mainly for a combination of recreation, wildlife habitat, water supply, and wood production purposes, with some areas also being used for grazing by domestic livestock.

The native vegetation is mainly Engelmann spruce, subalpine fir, lodgepole pine, limber pine, and aspen. Shrubs, forbs, and grasses range from sparse in densely timbered areas to moderate where trees have been harvested or destroyed.

The cold climate, steep slopes, stony soils, and rock outcrops are major limiting factors to more intensive uses. The natural beauty of this unit, combined with its good woodland wildlife potential, leads to high demands in recreational uses. Selected areas have only slight limitations for camp areas, picnic areas, paths, and trails. Hunting, fishing, and cross-country skiing are major recreational uses.

Upland Hills Unit

The dominant soils in this unit are formed in materials weathered in place from granite, gneiss, and schist. Rock outcrop is intermingled throughout the unit.

Aridic argiborolls make up about 35 percent of this unit and rock outcrop about 20 percent. The remaining 45 percent of this unit is composed of similar soils which are less than 20 inches to bedrock; light-colored soils that support woodlands and soils that have steep, dark-colored surface layers extending below a depth of 16 inches.

Soils in this unit are used primarily as grazable woodland, wildlife, and recreation land. Much of this area could be developed for cabins

and summer homes. Native vegetation is mostly ponderosa pine, Douglas-fir, or lodgepole pine, with many open parks of mixed shrubs and grasses.

Droughtiness and steep slopes severely limit agricultural potential. The depth to bedrock and the slopes also are limitations to non-agricultural uses. However, selected areas have fair to good potential for homesite development, and demand for this use is high. (11)

In summary, the soils are generally shallow sandy loam to clay loam, unstable, and have a high erosion potential. The slopes vary from 40 percent to 70 percent, and exhibit varying degrees of stoniness. The soils of the Poudre River are typical of this area of the Rocky Mountains. (12)

Scenic

The Poudre River basin provides a variety of scenic views.

Visually, the river is of two general types. The first is a narrow canyon with a rapidly flowing stream. The second type is a U-shaped glaciated canyon having a meandering, slow-moving stream in a pastoral setting.

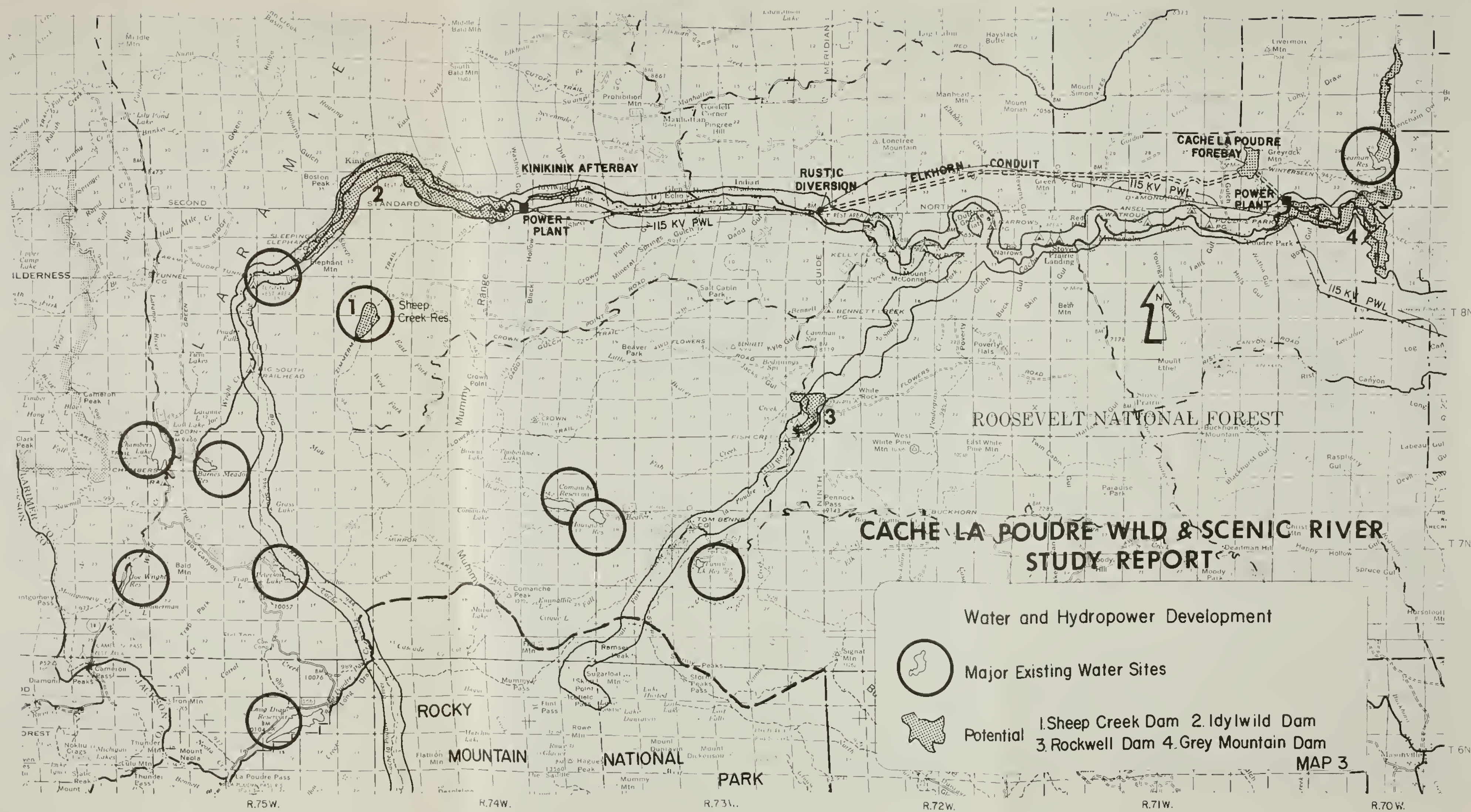
The landscape is representative of the features commonly seen along the Colorado Front Range. The geology, soils, and vegetation sections of the report describe the various other scenic features. The combination of the landform, vegetation, water, and other physical and natural features determines the attractiveness of the Poudre River. Even though there is some development along the river corridor, such as homes, campgrounds, and other tourist facilities, the river is still natural in appearance for most of its length.

However, to some observers, the management of the water from the numerous existing reservoirs located in the Poudre River basin affects the degree of attractiveness of the river (see map 3, page 15). During the spring and early summer months, when the river is flowing full, the scenic attraction is considered high by most observers. This is also the period when the basin's reservoirs are storing runoff water. Later, as the snowmelt flow subsides, stored water is released for irrigation and domestic use. This regulation of the Poudre provides a more consistent amount of water in the river during those periods when visitation is highest.

Visual quality objectives are used for the management of the visual resources of the river and the surrounding forest. (13)

Water

This section has been revised and expanded in response to comments received during the review period of the DEIS/SR.



Water and Hydropower Development



Major Existing Water Sites



Potential

- 1. Sheep Creek Dam
- 2. Idylwild Dam
- 3. Rockwell Dam
- 4. Grey Mountain Dam

MAP 3

Quality:

Recent State of Colorado Water Quality Control Division investigations showed that no major water pollution problems exist in the upper Poudre River. Their studies also showed no significant pollution of the Poudre River due to septic tank discharge and other forms of human waste from the canyon's small communities and home sites (14) (see appendix C).

It is highly probable that there is more data on in-stream aquatic life over a longer period of time on the Poudre than on any other stream in Colorado. Fish biosurveys, benthic (bottom) macroinvertebrate studies, bioassays, and ammonia concentration studies have been completed in recent years. Based on these studies, the Colorado Water Quality Control Commission recommended that certain portions of the headwaters of the Poudre River be assigned high water quality classifications. These standards were discussed in July 1980 at public hearings held by the Commission. The testimony presented at the hearing recommended that the Commission defer any classification until the Cache la Poudre Wild and Scenic River recommendation has been decided by Congress. However, interim classifications were recommended that will protect all beneficial uses of the South Fork of the Poudre. (15)

Flow:

Three United States Geological Survey (USGS) river-gauging stations' records show the flow patterns of the Poudre River to be typical of most Front Range rivers. The flow is derived from natural run-off of snowmelt and rainfall but is modified, particularly at lower elevations, by the numerous transbasin diversions and reservoirs.

The elevation of the main stem drops from 10,758 feet at Poudre Lake to 5,220 feet at the USGS gauging station near the eastern boundary of the study area. The Poudre River flows at an average rate of 248 cubic feet per second (cfs), or 179,700 acre-feet a year (1956-1968), near Rustic. Approximately 5.7 miles upstream from its mouth, the South Fork has an average discharge of 62.6 cfs.

At the USGS gauging station 1 mile downstream from the eastern boundary of the study area, the Poudre River drains 1,056 square miles. Its maximum discharge of 21,000 cfs occurred during June 1891. The minimum discharge rate was 1.6 cfs during November 1948. Flows can peak in late May to early June at above 4,000 cfs in the lower canyon and average 900 cfs in May, June, and July (see appendix D).

Characteristic of this geographic location, relatively low flows are encountered from September to April. Flows increase rapidly during the spring and early summer due to snowmelt, then begin to diminish during the late summer and fall. (16) Intense rainfalls during the period from May through September can produce flash flooding. An example was the 1976 flood disaster on the neighboring Big Thompson River. In the Cache la Poudre River basin, similar flood recurrence intervals were computed to be 16 years at the canyon mouth. Although the rainfall and flood discharges were unusually large, they are not unprecedented for some areas along the eastern foothills and plains of Colorado. (17) Geological

Survey records show that 19 damaging floods have occurred since 1882, with the flood of May 1904 being the most damaging (see appendix D).

Mapping to define a 100-year floodplain in the study corridor has not been completed.

The Poudre has a higher volume flow than other rivers on the eastern slope of Colorado except the South Platte, North Platte, and the Arkansas River. To the north, the nearest comparable mountain river on the east slope of the Rockies is the Wind River in Wyoming. To the south, the upper Rio Chama in New Mexico has comparable flows but is different in geologic and ecologic character.

Uses:

Development of water storage capacity in the Poudre River basin has taken place for nearly a century, supplying water for agricultural, municipal, and industrial uses. For the most part, however, this evidence of human activity does not occur within the study corridor.

Water supply, or river flow, is supplemented by eight transbasin diversions. The average diversions into the Poudre River for 1966 to 1970 were: Cameron Pass Ditch via Joe Wright Creek, 21 acre-feet; Michigan Ditch via Joe Wright Creek, 288 acre-feet; Skyline Ditch via Chambers Lake, 1,780 acre-feet; Laramie-Poudre Tunnel, 15,390 acre-feet; Wilson Supply Ditch, 2,430 acre-feet; Bob Creek Ditch via Roaring Fork, 0 acre-feet; Columbine Ditch, 0 acre-feet; and the Michigan Ditch 1,440 acre-feet (see appendix E). Bob Creek Ditch and Columbine Ditch were not in operation during the base period. Rights exist for up to 400 acre-feet through these systems annually. The Grand Ditch was in sporadic operation during the base period. More recently, it has operated at an annual average of 1,623 acre-feet. In the future, after improvements to the system, an average flow of 3,500 acre-feet is anticipated by the City of Fort Collins.

The Poudre River basin diversions are the main supply for nine reservoirs of varying storage capacity. They are: Comanche, Hour Glass, Big Beaver, Twin Lakes, Long Draw, Peterson and Chambers Lakes, Joe Wright, and Barnes Meadow. The main stem also has the North Poudre Supply Canal, the Fort Collins Pipeline, and 30 other ditches (see map 3, page 15).

One of the major uses of the Poudre River water is irrigation for agriculture. In Larimer County, approximately 6 percent of the total land area of the county is in irrigated agriculture. In neighboring Weld County, irrigated agriculture is approximately 14 percent of the land area. Collectively, this represents approximately 400,000 acres. (18)

Water use in Colorado has a complicated history, predating statehood. A system for appropriating water is set forth in the State Constitution, known as the "Colorado Doctrine." Since the Wild and Scenic Rivers Act does not infringe on State water rights, a detailed analysis of this system is not necessary for this study report. It is important, however, to recognize that water is appropriated on the basis of first in time,

first in use. For those using water for the same purpose, priority of appropriation (seniority) is given the better right. When the waters of a natural stream are insufficient, those using the water for domestic purposes have preference over all other uses. Those using water for agricultural purposes have preference over industrial users. Preference must be exercised by condemnation. With the rapid growth of area municipalities and the urbanization of irrigated agriculture lands, future competition for existing water, through the preference mechanism, is likely.

All of the existing water from the Poudre River is appropriated in accordance with State law. In typical years, administration of the Poudre's waters involves only the most senior users. (19)

Development Opportunities:

General

Investigation and consideration of development potentials in the Poudre basin have taken place since the early part of this century. Beginning in 1914, the United States Geological Survey (USGS) initiated the withdrawal of public lands in the study area for Power Site Reserves and Power Site Classification. The last withdrawals were identified in 1944, bringing the total to 10,000 acres in the basin, with 3,760 acres occurring in the study corridor.

Early development was brought about through the efforts of mutual ditch, supply, and storage cooperatives, which privately accomplished much of the augmented supply that exists today. The Bureau of Reclamation (BR) has more recently played a key role in coordinating the planning, construction, and operation of water resource projects. They examined the development potentials in 1928, 1954, and 1959. (20) In 1951, BR reported a potential of 112,200 kilowatts (kW) installed capacity and 644,000 kilowatt hours (kWh) of average annual generation capability. (21) Six sites were identified in the basin, four of them recommended for additional study by the Missouri River Basin Interagency Committee. (22)

A 1963 BR Reconnaissance Report on the Poudre presented a development proposal that would have the potential to store 400,000 acre-feet (af) of water (40,800 af as the increment of additional storage), 274,000 kW installed capacity, and 186,500 kWh average annual generation. (23) The report outlined two basic storage features (Grey Mountain and Idylwilde), two hydroelectric plants, and a variety of supporting facilities (see appendix F). It concluded that the total irrigated area in the Poudre basin had facilities and water supplies ample to meet an average of most of the theoretical requirements.

Water supplies for the planning area are currently adequate to meet the various demands of municipal, industrial, agricultural, and other users. Various projections indicate that raw water supplies will continue to be adequate, but not through the entire first half of the planning period, 1990-2040, (see appendix H for a more thorough display of currently available information on water supplies). Since most water planning is

conducted in recognition of varying natural raw water supplies from year to year, projected requirements for future supplies include a surplus sufficiently large to meet demand in years of low water yield.

One of the principle factors in maintaining adequate supplies over the last decade has been the urbanization of agricultural lands and related sale of water rights. Major municipalities in the planning area require new developments to contribute either water rights or payments-in-lieu of water rights to the cities' holdings of raw water as a condition of annexation. Between 1972 and 1977, the area of cities in Weld County grew 25 percent; in Boulder County, 41 percent; and in Larimer County, 46 percent. These expansions brought new raw water to the cities, usually in amounts greater than the likely municipal consumption. (44) Supplies of surplus municipal water are currently made available for lease to agriculture and for other purposes.

Forecasted growth rates predict a water supply shortfall near the year 2000 if no additional measures are taken to augment supply. A wide array of alternatives, however, exists to accomplish increases in supply. As discussed later in this chapter, a sifting of the alternatives has not taken place in order to provide planners and users the best information upon which to base long-range decisions.

Although the 1963 BR report appeared to hold promise of economic justification and financial feasibility, serious questions were raised concerning the market for the peaking power within the confines of the BR's laws and policies. Accordingly, the Concluding Report in 1966 recommended the possible development of the Idylwilde Dam and Reservoir only, with minimum provisions to permit the possible future inclusion of power. (24)

A 1977 Status Report from the Front Range Unit of BR suggested that construction of Grey Mountain Reservoir was among the available structural alternatives to meeting projected water demands. (25) The principal orientation of the report was increased water supply and improved water resource management, without discussion of hydroelectric generation.

At the same time, numerous other proposals have been advanced by a variety of proponents. These include: expansion of existing water storage facilities, renovation of storage reservoirs located on the plains, construction of additional mountain storage facilities, construction of additional plains storage facilities, and incorporation of non-structural conservation measures by all users. None of the potential developments have met the test of current criteria promulgated by the Council on Environmental Quality, the Water Resources Council, the Army Corps of Engineers, and the Bureau of Reclamation.

At the present time there is broad interest in examining the potentials for water and hydropower in the Poudre basin. The elected and appointed officials of many entities have recently approved resolutions supporting either a broad basin examination or a more narrow feasibility study of the Grey Mountain-Idylwilde proposal (see appendix N). In addition, the Colorado Water Conservation Board has funded a \$300,000 study of water storage opportunities on the Poudre. The 1980 Priorities report of the Missouri River Basin Commission lists a basin feasibility study as the number one state priority and the number three basin priority. (26)

Specific

International Engineering Company, Inc., (IECO) issued a Report of Long Range Study in 1980 which updated the BR economic analysis in the 1963 Reconnaissance Report. (27) Using accepted indexing methods, the study found that the Grey Mountain-Idylwilde development proposal would show a positive benefit/cost ratio under two of three financing mechanisms examined (see appendix G). Numerous individuals and groups refer to this report as a basis for further investigation of the potentials under current criteria. The BR has indicated that the many changes in demand, technology, and statutory and regulatory criteria would necessitate a new planning effort, minimizing the usefulness of IECO's recomputation of the 1963 study.

The IECO report was released after completion of the DEIS/SR and has been incorporated into this study as a guide to the potential contributions of water and power development on the Poudre at the suggestion of commentors. Any use of this information as an accurate depiction of actual results has been discouraged by both the Bureau of Reclamation and IECO.

The projected needs--agricultural water, municipal and industrial water, hydropower, recreation, fish and wildlife--are over 17 years old; a meaningful update of all needs is essential.

Physical size of potential features are based on obsolete data; complete plan reformulation is necessary.

Design and cost estimates, based on obsolete plans, need to be completely redone; not just indexing old costs.

Marketability of the water and power, based on obsolete costs, cannot be assessed; today's conditions indicate a changed market situation.

Bureau of Reclamation letter, dated December 17, 1980.

However, it is re-emphasized that prudent caution should be exercised in using these results, and that they are only indicative of the results to be anticipated by applying more precise methods during a feasibility study.

International Engineering Company, Inc. Report.

These statements cast a high degree of uncertainty on the values and conclusions of the IECO Report. No more current data exists. The absence of complete information portraying potential hydropower and water storage opportunities on the Poudre has created a planning void most commonly filled by speculation.

The cities of Fort Collins and Greeley have proposed the construction of Rockwell Reservoir (see map 3, page 15), located on the Little South Fork of the Poudre. The storage capacity of this proposed facility would be 4,900 acre-feet, for the purpose of providing municipal water supply. The cities already own some of the land in the vicinity of the

proposed facility and have initiated preliminary discussions with the USDA Forest Service regarding additional necessary lands. A conditional storage right has been granted to the cities with an appropriation date of 1951. Estimated costs of the facility are \$10 million. (28)

The Rockwell Reservoir was not considered at length in the DEIS/SR, based on the lack of substantive action to move forward with construction. Since publication of the DEIS/SR, planning activity has increased. The Congress, in enacting the Colorado Wilderness Bill, P.L. 96-560, made adjustments to proposed Wilderness boundaries to allow the construction of this project. In light of these events and comments received after publication of the DEIS/SR, the study team has recognized Rockwell Reservoir as a probable water development that could be designed and constructed in such a way as to minimize adverse impacts in the study corridor.

The City of Fort Collins has also proposed reconstruction of the Sheep Creek Reservoir, located on Sheep Creek, a tributary of the main stem of the Poudre (see map 3, page 15). A small dam had been constructed at this site in the early 1900s, but has been washed-out for many years. The city has a 530 acre-foot conditional right to the storage water. Estimated costs of construction are \$6 million. (29)

A decree exists for the Little South Cache la Poudre Reservoir (see map 3, page 15), just downstream from the Rockwell site. It is assumed that this facility would not be constructed if Rockwell Reservoir were to be completed.

Through the consultation process including personal interviews with water planners/developers, the following basic considerations were identified which relate to interest in water and hydropower development:

1. Water planners (municipal, agricultural, and industrial) are anxious to maintain water supplies at a level sufficiently high to avoid the condemnation process.
2. Municipalities need to provide expanding water supplies to keep pace with growing populations.
3. Agricultural users need to provide expanding water supplies to protect existing uses and water prices.
4. There is a viable market for hydroelectric peaking power. Where water supply and hydropower components can be combined into a project, sale of electrical energy can supplement or replace other funding mechanisms.

B. Biological Factors

Vegetation

The Poudre River study area vegetation is typical of Rocky Mountain Front Range river basins. The vegetation is diverse and varies with slope, aspect, and elevation.

The headwaters region above timberline is alpine tundra (11,500 feet and higher elevation) which consists mainly of grasses, sedges, and lichens living in what is generally considered a very fragile environment. Below timberline is the spruce-fir zone (11,500 to 10,500 feet in elevation) composed of Engelmann spruce, subalpine fir, and lodgepole pine with an occasional mountain meadow.

The next vegetative zone is mainly Douglas-fir and ponderosa pine (10,500 to 8,000 feet in elevation). Scattered stands of aspen, limber pine, and juniper are in this zone. Where no overstory of trees occurs, the cover consists mainly of mountain mahogany, sagebrush, grasses, and bitterbrush, with many forbs and grasses.

Vegetation along the banks of the streams includes cottonwood, aspen, willow, and alder.

Other common species in the basin include sedges, bluegrass, hairgrass, buttercup, marsh marigold, and cinquefoil. (A species list by vegetative zone is included in appendix I.)

Starting with the eastern boundary of the National Forest lands about a mile below Seaman Reservoir and west to Rustic (segments 1, 2, and 3 inclusive), the vegetative patterns are very similar. To the north of the river on the south-facing slopes, ground cover consists mostly of grasses, mountain mahogany, sagebrush, and bitterbrush. The overstory consists of scattered ponderosa pine and juniper with Douglas-fir occurring in small groups in steep drainages. To the south of the river on the steep north-facing slopes, the cover consists of stands of ponderosa pine poles (5 to 7 inches, diameter breast high) and sawtimber (7 inches and greater, diameter breast high) interspersed with stands of lodgepole pine and Douglas-fir pole timber. Where no tree overstory occurs, the cover consists of mountain mahogany, sagebrush, and bitterbrush, with many forbs and grasses.

On segment 4 on south-facing slopes, the cover is similar to that on segments 1, 2, and 3. On north-facing slopes, the overstory begins a gradual change to lodgepole sawtimber and poles with occasional stands of ponderosa pine poles and sawtimber and Douglas-fir poles. Ground cover is similar to that in segments 1, 2, and 3. Where the river valley widens, stands of aspen sawtimber are scattered over grass-covered meadows.

On segment 5 the overstory is lodgepole pine sawtimber and pole timber with scattered stands of pole-size aspen. Above Peterson Lake, the lodgepole becomes interspersed with stands of mature Engelmann spruce and subalpine fir. On nonforested slopes, mountain mahogany, sage, and grasses can be found.

Along segment 6 there are stands of lodgepole and ponderosa pine pole and sawtimber with large areas of sage, mountain mahogany, bitterbrush, and grasses. These nonforest areas fall within 4 miles of the South Fork confluence with the main stem.

Segment 7 has a vegetative overstory of lodgepole pine sawtimber and pole stands. Spruce and fir sawtimber stands become more and more frequent as Rocky Mountain National Park is approached. Once inside the Park (segment 8), the spruce-fir type gives way to tundra, which extends to the origin of the South Fork between Icefield Pass and Flint Pass.

Fish and Wildlife

The Poudre River's fish and wildlife are similar to other Front Range river basins, but the abundance and species diversity are superior to other locations. The species vary mainly with differences in elevation and habitat. The basin contains approximately 265 species of birds, mammals, amphibians, and reptiles and 15 species of game and nongame fish. Depending on the aquatic environment, rainbow trout, brown trout, brook trout, and native trout are found in certain segments of the Poudre. Trout are also found in many of the reservoirs and natural lakes that exist in the Poudre River drainage. Nongame fish include western longnose suckers, northern creek chub, fathead minnow, brassy minnow, and northern common shiner.

Big game mammals in the area are deer, elk, bear, bighorn sheep, and mountain lion. Deer are the most abundant big game species in the corridor. Over 100 bighorn sheep are in the area. The Division of Wildlife introduced 16 bighorn sheep in the north slope of the Poudre River canyon near Rustic in 1946. Recent efforts to expand their range has been partially successful.

Small game mammals present in the area are cottontail rabbit, snowshoe hare, and pine and Abert squirrels.

Upland game birds present are ptarmigan, blue grouse, and turkey. Migratory game birds which usually frequent the area are band-tailed pigeon, mourning dove, waterfowl, and shorebirds. Waterfowl and shorebirds that are in the area are Canada goose, mallards, teal, dippers, snipe, rail, and killdeer. Raptors include several species of hawk, golden eagle, prairie falcon, and great-horned owl.

Other wildlife represented are various furbearers, varmints, amphibians, nongame mammals, and birds.

A complete list of the species is in appendix J.

Two species on the Federal threatened and endangered species list have been found in the study corridor. They are the peregrine falcon and the greenback cutthroat trout. Peregrine falcons were once common along the Front Range. There are now no known nesting sites within the study area. However, good peregrine habitat still exists above Indian Meadows. An adult male was observed in flight near Rustic in 1973. The greenback cutthroat trout is found in Black Hollow Creek, the upper section of the South Fork of the Poudre, and in Hourglass Creek, a tributary of the South Fork. Efforts are underway to restore this species of trout to other small high elevation streams in the basin, outside the study corridor.

C. Social and Economic Factors

Archeology

Archeological studies in the basin began in the 1930s. These and subsequent studies indicate the presence of Folsom, Paleo-Indian, Archaic, and Proto-Archaic material. A 1963 University of Colorado study indicated material approximately 9,000 years old. A 1976 investigation located 52 archeological sites. These preliminary investigations indicate that there are no major archeological sites in the Poudre River basin. (30)

History

The Poudre River was given the name Cache la Poudre in the mid-nineteenth century. The name is a fragment of a typical French phrase, "ou on cache la poudre," meaning "where one hides the powder." According to some historical accounts the name is traced to a French freighting or trapping party that buried its powder to conceal it from Indians or other travelers.

Much of James Michener's novel Centennial (31) is set in the vicinity of the Poudre River. The novel is generally reflective of the region's history.

Before white exploration and settlement began, the area was the territory of the Arapaho, Cheyenne, and Ute tribes.

The railroads, together with mining, promoted the settlement of the Poudre River basin. The railroads began to move into the basin in the 1870s. Timber was harvested for railroad ties and they were floated down the Poudre during the 1880s. However, early attempts to construct a rail line through the canyon were unsuccessful. Later, the remains of the grades became the foundation for Highway 14. Mining had marginal success but did lead to the establishment of such "ghost towns" as Lulu City and Teller City, the North Star and Elkhorn mines, and Poudre City and the construction of the Flowers and Stewart toll roads.

Together with mining, irrigation development began in the high prairie and foothills of the Front Range. The most extensive early Colorado irrigation development was in the northern part of Colorado along the South Platte and the Cache la Poudre rivers. Small ditches were constructed there as early as 1860 to be followed by the founding of the Greeley colony.

A small dam on the Poudre was constructed to generate electricity for the construction, in 1907-1911, of the Laramie-Poudre Tunnel which was to transfer water from the Laramie River into the Poudre. After construction of the tunnel, the dam was abandoned and formed part of what is now called "Poudre Falls."

Famous ranches were established in the basin such as Zimmerman's, Koenig's, and the Kinikinik. The Zimmerman's also established the Keystone Hotel in 1896. The Rustic Hotel at Rustic was built in 1882 and razed in 1979. Records show that former President Teddy Roosevelt was a guest. (32)

The Colorado Historical Society Historic Preservation Office lists 12 historic sites in the basin. However, only the Home Moraine Geological Area exhibit located near Kinikini is on the National Register of Historic Places. The remaining sites are of local interest.

However, these sites may represent only a part of the potential historic resources that could be of value to historians. Other sites that could be considered are: (a) Grey Rock Mountain National Recreation Trail; (b) William B. Kreutzer Nature Trail (a candidate for National Recreation Trail Status); (c) a manual cable car constructed across the Poudre during World War I that is still in use today; and numerous minor unexamined sites.

Further investigation of possible sites in the Poudre could lead to the location of other significant historical discoveries. (33)

Land Uses

Of the approximately 1,792,000 acres in Larimer County, 886,000, or about 50 percent, are publicly owned. Most of the public lands are in the mountainous western portion of the county; the Roosevelt National Forest, for example, encompasses 35 percent of all land in the county and Rocky Mountain National Park, 8 percent. Other local, State, and Federal agencies own and manage smaller areas within the county as parks, wildlife refuges, experiment stations, sanitary landfills, reservoirs, and income sources for the school systems. The majority of private land is in the eastern foothills and plains of the county.

Throughout the mountainous western sections of the county, private lands are concentrated in the river valleys and meadows (34), (see map 4, page 26).

The Poudre River study corridor of approximately 83 miles consists of 19,320 acres of public lands (73 percent) and 7,240 acres (27 percent) private.

The eastern portion of the county is a major agricultural area with irrigated farming in the southeast and dryland farming and grazing in the northeast. Much of the water used in irrigation comes from the Poudre River. (18)

The major use of both public and private lands in the Poudre River basin is outdoor recreation. Hiking, backpacking, camping, fishing, hunting, boating, sightseeing, and photography are common activities. There are numerous resorts, lodges, and recreational homesites along Highway 14. (35)

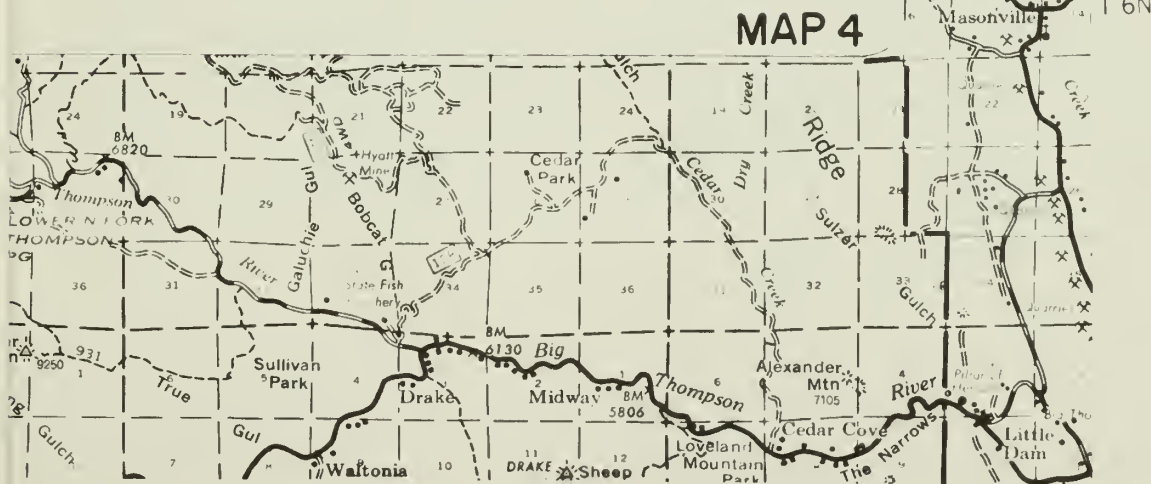
The key to the recreational resources of this area is the river itself, which is the focus of visual quality and of most recreation activities that occur within the river corridor.

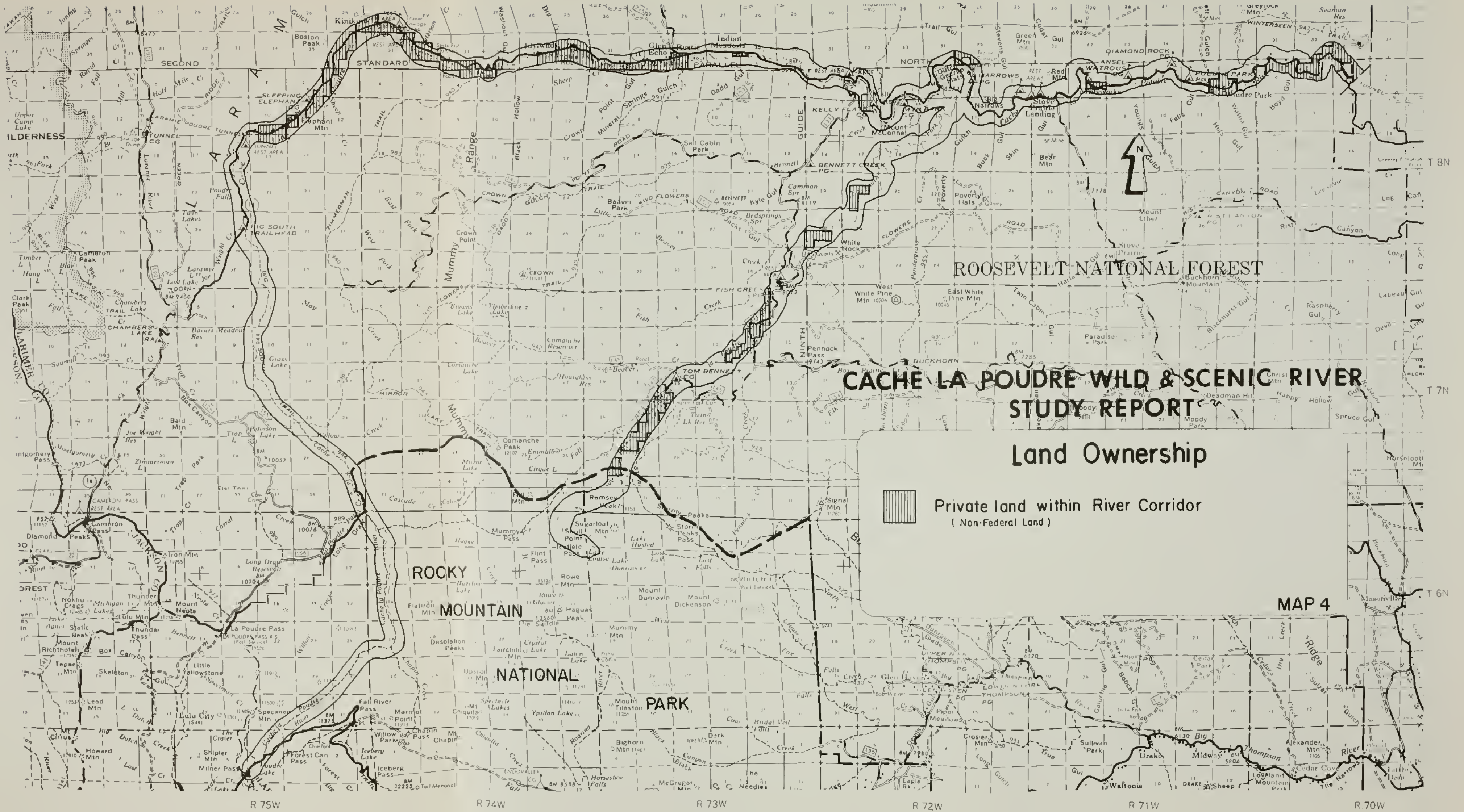
Supplements to river flow, resulting from upstream water resource project regulation, generally have had a positive effect on recreation activity opportunities by making flows more predictable, by extending the high and moderate flow periods, and by reducing peak flow times when water levels are too high for most water-based recreation activities.



Land Ownership

Land within River Corridor
(Federal Land)





ROOSEVELT NATIONAL FOREST

CACHE LA POUDRE WLD & SCENIC RIVER STUDY REPORT

Land Ownership



Private land within River Corridor
(Non-Federal Land)

MAP 4

R 75W

R 74W

R 73W

R 72W

R 71W

R 70W

Boating occurs in various sections of the Poudre Canyon and to a very limited extent on the South Fork. Whitewater kayak races hosted by the Colorado Whitewater Association have been held annually in June.

Forest Service studies show that from 1967-1977 boating on the Poudre River increased from less than 250 recreation visitor days to over 5,000 annually. (36)

The high flow season is short, averaging about 6 weeks, and boatable stretches are generally short and discontinuous. These factors, combined with the level of development in the river corridor, have limited the river's attraction for overnight or "wilderness" type raft trips. As a result, there are only a few commercial outfitting operations on the river.

The Poudre River is one of the most fished streams in Colorado. Studies indicate that fishing on segments 1-4 averaged 279 man-days per acre. (37) The Colorado Division of Wildlife anticipates an increase of "quality trout" fishing on the Poudre (natural restocking, fishing with flies or artificial lures only) of 50 additional miles in the future. Current "quality trout" mileage totals 30 miles.

To further encourage quality fishing along the river, the Colorado Division of Wildlife has set aside three areas restricting fishermen to the use of artificial flies and lures only. Trout are also found in many of the reservoirs and natural lakes that exist in the Poudre River drainage. The natural reproduction of some of these waters is adequate to satisfy existing fishing pressure. However, stocking is required at the more accessible and popular lakes and reservoirs. (38)

Fishing along the Poudre River, commonly known as Colorado's "Trout Route," is increasing on the average between 11 and 33 percent per year on various portions of the river. Fishing varied from 1,500 to 4,800 hours of fishing per mile of stream annually in 1971 and 1972, a level comparable to many nationally popular trout streams.

A further indication of fishing intensity is reflected by the heavy catch of stocked trout. Over 20,000 pounds of rainbow trout are stocked annually by the Colorado Division of Wildlife along nearly 33 miles of the three lower segments. The Division operates a trout rearing unit located east of Kinikini along the Poudre River.

Substantial big game hunting, primarily for elk and deer, occurs in the main canyon and South Fork areas. Hunting of bighorn sheep is limited by a lottery permit system administered by the Colorado Division of Wildlife. There is also a lesser amount of hunting for upland and migratory game birds in the basin. Camping use associated with hunting is intense and is the principal hunting-related activity within the study corridor. However, the area is less popular with nonresident hunters, apparently due to lower success ratios than other opportunity areas.

Over 70 percent of the National Forest special use permits within the study area are for recreational residence.

Current policy regarding such permits is to phase out this use as the existing structures become unmaintainable. This policy is compatible with management goals in segments that might be designated recreational. The existing use of these structures would have a minor, negative impact on management options within the corridor due to the exclusive use and nature of the permit areas and the existence of private property on public lands.

Developed recreation sites located within the study corridor are used at an average 70 percent of capacity. Developed site capacity in the main canyon has increased by 50 percent from 825 persons at one time (PAOT) in 1967 to 1,230 PAOT in 1980, while use of existing sites has increased much more rapidly. Campground and picnic area use was estimated to have increased by 280 percent during the same period. Capacities of existing developed sites are exceeded on holiday weekends and during peak-use weekends in late July and early August.

Developed recreation facility capacity in the Poudre Canyon, primarily between Poudre Park and Rustic, amounts to approximately 15 percent of the total developed site capacity of the Arapaho and Roosevelt National Forests. (39)

Grazing of livestock is light in the corridor. Larimer County is too economically diversified to be much affected by changes in the grazing industry. Many ranchers in other, similar areas have sold land to recreational interests or developed other sources of income and may continue part-time ranching. Historical trends suggest that the necessity of grazing permits for a family's livelihood may be less than in former years. (40)

Timber production policies of the Arapaho and Roosevelt National Forests have made timber available on a continuous basis in the National Forest. Physical and biological factors, in combination with economic conditions, have precluded the establishment of a large scale timber industry. (41)

In the Poudre River study corridor, the steepness of the slopes, species, and the private land patterns associated with the corridor have contributed to the general lack of large-scale timber harvesting. Little timber activity is anticipated in the future.

No formalized timber sales are anticipated in the corridor from the present to the year 2000. An estimated 2,000 cords of fuelwood may be removed. Much of the fuelwood harvested is salvaged from beetle-killed ponderosa pine. An estimated 10 tons of boughs per year are expected to be removed by the year 2000. Christmas tree activity within the corridor has been minimal.

Long-range timber harvest plans for the corridor affect segment 7 only. In the upper regions of this segment, approximately 1 million board feet of sawtimber are expected to be removed in the next 50 years. The vegetative type is lodgepole pine and spruce-fir. Selection cutting methods are anticipated for this sanitation and salvage harvest.

Portions of the study corridor have been periodically blighted by mountain pine beetle and spruce budworm. Current emphasis is to treat only those areas where treatment is economically and environmentally feasible.

Transportation

Colorado Highway 14 is the main transportation route in the study corridor (see map 2, page 5). The highway connects the city of Fort Collins with the North Park area and the town of Walden. The highway was first open year-round in 1978. It was previously closed during the winter months at Cameron Pass. It is too early to establish the effects of the opening on the corridor environment. The average daily traffic (ADT) was 300 vehicles in 1970. (42) In 1976, the ADT was 1,000 to 1,300 in the Poudre Park area; 700 to 800 between Poudre Park and Eggers, and 470 in the Kinikini vicinity.

In 1978, the Colorado Department of Highways completed the annual Traffic Volume Map. This study shows the traffic flow over the recently opened all-season Cameron Pass section of Highway 14 (see map 5, page 30).

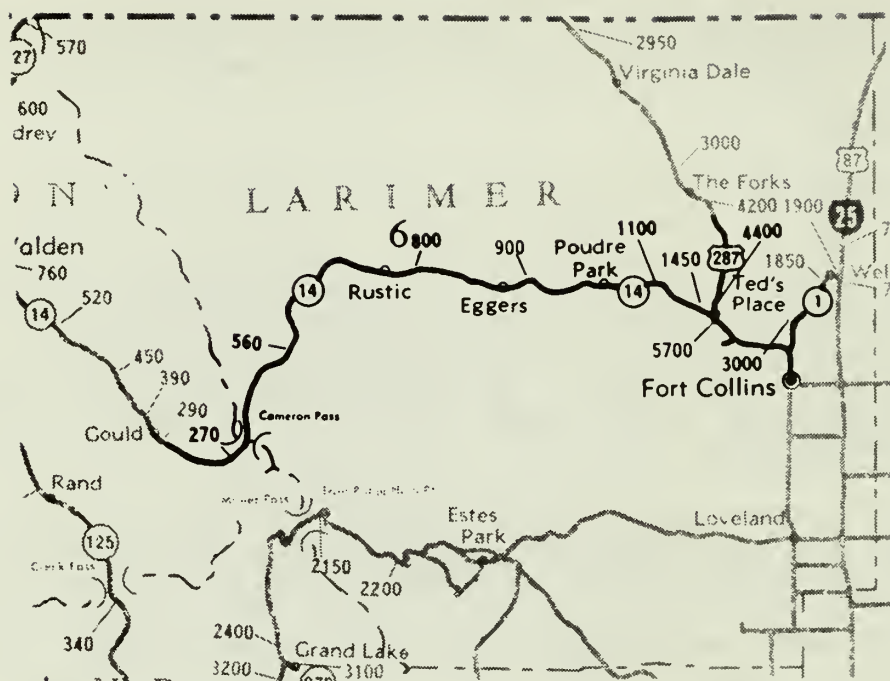
The adjusted annual average vehicle count for a 24-hour period for 1978 is in Table II-1 (page 31). (43) The numbers reflect travel counts between points.

A Colorado State University 1976 study concluded that Highway 14 as an all-season road is not important to the national or regional highway access, but is significant as a local highway in providing better access to the North Park area. The study concluded that the opening of Cameron Pass would have two direct effects, localized aesthetic impact and year-round and improved access to the North Park area. These impacts would cause further "ripple effects" to other areas and could result in different regional character from the area from "underdeveloped" to "developed." The study suggests that the changes could occur at a faster rate than public management systems can respond and will force public decisionmakers to face critical policy decisions sooner than if the project were not built. (44)

Population

In order to effectively integrate social considerations into land and resource management, the Arapaho and Roosevelt National Forests have adopted a methodology known as social resource management. Developed in conjunction with the Forest Planning process (45), it provides a more useful way of evaluating alternative management directions and their effects than previously available.

Sectors within the planning area have been delineated into Human Resource Units for analysis purposes. (46) A Human Resource Unit is a geographical area that is characterized by particular cultural patterns, lifestyles, economic conditions, institutional arrangements, and topography. Typically they are larger in size than individual towns and communities and may cross political jurisdictions.

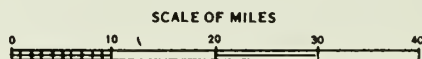


1978

TRAFFIC VOLUME MAP

COLORADO STATE HIGHWAY SYSTEM

PREPARED BY
 STATE DEPARTMENT OF HIGHWAYS
 STATE OF COLORADO
 DIVISION OF TRANSPORTATION PLANNING
 IN COOPERATION WITH
 U. S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION



Federal Aid and State Highway Systems Revised as of 1979

TRAFFIC LEGEND

1978 Annual Average Daily Traffic

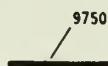


TABLE II-1
Colorado Highway 14 Traffic Volume Cache la Poudre River Study Area - 1978*

Location	Segment	Total Average Daily Traffic	Passenger Cars		Pickups and Panels Under 1 Ton		Trucks Single Units Over 1 Ton		Trucks with Trailers
			Colorado	Non-Coloradoan					
A. Jackson - Larimer County Line	A-B	270	120	50	80	10	10	10	
B. Junction Road East of Chambers Lake	B-C	680	260	190	190	30	10		
C. Junction Road at Rustic	C-D	850	350	190	260	40	10		
D. Junction Road at Eggers	D-E	1250	570	190	420	60	10		
E. Junction Colorado Highway 287 and Colorado Highway 14 at Ted's Place									

*See Endnote 43

Regional Overview:

The North Front Range Human Resource Unit parallels the mountains east of the Continental Divide from Longmont north to the Wyoming border and east to the city of Greeley. It includes a major portion of Larimer County and smaller portions of Weld and Boulder counties. While outside the river study corridor, it is significantly affected by any decisions regarding the Poudre River. This area, with some modification, identifies the planning area, shown on map 1, page 4.

Planning Area

The planning area encompasses several major communities. Fort Collins, the county seat of Larimer County, is the north-central Colorado regional center for shopping, education, health care, and cultural activities. It is the hub of a growing urbanized area and a major link in the chain of Front Range population growth occurring from the Wyoming border south to Pueblo. Greeley is the county seat of Weld County and the agricultural center of northern Colorado. Loveland and Longmont are also growing, principally as a result of employees of new industries moving into the area and retirees. Boulder is the county seat of Boulder County.

In recent years, the agricultural sector of the area has declined as productive agricultural lands are lost to subdivisions. Near cities, urbanization often occurs most heavily on agriculture lands formerly under irrigation. (47) The major area employers are light manufacturing companies such as Hewlett-Packard, IBM, Eastman Kodak, Teledyne, and Woodward Governor, and government. Three universities, Colorado State, Colorado, and Northern Colorado, are also major employers.

Larimer County's population has increased 200 percent in the past 20 years because of the settlement of newcomers attracted by employment opportunities, climate, and recreation. (48) Suburban areas that have sprawled out into surrounding agricultural land have become expensive to service and complex to regulate. Over the next 20 years, 121,000 persons are projected to move into Larimer County alone, pointing toward additional sprawl. The cities and towns in the planning area are expanding their educational, medical, municipal, and recreational support services to keep up with the growing population.

The planning area is experiencing one of the nation's highest rates of population increase, and its population centers parallel the Arapaho and Roosevelt National Forests. Some of the cities in the planning area more than doubled their populations between 1970 and 1980. Fort Collins is the fourth fastest growing metropolitan area in the U.S., according to the 1980 census. Tables II-2 and II-3 show the population projected for the planning area and past trends in change in personal income.

Fort Collins is located just 9 miles from the mouth of Poudre Canyon. Easy access to the Forest's varied recreation opportunities is a factor in this rapid population increase and in the industrial development in this area. Tourism and recreation have long been important industries in the area and are rapidly expanding to accommodate the expanding population. The excellent quality of life along the Front Range, combined

TABLE II-2
Planning Area Population Estimates

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>2000</u>
Boulder County	208,850	248,730	288,600	NA
Larimer County	150,400	182,000	214,400	279,400
Weld County	136,675	161,595	185,970	225,000

NA = not available

Source: County Planning Agencies, 1981

TABLE II-3
Personal Income, 1978

<u>County</u>	<u>Per Capita Income (actual \$)</u>	<u>Personal Income (thousand \$)</u>	<u>Percent Change in Personal Income 1973 - 1978</u>
Boulder	8,278	1,445,707	93
Larimer	7,037	920,868	101
Weld	6,857	756,654	61

Source: Colorado Manpower Review, Vol. XVII, No. 4, April 1980.

with the quality of the environment and its diversity have been cited as causes for the rapid population growth in the planning area.

The influx of industries and people to the planning area is also due in part to its proximity to a wide variety of recreational opportunities on public lands. Demands for more developed recreation facilities like campgrounds and picnic areas and for opportunities for hiking, fishing, off road vehicle (ORV) use, cross-country skiing, hunting, birdwatching, and backcountry experiences have increased radically. Projections point to additional demand into the future.

Rapid population growth, cost of conventional energy, and decreasing quality of being--mind, body, and spirit--have also been identified as conditions existing today. The Poudre Canyon contributes to the quality of life for many residents of the planning area by providing an area within easy access that benefits "mind, body, and spirit." The term symbolic meaning emphasizes meanings that are different, or stronger, than the usual, rational, average, or everyday meanings given to things, places, and practices. The Poudre Canyon represents this meaning for many residents within as well as outside the planning area. It is a place where many people spend their vacations, camping, hiking, fishing, picnicking, boating, and just enjoying the scenery. Residents and visitors to the planning area take drives up the scenic canyon to get away from pressures associated with urban living. It is within easy access to planning area cities and towns, and day trips provide an escape into a natural environment that contains a free-flowing river--a scarce commodity in this region of the country.

According to the Larimer County Front Range Report, tremendous change has taken place during the last 20 to 30 years in Larimer County. One of the changes has been the "increased stress on quality of being." This stress includes complex modern life, crowding, pollution and unhealthy lifestyles, particularly poor diets, contributing to increased stress and anxiety, bad health--both physical and mental--and the breakdown of the family.

One of the ideas for solution is to "conserve fragile natural places, both near and far, (and to) develop recreation sites along the rivers."

A major issue associated with maintenance or enhancement of the quality of life in Larimer County is the preservation of the Poudre River in its natural free-flowing state vs. building reservoirs to ensure water availability for the projected population growth along the Front Range. Residents of Poudre Canyon have their lifestyles, communities, and homes at stake with the possibility of dam construction in the canyon. Many local, regional, and national publics view the Poudre Canyon as one of the attributes defining their quality of life--a place symbolizing relief from the "complex modern life, crowding, pollution and unhealthy lifestyles..." Others view the river and canyon as a potential water supply for the Front Range populations. At the present time, water is already an issue in the planning area and the population of Larimer County is expected to increase twofold by the year 2000.

There are numerous factors to be considered. Residents of the planning area desire a certain quality of life--one which many see as disappearing. In the face of growth and development, people want to see natural areas preserved. At the same time, others see the need to plan ahead for projected growth in the area and view the Poudre River and Canyon as providing opportunities to supply the Front Range with needed water in the future.

Poudre Canyon

Poudre Canyon residents share a common lifestyle and values associated with the desire for esthetic surroundings and a rural mountain environment. The small communities and clusters of homes along the river rely on Fort Collins for services such as medical facilities, educational facilities, and shopping. Permanent residents of the canyon include retirees, a few people operating tourist businesses, and commuters who work in Fort Collins. Seasonal residents include second-home owners and people who rent a cabin or trailer during the summer and fall.

Significant growth in recreational activity has taken place in the canyon. Summer camping, picnicking, hiking, fishing, and ORV activities occur throughout the canyon. Kayaking and rafting on the river have become increasingly popular over the past several years. Recent improvements to Highway 14 have made Cameron Pass a year-round access route to the Western Slope and a year-round recreation attraction.

Driving through the canyon is an especially popular activity that can be enjoyed by almost everyone and is the highest recreation use of the area. Increased use of the canyon by nonresidents is affecting the quality of life somewhat for the residents of the canyon. There are increasing complaints concerning traffic, trespass, litter, and vandalism.

The quality of community life for Poudre Canyon residents is tied directly to the surrounding environment. Peace, quiet, and privacy in a scenic setting combined with easy access to major cities on the Front Range make the canyon a desirable place to live.

Living in small communities contributes to the quality of life for some people. An attribute of that quality of life is having more of a voice in what goes on in their community and ultimately a sense of control over their destiny. Poudre Canyon contains several small communities and two canyon associations formulated for just that purpose--having a say in the destiny of the canyon. The two associations are active and are highly opposed to any drastic changes in the quality of life in the canyon as it currently exists.

Community cohesion is defined as the social process or social condition in which people come together or solidify on the basis of shared attitudes or behavior. It is often strengthened when outsiders threaten or otherwise attempt to change the attitudes or behaviors central to the group. The community cohesion of the canyon communities has been strengthened tremendously by this study, due to the fact that outsiders are threatening the existence of the present quality of life of the residents.

Existing public issues are the shortage of public access to the river that occurs along some reaches and consequent trespass on private property; increases in vandalism, litter, and traffic congestion; the condition and availability of campsites in the river corridor; and the conflict that occasionally develops between residents of the area and visitors from nearby communities, all of whom feel that the area is a "backyard" for recreation. Each of these points, present prior to publication of the DEIS/SR, have been overshadowed by the potential for dams on the main channel of the Poudre. The resident population has expressed vocal opposition to development of water resources that would take place within the study corridor.

D. RARE II and Wilderness

Simultaneous with the early stages of this study, the Roadless Area Review and Evaluation Phase II (RARE II) was underway. Portions of the study area were recommended by the Administration for Wilderness designation on April 19, 1979. They were the Cache la Poudre, Comanche Peak, and Neota Wilderness areas. On December 22, 1980, the President signed the Colorado Wilderness Act (P.L. 96-560), which designated as Wilderness portions of the RARE II recommendations (see map 6, page 37). The Wild and Scenic Rivers Act provides that where an area is designated as a part of the National Wilderness System and the National Wild and Scenic Rivers System, the more restrictive provisions shall apply to management and administration. (49) While provisions vary depending on use, generally the Wild and Scenic Rivers Act is more restrictive.

E. Proposed Land Exchange - Colorado State University and Roosevelt National Forest

The Pingree Park campus of Colorado State University began in 1912 when Congress granted the university (then named Colorado A&M College) certain areas of the National Forest. In 1914, 1,600 acres of land were selected in the Pingree Park area near the upper portion of the South Fork of the Poudre River. Therefore, almost since the Forest's establishment in 1905, the Roosevelt National Forest and Colorado State University have had a cooperative relationship.

In 1973, the university began to pursue the possibility of a land exchange with the National Forest and made a formal request in October 1976 (see appendix K).

The Wild and Scenic Rivers Act, Section 8, states:

(a) All public lands within the authorized boundaries of any component of the national wild and scenic rivers system which is designated in section 3 of this Act or which is hereafter designated for inclusion in that system are hereby withdrawn from entry, sale, or other disposition under the public land laws of the United States.

(b) All public lands which constitute the bed or bank, or are within one-quarter mile of the bank, of any river which is listed in section 5, subsection (a), [the Cache la Poudre appears in this subsection, as number (31)] of this Act are

hereby withdrawn from entry, sale, or other disposition under the public land laws of the United States for the periods specified in section 7, subsection (b), of this Act.

Therefore, the proposed land exchange which is included within the study corridor could not be completed, subject to Congressional action.

The proposed land exchange is in the interest of the United States and Colorado State University. It provides for more manageable boundaries for the Forest Service and university, eliminating patchwork ownership patterns. The Pingree Park campus is used as a field laboratory by the College of Forestry and Natural Resources, as well as a host facility to university and Poudre R-1 School District conferences and institutes. The lands are managed by the university in a manner consistent with the recreational classification of the Wild and Scenic Rivers Act.

In the opinion of a number of responders during the comment period, it was felt that the negotiations for the land exchange should continue and that Congressional action be sought to permit the exchange (see Chapter VIII). The proposed exchange has been reviewed by the Congress without negative comment. It has advanced to a significant degree that only minor clarification of a final agreement between the University and Forest Service remains.

III. PLANNING CRITERIA

During the study of a river for possible inclusion in the National Wild and Scenic Rivers System, a river is judged by three sets of criteria. (50) The first set, eligibility criteria, is used to determine if the river qualifies to be in the system. If the river is eligible, a second set of criteria is used to determine which classifications--wild, scenic, or recreational--are applicable to various segments of the river. After these classifications are determined, they are used to develop alternative ways to designate and manage the river. These alternatives are made up of combinations of wild, scenic, and recreational classification or non-classification for various segments of the river.

The third set of evaluation criteria is used to determine which alternative will be identified as the preferred alternative.

This chapter describes these three sets of criteria as applied to the Poudre.

A. Eligibility Criteria

Eligibility criteria were used to determine whether the river qualifies to be in the National Wild and Scenic River System. The basis for these criteria is Section 2(b) of the Wild and Scenic Rivers Act of 1968, which states:

(b) A wild, scenic or recreational river area eligible to be included in the system is a free-flowing stream and the related adjacent land area that possesses one or more of the values referred to in Section 1, subsection (b) of this Act.

Values referred to in Section 1, subsection (b) are "...outstandingly remarkable scenic, recreational, geologic, historic, cultural, fish and wildlife, or other similar values."

Guidelines for Evaluating Wild, Scenic, and Recreational River Areas was prepared jointly by USDA/USDI in 1970. The publication aids in evaluating river eligibility and, later, in classification. New draft guidelines are being developed for Wild and Scenic Rivers. The content and context of the revisions are a clarification of the current regulations, not a change.

--The rivers must be in a free-flowing natural condition, but low dams, diversion works, and other minor structures will not automatically preclude the river from being included in the system if such structures do not unreasonably diminish the free-flowing nature of the stream or any outstandingly remarkable values which are present. After reviewing the Act and Guidelines, "free-flowing" was determined to connote "not bound, confined, or detained" by major structures or modifications to the waterway. Existing diversions of water in the study corridor are into the Poudre, as beneficial effects, not out of the river, diminishing existing values.

- The rivers generally should be at least 25 miles long, but shorter rivers or segments that possess outstanding qualifications may be included in the system.
- There should be a sufficient volume of water to permit, during the recreational season, full enjoyment of water-related outdoor recreation activities generally associated with comparable rivers.
- The river should have high quality water.

The following criteria were developed by the Colorado Department of Natural Resources, Water Conservation Board, and the USDA-Forest Service to characterize "outstandingly remarkable" values. They were then applied to the river to determine which, if any, were satisfied. Not all criteria need to be satisfied; one "outstandingly remarkable" feature is adequate to make a river eligible.

Scenic:

1. Variety - Must be distinctive from the character type of the surrounding area. Features of landform vegetative patterns, water forms, and rock formations are unusual or outstanding.
 - a. Landform - Over 60 percent slopes which are dissected and have uneven, sharp exposed ridges, or large dominant features.
 - b. Rock form - Features stand out on the landform. Unusual or outstanding rock features such as avalanche chutes, talus slope or rock outcrops, in size, shape, and location are present.
 - c. Vegetation - High degree of patterns in vegetation. Large old-growth timber. Unusual or outstanding diversity in plant species.
 - d. Water forms - Lakes - 50 acres or larger or those which are smaller that are otherwise distinctive or unusual.
 - e. Water forms - Streams - Drainage with numerous or unusually changing flow characteristics, such as falls, rapids, pools and meanders, or large volume.
2. Form - Form or massiveness is strong.
3. Color - Colors dominate or are distinctive. They have brightness, variety, interaction.
4. Lines - Lines complement the landscape.
5. Texture - Textures vary and form patterns. Changing vegetative communities in relation to geology is an example.

6. Other senses - Sounds, sights, and smells found along the river are not experienced on other rivers in the area.
7. The river is different or distinguishable from rivers that flow through similar terrain and vegetative zones.

Recreational:

The variety, amount of use, occurrence, or quality of recreation use on or adjacent to the river is high. The river is of national, regional, or possible state significance.

Geologic:

1. Exposure - Geology of the area has high visibility.
2. Formations and structures:
 - a. Formations are unusual - thrust faults, windows.
 - b. Formations are exemplary cases worthy of study and observation.
 - c. Formations are carved by the river and show erosional effects.
 - d. Formations are of unusual age for the area or show a long period and variety of ages.
3. Rocks are of rare or uncommon types.
4. Minerals are of unusual or distinctive types.
5. Outcrops are colorful and have different shapes and forms.

Fish and Wildlife:

Only wildlife associated with the river or corridor are evaluated.

1. Self-sustaining population of trout or other desirable species capable of providing a sport fishery without supplemental stocking.
2. May support a wildlife species that is threatened or endangered.
3. May support a species of wildlife that is separated or isolated from the main geographic range of the species.
4. Communities:
 - a. Unique associations of species, exemplary cases of symbiosis, competition, etc.

- b. Unusual food chains associated with the river.
5. Unusual abundance and/or diversity of species.

Historic and Cultural:

1. The association or connection of the corridor with events that have made a significant contribution to the nation's history or prehistory.
2. The apparent distinctive characteristics of a type, period, method of construction, or an artisan.
3. The geographic importance of the property.
4. Sites of importance which are easily interpreted or viewed along the river.

Other:

1. Significant attributes such as endangered or threatened plants or unusual plant communities.
2. Other values as determined later.

Eligibility:

The Poudre River study team ranked the river on each of the eligibility criteria on a graduated scale from "common" to "outstanding." It was determined that those portions of the Poudre River that Congress requested to be studied are eligible for inclusion in the National Wild and Scenic Rivers System. The river meets 6 of the 10 eligibility criteria set by Congressional legislation and the USDA/USDI regulation. The following is the result of analysis of the Poudre River's eligibility. (51)

Summary of Eligibility Criteria Evaluation

<u>Criteria</u>	<u>Results of Criteria Evaluation</u>
Scenic value	Outstanding
Recreational value	Outstanding
Geologic value	No
Fish and wildlife value	No
Historic value	No
Archaeological value	No
Free-flowing	Outstanding
Meaningful experience opportunity	Outstanding
Water volume	Outstanding
Water quality	Outstanding

In summary, the Poudre River is a free-flowing river with high scenic value and high quality water of sufficient volume that would provide an enjoyable and diverse recreational experience.

B. Classification Criteria

After the river was found to be eligible, classification criteria were used to determine the potential classification categories for the river segments. The Act defines these classifications in Section 2(b) of the Act:

(1) Wild river areas - Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

(2) Scenic river areas - Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

(3) Recreational river areas - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

According to the Wild and Scenic Rivers Act, the category of classification is based on the amount of development or evidence of human intrusion. The Poudre River has the potential to be classified as follows: (see map 2, page 5).

Segment 1 - 6 miles long - A recreational river area, based on:

1. The segment is paralleled by Colorado Highway 14.
2. The segment contains several low impoundments and diversion structures.
3. The shoreline is developed along most of its length.
4. The segment contains a large number of bridges.
5. The Fort Collins Water Treatment Plant diversion structure is also located in this segment.
6. Predominantly flows through private land.

Segment 2 - 12 miles long - A recreational river area, based on:

1. The segment is paralleled by Colorado Highway 14.

2. There are three bridge structures across the river.
3. There are eight developed recreation sites and one undeveloped site.
4. Predominantly located in National Forest land.

Segment 3 - 9 miles long - A recreational river area, based on:

1. The segment is paralleled by Colorado Highway 14.
2. There are five bridges.
3. There are two large recreation sites and two small recreation sites.
4. Predominantly located in National Forest land.

Segment 4 - 17 miles long - A recreational river area, based on:

1. The segment is paralleled by Colorado Highway 14.
2. There are numerous commercial and residential developments of varying size.
3. There is a diversionary structure located at the State fish rearing unit.
4. There are five developed recreation sites.
5. Predominantly located in National Forest land.
6. Segment located above confluence of the South Fork of the Poudre River.

Segment 5 - 18 miles long - A wild river area, based on:

1. The segment is only accessible by trail.
2. There are no commercial developments.
3. There are no diversion or dam structures.
4. The shoreline is primitive and contains no significant manmade modifications.
5. Entirely within Wilderness and National Park.

Segment 6 - 8 miles long - A wild river area, based on:

1. The entire segment is inaccessible by road.

2. There are only two inconspicuous roads approaching the segment.
3. There is no commercial development along the segment.
4. Only one cabin exists within the segment.
5. The segment is within the Cache la Poudre Wilderness.
6. There are presently no diversion or dam structures.
7. The shoreline is essentially primitive with no significant manmade modifications.
8. Predominantly located within National Forest.

Segment 7 - 9 miles long - A recreational river area, based on:

1. The segment is paralleled by National Forest development gravel roads #131 and #145.
2. There are numerous bridges along the segment.
3. There are two recreation sites and a number of primitive automobile pull-off facilities.
4. Colorado State University's Pingree Park campus and private cabins are located within this segment. Management of these lands is consistent with recreational designation.
5. Predominantly located within National Forest.

Segment 8 - 4 miles long - A wild river area based on:

1. The entire segment is inaccessible by road.
2. There is no commercial development along the segment.
3. The segment is entirely within National Park/Wilderness Area management protections.

C. Evaluation Criteria

Evaluation criteria used for selecting a preferred alternative for the Poudre River were as follows:

1. Protect and/or enhance scenic, recreational, and historic values (Wild and Scenic Rivers Act of 1968).
2. Increase the Forest Service share of dispersed public recreation (Regional Policy and Preliminary Regional Plan, USFS, 1978).
3. Provide incentives for development of private recreation facilities (Preliminary Regional Plan, USFS, 1978).

4. Provide a mix of resource opportunities that contributes to local dependent industries (Resources Planning Act of 1974).
5. Give high priority to maintaining the free-flowing conditions of the Poudre River (Wild and Scenic Rivers Act of 1968 and Roosevelt National Forest direction).
6. Ensure that adequate quantity and quality of water is available to meet on-site needs (Preliminary Regional Plan, USFS, 1978).
7. Respond to issues and concerns identified through public involvement (National Environmental Policy Act of 1969 and National Forest Management Act of 1976).
8. Minimum impacts on private property rights (public meetings).
9. Contribution to National Economic Development Objective (Water Resources Council Principles and Standards, 1980).
10. Contribution to Environmental Quality Objective (Water Resources Council Principles and Standards, 1980).

IV. THE ALTERNATIVES CONSIDERED

A. Guidance for Alternatives

Alternatives are made up of combinations of wild, scenic, and recreational classification, or non-classification, for various river segments. The alternatives must be formulated consistent with a variety of statutory and regulatory guidance: the Wild and Scenic Rivers Act, the National Environmental Policy Act, Guidelines for Wild and Scenic Rivers (USDA/USDI), Principles and Standards (Water Resources Council), and administrative procedures. (50) Between the publication date of the DEIS/SR and the completion of this Final Environmental Statement and Study Report, several changes in applicable regulatory guidance occurred, primarily in the analysis and display procedures of the Principles and Standards (P&S). In order to comply with the spirit and intent of new regulations and respond to comments, some changes were necessitated in the array of alternatives.

B. Alternative Formulation

The primary purpose of a study under the Wild and Scenic Rivers Act is to determine whether or not a river is suitable for designation as a component of the National Wild and Scenic Rivers System. After reaching that fundamental determination, the study is to consider a range of options for the future management and use of the area, taking into consideration the environmental, economic, and social effects of these options. The alternatives are important to the study process because they not only present options for consideration, but set assumptions used to forecast conditions and effects over time.

Two coequal national objectives provide the basis for water and related land resources planning in the P&S. These objectives are protection and enhancement of national economic development (NED) and protection and enhancement of environmental quality (EQ). Contributions to national economic development are increases in the value of the national output of goods and services. Contributions to environmental quality are favorable changes in the ecological, cultural, and aesthetic attributes of natural and cultural resources that sustain and enrich human life.

Alternatives are to be formulated to alleviate problems and take advantage of opportunities that occur at the national, regional, state, and local levels in ways that contribute to the NED and EQ objective, according to the P&S. The following goals were developed to shape the formulation of alternatives.

1. NED: problems and opportunities generated by scarcity of and competition for finite natural resources.
 - Increase the value and diversity of the recreation experience in the Poudre River canyon.
 - Increase supplies of economical hydroelectric peaking power.

- Stem the price increase of water to all users to maintain economic vitality.
 - Maintain or increase irrigated agricultural production through the storage and distribution of presently excess Poudre River flows.
2. EQ: problems and opportunities generated by increasing population and urbanization.
- Maintain dwindling riparian and wetland habitat in the Poudre River canyon.
 - Maintain high water quality in the Poudre River.
 - Stem the decline of fish and wildlife habitat, especially for endangered and threatened species.
 - Maintain the aesthetic attribute of the Poudre River Canyon.
 - Preserve the last free-flowing river along the Front Range.

A variety of alternatives is required by statute and regulation: a national economic development plan, an environmental quality plan, a primarily non-structural plan, and a no-action plan (or the future condition without a plan). Other alternative plans may be formulated to explore opportunities to contribute to various mixes of the objectives or consider plans that could be implemented under the authorities of other Federal agencies, State and local entities, and nongovernmental interests.

Formulation of the alternatives was a dynamic process, with various steps iterated one or more times. This iteration process sharpened the planning focus and later would allow more accurate estimation of effects of the alternatives. In response to comments received after publication of the DEIS/SR, revisions in the P&S, and boundary changes between the Roosevelt National Forest and Rocky Mountain National Park, several changes were made in formulating alternatives for this final report. The alternative proposing classification of only the Big South was discarded due to its limited contribution to NED and EQ objectives. Water resource development potentials were theoretically maximized to more accurately define an NED alternative, extrapolating it out of the draft no-action alternative. A partial designation alternative was modified by adding a segment of wild classification and a water storage project to contribute to a mix of national objectives.

C. The Range of Alternatives

The following is a segment-by-segment summary of the recommended designations for each alternative.

Summary of Alternatives A through E Formulation for the Cache la Poudre Wild and Scenic River Study

Segment	Approx. Miles	Approx. Acres	Alternatives					
			A	B	C	D	E	
			Classification					
1	6	1,920	R	*	-	-	-	
2	12	3,840	R	*	-	-	R	
3	9	2,880	R	*	-	-	R	
4	17	5,440	R	*	-	-	R	
5	18	5,760	W	W	-	-	W	
6	8	2,560	W	W	-	-	W	
7	9	2,880	R	R	-	-	R	
8	4	1,280	W	W	-	-	W	
Total								
Total	83	26,560	Miles	83	39	0	0	79

R = Recreation Designation. The Wild and Scenic Rivers Act states that "recreational" rivers:

1. Are "readily accessible by road or railroad."
2. "May have some development along their shoreline."
3. May have "undergone some impoundment or diversion in the past."

W = Wild Designation. The Act further states that "wild" rivers "...represent vestiges of primitive America," and that they possess these attributes:

1. "Free of impoundments"
2. "Generally inaccessible except by trail"
3. "Watersheds or shorelines essentially primitive"
4. "Waters unpolluted"

- = No Designation.

* = No decision due to lack of information

1. Alternative A (EQ alternative, non-structural alternative, identified as the "citizen's alternative" during the comment period) - Full designation of river, classification of all segments to highest level of eligibility (map 9, page 50).

- Segments 1, 2, 3, 4, and 7 classified as recreational.

- Segments 5, 6, and 8 classified as wild.

- Change from DEIS/SR: recommendation for segment 8 - response to comment and boundary change.

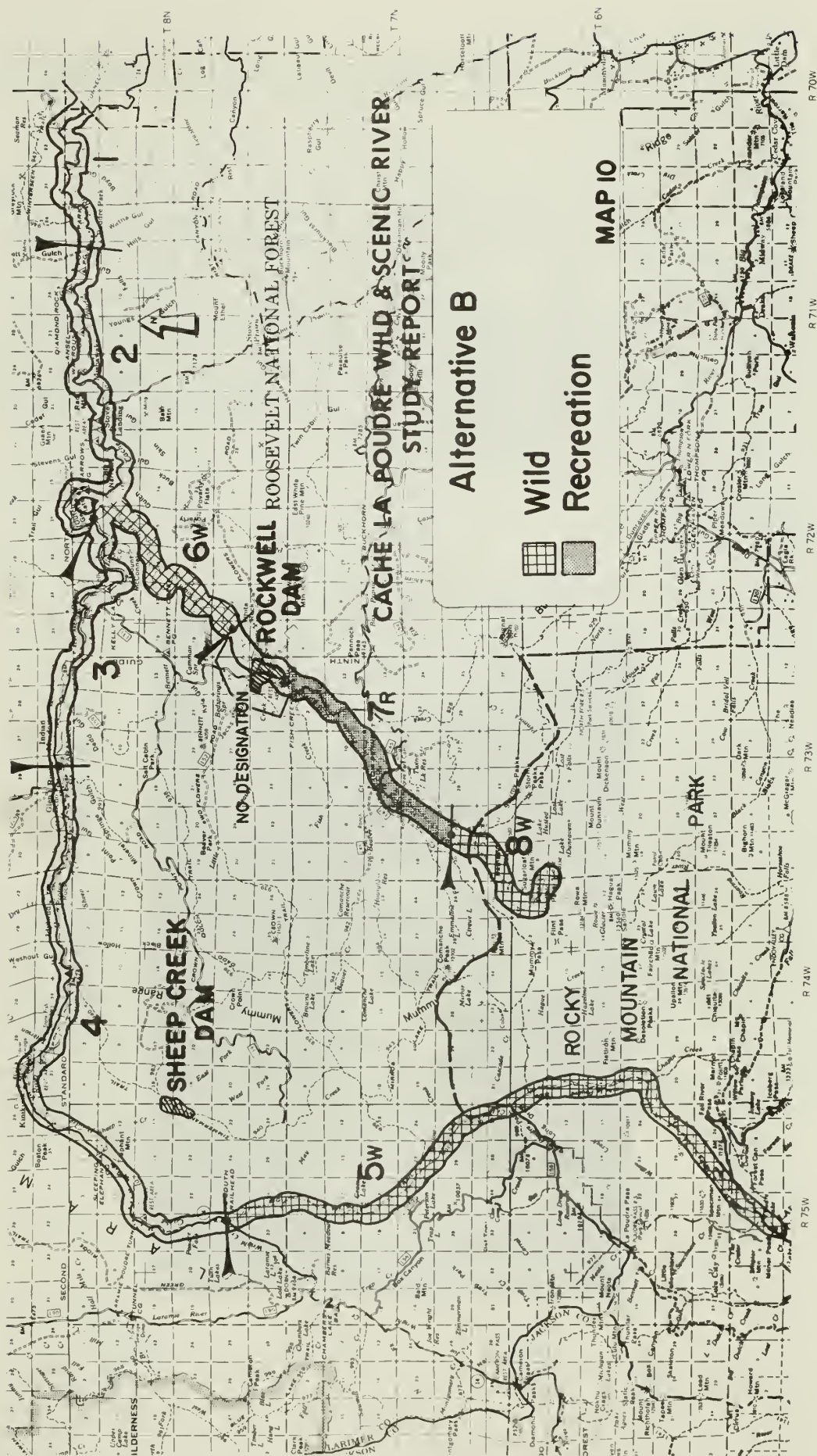
The area would generally be managed to preserve or enhance the essentially primitive condition of wild segments and protect the river and other resource values of recreational segments. No major development would occur.



2. Alternative B - Partial designation of river, classifying some segments to highest level of eligibility and not classifying others (map 10, page 53).
- Segment 7 classified as recreational.
 - Segments 5, 6, and 8 classified as wild.
 - Segments 1, 2, 3, and 4 not classified.
 - Change from DEIS/SR: recommendation for water storage project between segments 6 and 7 and wild designation for segment 8 - responses to comments and boundary change.

The area would generally be managed to preserve or enhance the essentially primitive condition of wild segments, protect the river and other resource values of recreational segments, and follow without plans condition direction for segments not classified.



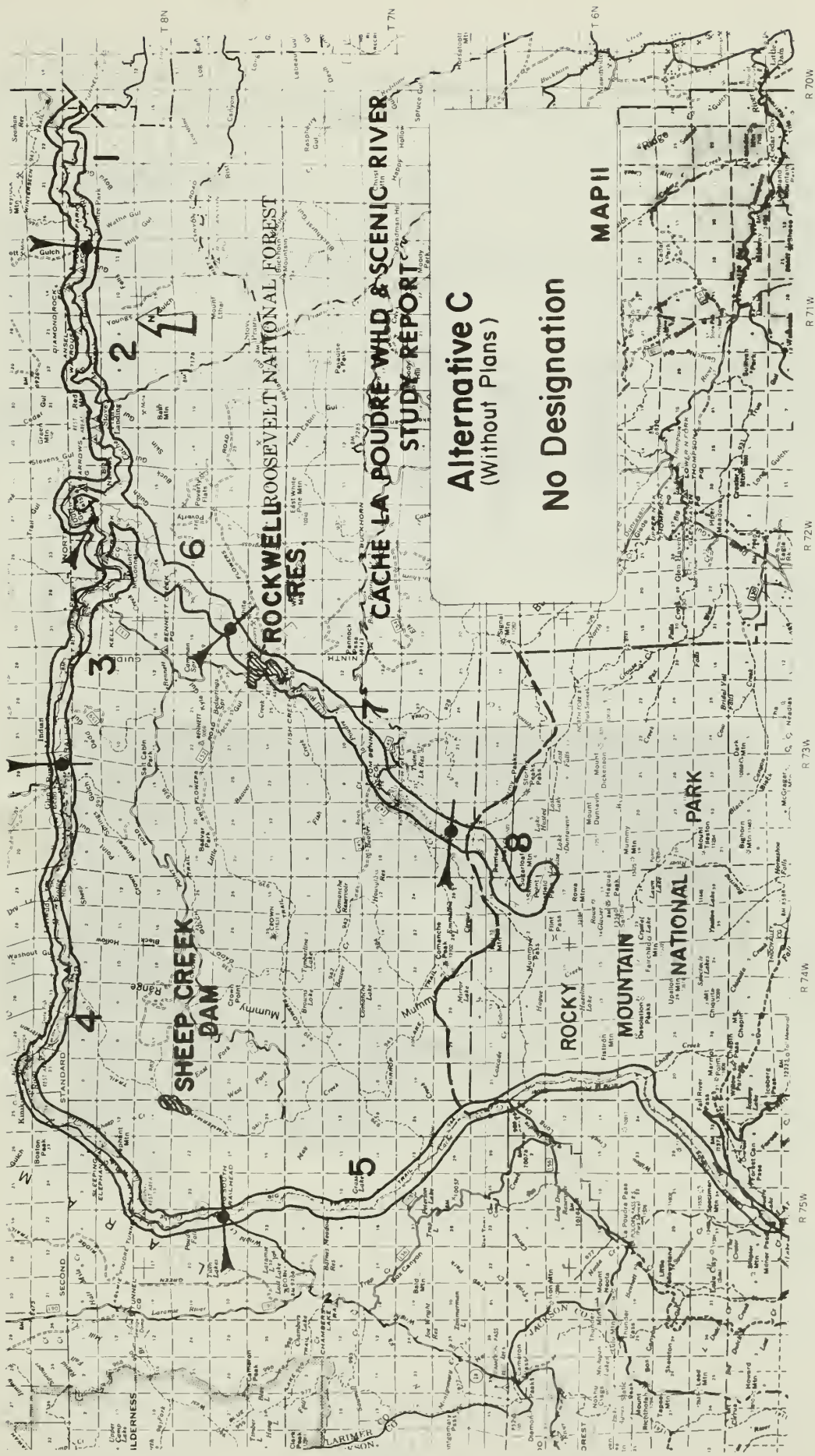


3. Alternative C (without plans condition, no-action alternative) - No designation of river (map 11, page 55).

- Segments 1, 2, 3, 4, 5, 6, 7, and 8 not classified.
- Change from DEIS/SR: limited water resource development foreseen as a more accurate likely future condition, based on potentials at Sheep Creek and Rockwell sites.

The area would be managed consistent with legislative and administrative guidance in an integrated, multi-resource basis. Some development would occur to absorb user impacts with new facilities, protect resource values, and permit water storage at the proposed Sheep Creek and Rockwell Reservoir sites. Three 100-unit campgrounds would be constructed, located in segments 2, 3, and 7.





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Alternative C
(Without Plans)

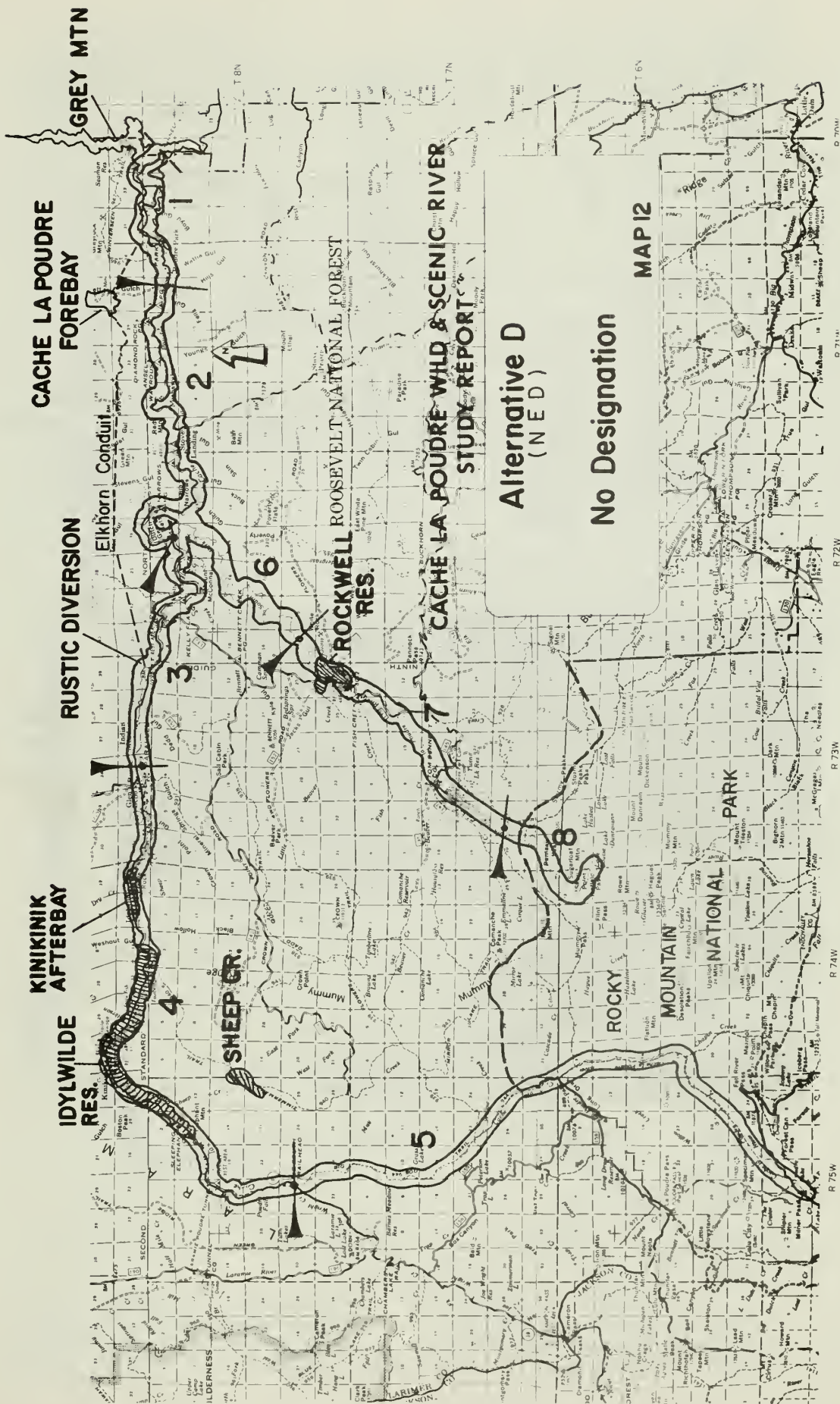
No Designation

MAP II

4. Alternative D (NED alternative, non-federal alternative) - No designation of river, development potentials maximized (map 12, page 57).
- Segments 1, 2, 3, 4, 5, 6, 7, and 8 not classified.
 - Change from DEIS/SR: development potentials theoretically maximized using Grey Mountain/Idylwilde project as proposed by International Engineering Co., Inc. - response to comment.

The area would be managed consistent with legislative and administrative guidance in an integrated, multi-resource basis. Contributions to the NED objective would be emphasized. Three 100-unit campgrounds and flatwater recreation facilities would be constructed.



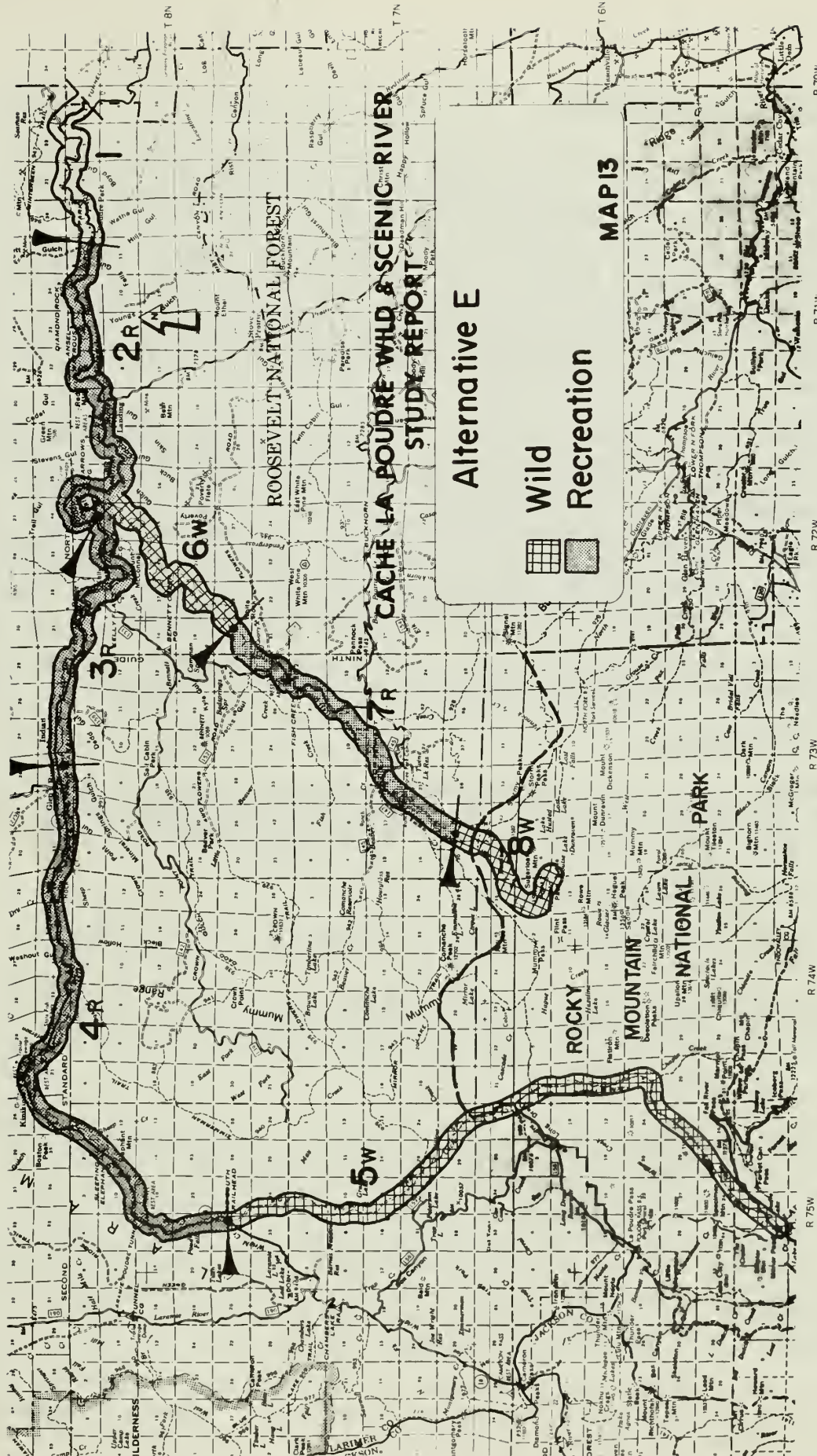


5. Alternative E (preferred alternative from DEIS/SR) - Partial designation of river, classifying most segments to highest level of eligibility and not classifying one segment (map 13, page 59).

- Segments 2, 3, 4, and 7 classified recreational.
- Segments 5, 6, and 8 classified wild.
- Segment 1 not classified.
- Change from DEIS/SR: recommendation for segment 8 - response to comments.

The area would be managed similarly to alternative A, except that segment 1 would be managed in an integrated, multi-resource way. The option for water resource development would be maintained in segment 1.





D. Alternatives Discarded

A number of alternatives were considered during the formulation process and eventually discarded from detailed discussion in the environmental impact statement. One alternative that was eliminated from further study was identified as "alternative C" in the DEIS/SR. This plan proposed designation of the river, classifying only segment 5 (wild river). In the view of the study team, this alternative did not significantly address the NED and EQ objectives. It was only mentioned by two respondents during the comment period (see Chapter VIII). Other alternatives were discarded because of only minor differences from the five finally iterated in this report.

Alternatives that offered a mix of wild and scenic river designation and major water resources development were considered during the study, but were also discarded. This was done for two principal reasons. First, mixed designation/major development alternatives required assumptions about uninvestigated development that could not be supported by existing information. Their potential future conditions were even more sensitive to risk and uncertainty than the alternatives considered and involved a variety of uninvestigated development alternatives. Secondly, the purpose of the study is to evaluate the Poudre for possible inclusion in the Wild and Scenic Rivers System. An alternative that portrays theoretical development potentials exists in the revised alternative D.

E. Common Elements

In formulating the range of alternatives, several concepts were common to each individual alternative. An awareness of these common factors is helpful prior to analyzing the effects of the alternatives.

CSU - Forest Service Land Exchange

The proposed land exchange discussed in Chapter II is widely supported by all parties concerned. The study team assumed the finalization of the exchange as a given to each alternative since University management of the land will be compatible with adjacent Forest Service lands. Enabling legislation by the Congress will be recommended if necessary.

Water Conservation

Regulatory and administrative guidance directs the full integration of water conservation into alternative formulation as a means of achieving NED and EQ objectives. Water conservation is defined as actions that will reduce the demand for water, improve efficiency in use and reduce losses and waste, and/or improve land management practices to conserve water. A clear contrast is made between these demand-oriented conservation elements and storage facilities. As such, conservation is projected to occur in all the alternatives at a similar rate, yet to a degree insufficient to alter basic supply/demand relationships.

Water in the planning area is consumed by two major user groups: municipal and industrial users account for 20 percent of resource consumption and agriculture, principally irrigation, accounts for 80 percent of

consumption. (52) The role of conservation in achieving the NED and EQ objectives may be conveniently discussed in terms of each user group.

At the outset, it appears unlikely that significant demand reductions can be achieved in the municipal using sector. The planning area is one of the fastest growing regions in the nation; demand for relatively constant supplies will increase. The historical posture of municipalities in the planning area has been to provide adequate supplies of water to meet demand. Attempts to limit the size or rate of growth, either to a modified natural carrying capacity or various proposed thresholds, have not been favored across most of the planning area. Water is metered in less than half of the planning area. Comparisons between similar metered and non-metered communities show that consumption can be 20 to 25 percent less in communities that meter water. (53) The desire for the traditional, pleasant environment of a more humid climate--trees, grass, vegetation--accounts for roughly 40 percent of water consumption by municipal users annually. (54) Maintenance and/or improvement of plumbing systems, use of water-conserving fixtures and appliances, more efficient selection of landscaping varieties and watering practices, and a heightened awareness of conservation principles can result in reduced losses and waste. However, the impact of these conservation efforts is overshadowed by the aggregate increase of users predicted through the study period.

Agricultural irrigators have a dual focus for the application of conservation elements: improving the efficiency of conveyance systems (ditches, canals, laterals) and improving on-farm efficiencies. A publication of the Colorado Water Resources Research Institute indicates that:

Water is usually applied as liberally as it is available and by the easiest, most economical methods available, not those allowing most conservation. There are exceptions, of course, with certain dryland farming methods and during periods of scarce water. Yet even then the most common technique is the reduction in the number of irrigated acres and pressure for additional water development projects for more water sources. (55)

By applying the most modern appropriate technology and improved management practices, it is estimated that in the South Platte region, of which the planning area accounts for roughly one-third, conveyance efficiencies could be increased from the present 73 percent to 89 percent and on-farm efficiencies could be increased from a current 46 percent to 74 percent. (56) While this would appear to be a worthwhile improvement, the interrelationship of irrigation systems and dependency upon return flows within the South Platte basin predicts a different conclusion: water depletion may actually increase with "best" management practices. (57) This physical complexity of the resource system, where water is actually used several times before leaving the basin, represents just one concern. Improved efficiencies are obtained at the cost of greater energy consumption, greater financial requirements, or both. A variety of research and professional opinion suggests that additional examination and evaluation are necessary before reliable conclusions may be reached.

In summary, the application of conservation elements does not hold the promise of significantly achieving either NED or EQ objectives. The development of an increased conservation ethic among all resource users leads to more efficient utilization, but quantifiable benefits are difficult to forecast over time.

Risk and Uncertainty

Plans and their effects are to be examined to determine the uncertainty inherent in the data or various assumptions of future economic, demographic, social, attitudinal, environmental, and technological trends. Situations of risk are defined by the P&S as those in which potential outcomes can be described in terms of reasonably well-known probability distributions such as dam failure (or knowing enough to figure the odds). Situations of uncertainty are defined by the P&S as those in which potential outcomes cannot be described in objectively known probabilities (or not even able to figure the odds).

While the process of formulating the alternatives is not subject to a high degree of risk, all of the alternatives' outcomes are subject to uncertainty. Future social, attitudinal, and technological conditions are in themselves uncertain, and have the potential to exert a variety of influences on the alternatives. Most sensitive to uncertainty is alternative D, the NED alternative. The water resource development component of the alternative is based on a reconnaissance level study nearly 20 years old, yet it represents the most current information available. A project feasibility study has been requested, but without a basin-level view, such a study can only judge the site-specific feasibility. It would appear to be more valuable to know if Grey Mountain/Idylwilde is the best feasible alternative to achieve the NED objective. The study team has not found information of that type.

Sensitivity to risk and uncertainty is discussed further in the following chapters.



V. EFFECTS OF IMPLEMENTATION

Effects of the five alternatives are to be forecast using an interdisciplinary approach. Specific guidance for this portion of the study process is outlined in the P&S. Effects of the alternative plans, including the without-plans condition, are to be forecast, based on the most likely condition expected to exist in the future under each alternative. Four accounts are used to organize information on the effects of the alternatives. These accounts are national economic development (NED), environmental quality (EQ), regional economic development (RED), and other social effects (OSE). Each account shows particular aspects of an alternative's effects on the human environment. The significance of the relative effects of the alternatives is found by comparing them to the without-plans condition.

Using the alternatives described in Chapter IV, the study team forecast the most likely future condition and predicted their effects. This activity requires the participation of both interdisciplinary specialists and external individuals. Efforts to deal with non-study team experts are discussed in Chapter VIII.

During the comment period a number of respondents identified questions that were unanswered in the DEIS/SR accounts and displays. The P&S were also revised subsequent to completion of the DEIS/SR. Appropriate modifications have been made in this report to respond to comments and to reflect, as much as possible, revisions in P&S procedures.

It should be noted that the study team encountered some difficulty in precisely applying the P&S procedures. Initially, the procedures appear to anticipate a completed regional or river basin analysis; neither exists for the Poudre. The procedures also seem to be most applicable to situations where a fully developed water resource project proposal is available; only a reconnaissance level study, completed in 1962, exists for the Poudre. As a result, the team has attempted to meet the spirit and intent of all applicable guidance, consistent with the information available. Where any portion of the analysis has been affected by a lack of information or information subject to uncertainty, additional discussion of a range of potential effects appears in the text.

A. National Economic Development (NED) Account

The NED account is that part of the NEPA human environment that identifies beneficial and adverse effects on the economy. Beneficial effects are increases in the economic value of the national output of goods and services. Adverse effects are the opportunity costs of resources used in implementing a plan. Procedures for arriving at beneficial and adverse effect values are detailed in the P&S.

The summary NED account is displayed in Table V-1. The table and underlying economic analysis have been completely redone for this final report. All values are expressed in 1979 dollars, using the Water Resource Council's discount rate of 7-1/8 percent for amortizing and discounting calculations. A 50-year study period is used for analysis, beginning in 1990. This date was selected because implementation of any

of the with-plans alternatives (A, B, D, E) could require as many as 10 years to complete a legislative and/or regulatory approval process.

Difficulties were encountered completing the analysis of NED effects. The only available information for projecting the effects of alternative D has been extracted from the 1980 Report of Long Range Study conducted by International Engineering Company, Inc. (IECO). Contained in that report is an indexing of the 1962 Bureau of Reclamation Reconnaissance Report values to December 1979 dollar amounts. In response to comments received suggesting inclusion of a specific NED alternative, they have been used for this final study. Unfortunately, there is no more current evaluation of water and power potentials, significant contributors to the NED objective, than this report (see discussion on water development in Chapter II).

The original BR figures are calculated in an analysis framework inconsistent with the P&S. In many cases, costs cannot be accurately related to benefits, calculations involve interest bearing and non-interest bearing categories, and consideration of external economies and diseconomies cannot be made. As a consequence, some analyses required by the P&S cannot be quantified for inclusion in the NED account. These instances are qualitatively discussed in the OSE account, later in this chapter. No attempt has been made to modify the information presented in the IECO Report. Portions of the financial analysis are reproduced in appendix G.

Beneficial Effects

Hydropower

Only alternative D contains beneficial effects for hydropower, as it is the only alternative with generating facilities incorporated in the proposed plan. Dollar amounts are taken from the IECO study. Hydropower values in the IECO Report are assumed to be the same as the revenue estimated to be derived from the sale of electricity. As peaking power, the rates of \$120 per kilowatt per year for capacity and 12 mills per kilowatt-hour for energy were applied by IECO to 95 percent of the capacity and energy projections. These amounts are consistent with 1979 peak power contracts in the planning area. (58) As is common to power pricing methods, the cost of producing and delivering equivalent alternative power is the basis of the rates for capacity and energy. Additional hydropower information may be found in appendix L.

Municipal and Industrial Water Supply

Municipal and industrial water supply values in alternatives B and C are based on the capacity of Rockwell Reservoir. The value is comparable to an equal amount of water (4,900 acre-feet) purchased from the Colorado-Big Thompson Project. Values for alternative D are taken from the IECO Report. The actual value of M&I and irrigation water from alternative D can only be estimated until the associated water rights are awarded.

Agricultural Irrigation

The value of agricultural irrigation water in alternative D is taken from the IECO Report. The P&S employs a different method for valuing irrigation water, based on the value of the crops grown from additional acres to be irrigated. Proponents of the Grey Mountain-Idylwilde project, in requesting funding for a feasibility study of the project from the State, indicated that additional acres would not be irrigated. (59) The values are nonetheless included in the NED account to reflect a claimed benefit.

The water is to be used for supplemental irrigation of existing land instead of irrigating new acres, which could still make contributions to the NED objective. However, insufficient data exists with which to quantify this potential effect. The results that appear are uncertain.

Recreation

Recreation values for alternatives A, B, C, and E are calculated using the Resources Planning Act (RPA) valuations for a recreation visitor day (RVD). (60) One RVD is defined as 12 hours of recreation by one individual (or other combinations that achieve the same amount, such as 3 hours of recreation by four individuals). This figure was multiplied by the projected recreation use forecasted for each alternative. These values are significantly lower than those reflected by the willingness-to-pay methodology of the P&S and do not differentiate between the types of recreation activity or the quality of the experience. Use of the willingness-to-pay method would increase values for recreation activities in limited supply, such as whitewater boating and quality trout fishing. In the opinion of the study team, RPA values allow a satisfactory basis of comparison with the IECO Report. All NED recreation effects could be re-evaluated with procedures prescribed in the P&S only by using data that is unavailable at this time.

Adverse Effects

Construction

Construction costs reflect annualized amounts necessary to build plan facilities, such as reservoirs, campgrounds, picnicgrounds, trailheads, and trails. The cost of Rockwell Reservoir, estimated at \$10 million, is factored into alternatives B and C. Land acquisition, easements, rights-of-way, and other categories are assumed to be included in the single value for alternative D.

Land Acquisition

No lands are projected for acquisition under alternatives A, B, C, or E. This is consistent with current management direction and the assumption that less-than-fee-title techniques will be employed to achieve land uses consistent with Wild and Scenic designation. The opportunity remains for exchanges with private landowners to achieve management goals. Alternative D would necessitate large acquisition costs for project facilities, especially in segment 1 (Grey Mountain Reservoir)

where private ownership is roughly 80 percent. This amount is assumed to be portrayed in the construction costs.

Easements

The three designation alternatives feature varying amounts of scenic easement acquisition to accomplish management objectives, as forecast by the study team. Development is expected to continue in existing enclaves. Predominant use of scenic easements would be to preserve and protect existing values adjacent to and outside the developed enclaves. Since the need to acquire easements over the entire analysis period is difficult to project, potential maximum acquisitions have been predicted. It would be feasible to manage designated areas successfully without expenditure to these levels if cooperative zoning ordinances and development consistent with designation are accomplished. Using market comparisons, the cost of acquiring easements is estimated at an average of \$1,300 per acre. In alternative A, easements would be acquired on approximately 1,810 acres early in the analysis period. Alternative E projects acquisition of easements on 1,475 acres. Alternative B, with most of the lands already in Federal ownership, would acquire easements on only 487 acres.

Rights-of-Way

Rights-of-way would be acquired to expand trail systems under the designation alternatives, consistent with the level of designation in each. Projected trail additions are: alternative A, 18 miles; alternative E, 9 miles; alternative B, 6 miles. Estimated cost of right-of-way acquisition is \$2,750 per mile. Alternative D would also require right-of-way acquisition for many of the support facilities of the project and relocation of some existing facilities. Costs of acquisition for D are assumed to be included in the construction cost amount.

Minerals

The mineral value shown is the estimated average annual value of gravel currently removed from the corridor, including increased transportation costs. Wild and Scenic River designation results in withdrawal of the river bed and adjacent lands in segments classified "wild" (one-quarter mile on either side) from appropriation under the mining laws and from operation of the mineral leasing laws. Valid existing rights are not affected. Alternatives A and E, by designating those portions of the corridor where pits are currently available, would preclude gravel extraction. The other alternatives would not significantly impact potential gravel pit operations.

Operation, Maintenance, and Reserve

Values for operation, maintenance, and reserve for alternative D are taken from the IECO Report. Values for the other alternatives include the cost of Forest Service administration and replacement of existing developed recreation facilities twice during the analysis period and newly constructed facilities once. Alternatives B and C also include operation and maintenance costs for Rockwell Reservoir, estimated by the City of Fort Collins to be \$10,000 per year.

NED Summary

Each of the alternatives shows a positive contribution to the national economy through the analysis period. As required by the P&S, the table shows the comparison of each of the alternatives to alternative C, the without-plans condition. This comparison offers an opportunity to evaluate the impact of each plan as the difference (algebraic sum) between without- and with-plans conditions. Each of the designation alternatives would have a lower positive contribution than alternative C; alternative D would have considerably greater.

However, the information available for this study is inadequate to a full P&S analysis under the NED account. Costs for each alternative would occur, for the most part, in the first 10 years of the analysis period. Benefits would accrue after the implementation of any plan and tend to increase in value over time. Specific staging information is not available with which to calculate an accurate benefit stream.

Transportation is an NED consideration that was not included in this analysis because a thorough transportation study has not been conducted for alternative D. The original BR Reconnaissance Study projected relocation of the highway to the south of the Grey Mountain feature and the north of Idylwilde. The Colorado Division of Highways was not consulted in the original prediction and their current estimates are that such a relocation would cost a minimum of \$50 million. Inundation of the Poudre Canyon may necessitate rerouting portions of Highway 14 outside the canyon. At the same time, increasing populations will bring additional traffic and congestion to the present two-lane highway. Designation of segments 1-4 would preclude major modifications of the road alignment in the corridor or expansion to three or more lanes. The beneficial and adverse effects cannot be quantified at the present time due to inadequate information.

One important area of analysis, especially for development alternatives, is a current calculation of costs to mitigate alternative D's adverse effects. Existing information is based on a study that was completed prior to enactment of many protective Federal and State statutes. According to IECO, the cost of mitigating adverse environmental impacts--if they do not render a project unacceptable--could increase the project cost significantly. (61) The costs of mitigation are included in designation alternatives (A, B, E), as a part of the construction cost.

TABLE V-1
National Economic Development Account
Potential Average Annual Effects on National Income 1990-2040
(Figures given in 1979 dollars; WRC discount rate of 7.125 percent)

	Alternative A (EQ)	Alternative B	Amount \$1,000 Alternative C (W/O Plans)	Alternative D (NED)	Alternative E
A. Beneficial Effects					
1. Hydropower	0	0	0	33,534	0
2. M&I Water Supply	0	721	721	2,436	0
3. Agricultural Irrigation	0	0	0	700	0
4. Recreation				1,000	
a. Developed	420	692	777	*	420
b. Dispersed	1,566	1,394	1,394	*	1,566
c. Other (fees)	65	139	190	*	65
5. Other	0	0	0	1,190 a/	0
6. Total NED Benefits	2,051	2,946	3,082	38,860	2,051
B. Adverse Effects					
1. Construction	29	809	839	27,259	18
2. Land Acquisition	0	0	0	*	0
3. Easements	173	47	0	*	141
4. Rights-of-Way	4	1	0	*	2
5. Minerals	35	0	0	*	35
6. Operation, Maintenance, Reserve	488 b/	676 b/	742 b/	4,630	488 b/
7. Total NED Costs	729	1,533	1,581	31,889	689
C. Total Effects					
1. Total Beneficial Effects	2,051	2,946	3,082	38,860	2,051
2. Total Adverse Effects	729	1,533	1,581	31,889	684
3. Net NED Effects	1,322	1,413	1,501	6,971	1,367
D. Benefit/Cost Ratio	2.8	1.9	1.9	1.2	2.9
E. Comparison to Without-Plans	-179	-88	0	5,740	-134

* Amounts are not separated in IECD, Inc. study, but are aggregated into broader categories.

a/ Includes Fish & Wildlife and Flood Control benefits claimed in IECD, Inc. study.

b/ Includes replacement of campground and picnicground facilities once during analysis period for new facilities and twice for existing facilities.

B. Environmental Quality (EQ) Account

The EQ account is that part of the NEPA human environment that identifies beneficial and adverse effects on significant EQ resources and attributes. Beneficial effects in the EQ account are favorable changes in the ecological, aesthetic, and cultural attributes of natural and cultural resources. Adverse effects in the EQ account are unfavorable changes in the ecological, aesthetic, and cultural attributes of natural and cultural resources.

Procedures for calculating this account were published in 1980, after completion of the DEIS/SR. In adherence to the revised regulations and in response to comments, this account has been completely redone.

An EQ resource is a natural or cultural form, process, system, or other phenomenon that is related to land, water, atmosphere, plants, animals, or historic or cultural objects. Each EQ resource has one or more EQ attributes, ecological, cultural, and aesthetic properties that sustain and enrich human life. As an example, consider segment 4 of the Poudre as the EQ resource being discussed: an ecological attribute would be its habitat components that sustain viable ecosystems; a cultural attribute would be a prehistoric site that can be used to reconstruct or preserve human lifeways; and an aesthetic attribute would be perceptual stimuli that provide surroundings for enjoyment and appreciation, like the distinctive scenery in this segment. For evaluation purposes, the eight segments of the river were inventoried as EQ resources and the effects of the alternatives were evaluated for EQ attributes by the study team. A summary of EQ data appears in Table V-2. Evaluation worksheets used to determine net EQ effects are included in appendix O.

Based on an assumed continuation of population growth trends for the Front Range and planning area, all of the alternatives hold the potential for contributing to a decline in environmental quality. Regardless of which alternative is implemented, greater populations will mean increased residential settlement, urbanization, traffic, recreation use, and accompanying adverse EQ effects. The no designation alternatives (C, D) have the potential for more significant impacts at a more rapid rate. The alternatives proposing designation (A, B, E) are oriented to preserving and protecting those values that caused the river to be designated, minimizing the magnitude and occurrence of adverse EQ effects.

Water Resource

Effects on the water resource are described in terms of preservation of the river's free-flowing nature and its quality. Segments 5, 6, and 8 are currently protected under designation as Wilderness or National Park lands. Alternatives B and C, which anticipate the construction of Rockwell Reservoir, would have a moderately negative impact on the free-flowing nature of the river in segment 6 and a slight impact once the South Fork joins the main stem. The regulation and diversion of the Poudre predicted under alternative D would have significant adverse effects on the free-flowing nature of the river in segments 1-4.

Without a plan, water quality is predicted to undergo a slight, continual decline through the analysis period, attributable to increased development

and recreation use. Water quality will, however, remain high. Alternative D presents the greatest overall impairment and would have a high degree of impact during construction of the project facilities. After completion of the construction phase, the negative impacts of additional recreation contact with the water should be offset by reductions in sediment. Alternative A protects water quality throughout the Poudre River system to the Forest boundary. The other alternatives would provide increments of additional control for water quality within the respective designated segments. Other Federal, State, and local laws, regulations, and ordinances would protect the watershed, but not to the degree offered by designation.

Air Resource

Effects on the air resource are described in terms of impairment of air quality. Similar to water quality, some impairment is forecast in the without-plans condition. Development of the canyon will bring additional wood smoke from fireplaces/stoves and traffic will increase hydrocarbon emissions. Air quality should remain within applicable Federal and State standards. Alternative D will have a greater impact, mostly related to the construction phase of project features and road relocation (short-term), in addition to the effects predicted for the without-plans condition. Designation alternatives offer the greatest protection, ranging from A to E to B, respectively.

Visual Resource

Effects on the visual resource are described in terms of impacts on scenic quality, quantified by departures from existing visual quality objectives. Alternative C projects continued residential and commercial development on private lands within the corridor. This construction will have a slight negative impact over the analysis period. The NED alternative, while creating reservoirs of potential scenic beauty at full pool, inundates much of the visual resource which is classified as "distinctive" variety. (62) This loss is significant and permanent. Additional losses in visual quality are predicted for the re-routing of Highway 14, which would involve relocating approximately 16 miles of two-lane, all-weather road around the reservoirs. The draw-down nature of the reservoirs reduces contributions to scenic quality at progressively lower water levels. Alternative A would entail the least impairment of the visual resource. While new residential and commercial construction would continue in developed enclaves, it would be consistent with the scenic values of the corridor. Similarly, the ability to acquire scenic easements would allow preservation and protection of existing values. Alternative E would provide the same effects, except that segment 1 would not be affected. Alternative B would provide additional protection to segment 7.

Cultural Resource

Subject to further cultural resource studies, prehistoric and historic sites are generally only of local interest. Known sites would not be threatened by any of the alternatives except D, which would inundate

five historic and two prehistoric sites. Other alternatives, as forecasted by the study team, would probably not impact inventoried sites. Only alternative A offers full protection to all known sites within the corridor.

Biological Resource

Effects on the biological resource are described in terms of changes in affected wildlife and the river's natural ecosystem and fisheries habitat. Potential for major changes exists along the mainstem in segments 1-4 and in segment 7. The increased corridor population, development, and recreation use predicted under the without-plans alternative modifies the natural riverine system of the Poudre and reduces the isolation and suitability for wildlife of the big game winter range through increased disturbance. High negative impacts of a short-term nature are expected during the construction of Rockwell Reservoir. At full pool it will inundate approximately 140 acres of habitat.

Alternative D, through the creation of two large reservoirs, inundates a significant portion of terrestrial, riparian, and riverine habitat. Additional disturbance is expected from supporting features such as power plants, conduit/tunnels, and related utility rights-of-way.

Each of the designation alternatives offers an improvement over the without-plans condition for the biological resource because of reduced disturbance. Alternative B provides increased protection for segment 7, alternative E for segments 2, 3, 4, and 7, and alternative A protects the entire study corridor.

Big game animal populations are expected to be protected and enhanced under the designation alternatives; reduced populations, due to decreased habitat and increased stress, are expected in the non-designation alternatives. Increased productivity of the fishery is claimed by proponents of regulation of the Poudre through development; however, the statements cannot be verified due to inadequate information. Until precise effects on aquatic habitat, water quality, water quantity, and temperature of releases can be evaluated from firm project specifications, only limited prediction of effects is possible. It can be said with certainty, however, that significant portions of wild trout spawning area will be lost under alternative D and its associated development features.

Recreational Resource

Effects on the recreational resource are described in a variety of terms related to the opportunity to experience different types of recreation. Across the different alternatives, the greatest changes come not so much in the total amount of recreation resources available, but in the amounts of different recreational types. The Poudre is projected to maintain a high popularity and value as stream/river recreation for the planning area in Alternative C. Alternative D significantly reduces river opportunities through the creation of main channel reservoirs. The flatwater added to the planning area in this alternative is a useful resource for recreation, but the supply is already abundant and the increase comes at the expense of a less plentiful river recreation resource. (Additional discussion of the recreation trade-offs appears in the OSE account.)

TABLE V-2
Environmental Quality Account
Potential Effects on EQ Resources and Attributes

	<u>Alternative A</u> (EQ)	<u>Alternative B</u>	<u>Alternative C</u> (W/O Plans)	<u>Alternative D</u> (NED)	<u>Alternative E</u>
<u>Water Resource</u>					
Freeflowing river (miles)	83 preserved & protected	39 preserved & protected	no miles protected	44 miles lost (15 inundated)	77 preserved & protected
Water quality	least impairment	less impairment than C	less impairment than D	greatest impairment	less impairment than B
<u>Air Resource</u>					
Air quality	least impairment	less impairment than C	less impairment than D	greatest impairment	less impairment than B
<u>Visual Resource</u>					
Scenic quality	least impairment	less impairment than C	less impairment than D	greatest impairment	less impairment than B
<u>Cultural Resource</u>					
Prehistoric/historic sites	no impact	no impact	no impact	7 sites inundated	no impact
<u>Biological Resource</u>					
Natural riverine system	no modification	moderate modification	moderate modification	severe modification	no modification
Habitat suitability for big game species (acres)	no impact	reduced on 5,920	reduced on 5,920	9,280 eliminated	reduced on 1,500
Wild trout spawning area	no impact	reduced 5%	reduced 5%	reduced 40%	reduced 2%

Table V-2 (continued)

<u>Recreational Resource</u>	<u>Alternative A</u>	<u>Alternative B</u>	<u>Alternative C</u>	<u>Alternative D</u>	<u>Alternative E</u>
Usable river (miles)	83	81	81	68	83
--Quality trout area	55	50	50	35*	51
--Whitewater	37	37	37	24*	37
Usable flatwater (Acres)	none	140	140	3,500*	none
Developed recreation (units)	288	488	588	588	288
Dispersed recreation opportunity					
--Water oriented	high	moderate	moderate	high	high
--Land oriented	high	moderate	moderate	low	high
--Access	enhanced	maintained	declines	declines	enhanced
<u>Wild & Scenic River Miles</u>					
--Wild river classification	30	30	0	0	30
--Recreational river classification	53	9	0	0	47
--Total designated	83	39	0	0	77
<u>Net EQ Effects</u>					
Overall plan effect	beneficial	beneficial	no effect	adverse	beneficial

* Recreation experience opportunity and quality are subject to fluctuations in water flow/level as a result of project operation.

The designation alternatives offer greater emphasis on dispersed recreation opportunities than alternatives C or D. Designation of the Poudre is expected to increase recreation use by 15 percent, consistent with the experience of other Wild and Scenic Rivers. In each alternative, the greatest recreation use of the Poudre River and Canyon is projected to be driving for pleasure or access to other recreation opportunities. Dispersed recreation activities were identified as two of the top three recreation uses by commentators. Accessibility of dispersed recreation resources is curtailed in the non-designation alternatives through fencing and closure of private property in C, and inundation in D. Additional trails in alternatives A, B, and E either maintain or actually enhance access to dispersed recreation.

Net EQ Effects

The net (overall) EQ effect of an alternative plan is appraised by the agency decisionmaker as "net beneficial EQ effect," "net adverse EQ effect," or "no net EQ effect," based on criteria described below and outlined in the P&S.

A net beneficial EQ effect occurs when, in the judgment of the agency decisionmaker, an alternative plan's combined beneficial effects on EQ resources outweigh the plan's combined adverse effects on EQ resources. A net adverse EQ effect occurs when combined adverse effects outweigh combined beneficial effects. If the combined beneficial and adverse effects are approximately equal, no net EQ effect occurs.

In each of the alternatives, the potential for the greatest adverse or beneficial EQ effects occurs along the main stem in segments 1-4 and in segment 7. Existing protections for segments 5, 6, and 8 exist under Wilderness and National Park management. Each of the designation alternatives provides an additional increment of protection and preservation for segments 5, 6, and 8, beyond that currently available under present management. They also provide the opportunity for ensuring that some activities above or below designated reaches are consistent with the values of Wild and Scenic River designation. The no-designation alternatives provide no additional protection.

Since the P&S requires that EQ effects be described in one of three terms, there is little clarification of the alternatives ranking. Three alternatives produce net beneficial EQ effects when compared to the without-plans baseline forecast. Alternative A produces the greatest beneficial effect, alternative E produces slightly fewer beneficial effects, and alternative B produces moderate beneficial effects. Alternative C has no net effect. The net effect on EQ resources of alternative D is adverse.

C. Regional Economic Development (RED) Account

The RED account registers changes in the distribution of planning area economic activity that result from each alternative plan. Two measures of the effects of the plan on regional economies are used in the account: regional income and regional employment. A display of the RED account appears in Table V-3, on page 76. All values, unless otherwise indicated, reflect an increase over current data.

Predictions of the economic changes that are estimated to occur as a result of the various plans were made using an input-output model. The model is designed to display the economic impact of resource development and use within a Forest Service Region. Numerical quantities from the NED account, commodity outputs, and resource values were input to the model for solving the regional distribution of economic activity. (63)

The model was developed to reflect the regionalized occurrence of effects of Forest Service management activities. As such, it required some modification of inputs to reflect the high investment of alternative D. The results of using the model are not as precise as had been hoped, leading to a moderate level of uncertainty over the predictions of the model.

TABLE V-3
Regional Economic Development Account
Potential Average Annual Effects on Regional Economy 1990-2040

	<u>Current Data</u>	<u>A</u>	<u>B</u>	<u>Alternatives C</u>	<u>D</u>	<u>E</u>
A. Gross Regional Product (thousands of \$)	3,274,895	1,208	853	1,030	1,316	1,208
B. Income (thousands of \$)	1,142,585	515	359	434	544	515
C. Employment (human-years)	141,578	76	52	63	81	76
D. Value Added (thousands of \$)	1,934,063	937	646	780	970	937
E. Comparison to Without Plans		178	-177	0	286	178

D. Other Social Effects (OSE) Account

The OSE account is that part of the NEPA human environment that registers plan effects from perspectives that are not reflected in the other three accounts. The account is designed to portray a variety of effects essential to a thoughtful evaluation of the alternatives. Categories in the account include urban and community impacts; life, health, and safety factors; displacement; long-term productivity; and energy requirements and energy conservation. Effects that cannot be satisfactorily quantified or described with available methods, data, and information that will not have a material bearing on the decisionmaking process may be excluded from the OSE account, in accordance with the P&S.

Past and current trends for the planning area indicate the probability of continued growth and development. Several components of these trends, as expressed in terms of urbanization of agricultural lands, conflict over use of limited resources, and demands for services from all levels of government have been increasing consistently over the past 30 years. To estimate the social effects of the various alternatives, it is necessary to distinguish between social effects that will occur regardless of any actions or changes in resource management and those social conditions that would be direct or indirect effects of changes in resource management. A summary of the OSE account appears in Table V-4, pages 88-89.

Alternative C, Without-Plans Condition

The following categories of effects are those required to be considered by the P&S. Alternative C sets the baseline from which to compare the social effects of the other alternatives in terms of either beneficial/adverse or positive/negative impacts. Alternative C is the most likely future without any of the other plans under consideration.

Urban and Community Impacts

Income distribution increases for the canyon and urban communities. The planning area continues to enjoy an above-average median income. In the second half of the analysis period, income distribution decreases in rural communities, partially due to increased conflicts for water supplies.

Employment distribution increases for the canyon and urban communities. Continued urbanization and uncertain supplies and price of water contribute to a reduction in the number of persons involved in agriculture production.

Population distribution is variously affected. Total populations will increase in the planning area, (see population discussion, Chapter II) but the rural share of the population mix may decrease. Canyon and urban populations will increase. These trends are projected to occur regardless of any changes in resource management.

Conflicts between resource users and associated prices for land, water, building materials, fuel, electricity, etc., may constrain growth and development in the planning area. However, the degree to which this alternative might contribute to constraints on growth is unknown.

The fiscal condition of State and local governments will not be negatively affected. Increasing populations will bring higher demands for services and higher tax revenues. State law prevents governments within the state jurisdiction from deficit financing, but conflicts over desired services and level of service will continue.

Quality of Life

Poudre Canyon: Traffic will continue to be a problem for canyon residents. Under this alternative, there will be increased conflicts between recreation users and private landowners due to more incidents of trespass, vandalism, and litter associated with increased recreation use.

Visual impacts could result under this alternative if present zoning continues. There will be a gradual erosion of the quality of recreation experience. With increased use and development of private land, it is inevitable that the existing attributes of peace, quiet, and privacy amidst scenic beauty will be negatively affected by increased populations and development within the Canyon.

In the short term, canyon residents and those who desire to see the canyon remain in its present state will benefit from this alternative. However, in the long run, the attributes which the canyon presently holds--the symbolic meaning of the area to many people, the peace, quiet, and privacy for the canyon residents as well as visitors, the scenic beauty,--will change due to the anticipated growth and development. Thus, the short-term effects of this alternative on the quality of life are estimated to be positive, but the long-term effects are projected to be negative.

Planning Area (rural communities, urban communities, and suburban communities): The Poudre Canyon provides a unique type of recreation experience within the planning area. Thus, people who use the canyon for recreation that cannot be found elsewhere in the planning area will benefit in the short term from this alternative. However, over time the quality of the recreation experience would decrease because of crowding, increased use, no controls, and more conflicts between users. More campgrounds will be built to accommodate increased use. Accessibility to the river for boating and fishing will decline due to gradual loss of access across private lands. Recreation use would be displaced on sections of the river privately owned on both banks--approximately 18 miles of the river.

This alternative could contribute to the constraints on growth and development in the planning area in the future due to higher costs of water and electricity, and possible problems with availability. In the short term, by creating an additional supply of water with Rockwell, a strongly intensified conflict between municipal and industrial users is postponed. The conflicts between water users and the price of the resource will be affected by population growth, placing a burden on water planners to determine who gets the water and for how much.

Life, Health, Safety

Increase in people going to canyon--increase in fire danger and traffic problems. With the construction of Rockwell Reservoir under this alternative, there will be additional municipal and industrial water, and therefore, less susceptibility to drought in the first half of the analysis period. Very little is provided in terms of flood risk reduction.

Displacement

Management under this alternative would not displace any people or businesses in the canyon or urban communities.

As the population continues to increase in the planning area, agricultural water will eventually be condemned for municipal and industrial uses without additional supplies. Even with the additional storage foreseen in this alternative, such conflicts can be predicted during the second half of the analysis period, 2015-2040.

Alternative A

Urban and Community Impacts

Income distribution is greater than in the without-plans condition for canyon and urban communities. Based on a 15 percent increase in recreation use, there would be increases in income to recreation-related businesses and services. Land values are projected to increase due to designation. Income distribution decreases occur at a faster rate than the without-plans condition. Competition for water supplies and probable condemnation by municipalities contributes to a more rapid reduction in the numbers of incomes related to agricultural production, while the amounts of income may rise.

Employment distribution increases for all communities except rural, especially in recreation-related opportunities in the canyon and Fort Collins. Because of the projected recreation use associated with designation, there would be an increase in jobs in the areas adjacent to the canyon for restaurants, lodging, gas stations, and commercial river outfitting. There are also some commercial campground development opportunities adjacent to the canyon. There is less projected total recreation use in this alternative than in alternative C; but because of designation, there will be more employment opportunities outside of the canyon or in the existing enclaves, attributable to increased use by national publics. The long-term national trend toward reduced percentage of population involved in agricultural production is accelerated. This is a highly negative impact for immediately affected individuals.

It is estimated that the resident population of Poudre Canyon would increase moderately. Designation would preserve the current attractions to residential population. Status as a Wild and Scenic River will be one of many attractions to the planning area causing population growth. However, it is doubtful that this alternative would be a major incentive for population growth.

There would be no effect on the county tax base. This alternative might limit future increase in tax revenues in the canyon because of reduced development. However, land values will increase, providing additional property tax. Increased recreation use will positively affect sales tax revenues.

Quality of Life

The Poudre Canyon in its current state is valued as priceless by vast numbers of planning area residents as well as nationwide publics who visit the area each year. As a Front Range river, it is the only remaining river that holds the qualities for being a protected river. It is called Colorado's "Trout Route," and has 10 miles classified as wild trout waters. The river has a fish rearing unit managed by the Colorado Division of Wildlife, which produces 80,000 pounds of catchable trout per year. The Poudre Canyon provides habitat for a herd of bighorn sheep which have been reintroduced to the area. These animals are highly susceptible to stress. The Poudre Canyon in its current state is part of what defines the Colorado lifestyle ... its scenic beauty, its peaceful environment, the presence of a commodity not common to the arid west--water, not in a man-made status, but in a free-flowing status--a natural river in a natural environment.

Poudre Canyon: This alternative would generate the most positive effects on the quality of life for the canyon residents in terms of preserving the existing attributes that define those qualities. The natural environment would be preserved in its current state, thus maintaining the existing scenic beauty and natural surroundings. The existing community stability and cohesiveness of canyon communities would continue as change would occur at a rate easily absorbed due to limits on growth and development under this alternative.

Due to scenic easements, development will continue but be consistent with maintaining the quality of the environment.

The purchase of access and right-of-way trail easements could have some negative effects on the quality of life in terms of reducing the privacy for some residents.

There would be an increase in the number of miles of stream designated as quality fishing areas, increasing the quality of experience for wild trout fishing. There would be a significant increase in access to dispersed recreation in adjacent areas which results from trail and trailhead construction.

Because of the numerous reservoirs that already exist in the planning area, the opportunities for flatwater boating and reservoir recreation would remain high. While the opportunities for river recreation are maintained under this alternative, as in alternative C, the effects for the quality of life are positive because the alternative provides opportunities for a larger array of choice opportunities and recreation.

The attraction of the canyon to local and regional publics will increase slightly, but increased use at a national level will be significant

because of designation. The increase in use may lead to increased regulations and restrictions in order to preserve the existing qualities.

Wildlife values under this alternative would be enhanced and add to the attractiveness of the natural surroundings. The canyon would essentially be preserved in its current state and would retain the symbolic meaning it holds for both residents and non-residents.

Planning Area: The protection of the river in its natural state would maintain a well-balanced array of recreation opportunities for the planning area. This would be a highly positive effect of the alternative because the Poudre River is the only free-flowing stream in the planning area.

There would be no new major developed recreation facilities located within the corridor. Existing facilities could become more crowded. However, the limits on development of recreation facilities benefits the private sector because it creates opportunities for private development within or adjacent to the corridor.

Life, Health, Safety

This alternative does not supply additional water, which could contribute to:

1. Municipal condemnation of agricultural supplies to meet population needs sooner than in alternative C by the year 2000.
2. Increased cost of water to all users.
3. Continued vulnerability to drought.

The increase in cost of water and limited availability under this alternative might reduce the attraction of the area for the industrial sector and thus might slow the rate of population growth in the planning area.

Displacement

No people or businesses in Poudre Canyon would be displaced by this alternative. However, water supply and cost are factors that contribute to the urbanization of farmland. Thus, the potential for intensified competition for use of available water will occur earlier in this alternative than in C.

This alternative would displace future options for 1) dam construction in the Poudre Canyon, 2) major recreation facility development on the river, and 3) high density and commercial development in the canyon.

Alternative B

Many of the effects of this alternative are similar in nature to the without-plans condition, alternative C. Principal differences can be

expected because of the existence of designated reaches of the Poudre and the "recreational river" classification of segment 7.

Urban and Community Impacts

Increases in income, employment, and population distribution are projected. The attractiveness of a designated component of the Wild and Scenic River System remains, as does the unspoiled nature of the main stem until some additional action takes place. Fiscal impacts are not significantly different from alternative C, except for additional sales tax revenues from a national-regional recreation use standpoint.

Quality of Life

The alternative leaves a number of options open for long-term use of the Poudre River resource. The main stem of the river could be designated, could be inundated with water resource projects, or could conceivably offer a combination of these two conditions. In the canyon, trail right-of-way acquisition will occur in segment 7. In the short-term, most of the effects are similar to C, with a greater sense of satisfaction in all communities. Because the existing opportunities for recreation, continuation of current lifestyle, designation, and reservoir construction are all left open at this time, the fewest futures are foregone and the widest array of choices are available. However, the uncertainty associated with this alternative can be a negative social effect for those who wish to see the matter settled.

Life, Health, and Safety

Effects are similar to C. Some reduction in flood risk is realized in segment 7 through reduced rates of residential development and reduced population at risk.

Displacement

This alternative forecasts eventual conflict over use of the water resource between urban communities and rural communities (irrigated agriculture). Effects are similar to alternative C.

Alternative D

Direct impacts of this alternative are forecast based upon 300-350 new workers in the planning area for the construction period. After this time, permanent party personnel and an increased flatwater recreation segment are direct impacts.

Urban and Community Impacts

Income, employment, and population distribution are positively affected by this alternative. The diversity of all communities would be enhanced in both short and long-term analysis periods. The greatest effects would be felt in the canyon and in the stability offered the agricultural community. Impacts on the urban communities of the planning area would

become highly diluted. Construction of two marinas would create seasonal employment for approximately 20 people. Each marina would most likely be a family operation which would employ college students in the summer. The existing lodges would probably continue in the recreation/tourism business. The reservoirs might enhance employment due to more people in the area and thus more business. There would be an increase in employment in restaurant and service sector businesses to accommodate the additional construction worker population. Thus, under this alternative there would be greater employment opportunities than in alternative C, producing a positive effect in this category in the short term, by providing the employment opportunities for approximately 500 construction workers during the construction phase, and for approximately 50 engineers, technicians, etc., once the project is completed. The fiscal condition of State and local governments is enhanced both by the availability of additional energy supplies and recreation income. While inundated properties are removed from the tax base, revenues will increase on those that remain.

Quality of Life

Poudre Canyon: The existing quality of life in Poudre Canyon is highly oriented to the natural environment within and adjacent to the canyon. Attributes associated with the quality of life include the peace, quiet, privacy, and surrounding scenic beauty often associated with mountain living. The communities in the canyon are small and cohesive. Year-round residents live a particular lifestyle and share common values associated with that lifestyle. Because of the attributes associated with living in the canyon, the area has a certain symbolic meaning associated with it by canyon residents. This alternative would instill an extremely negative effect on the quality of life for the residents of Poudre Canyon. Approximately 150 people would lose their residences, with little chance of relocating in the canyon. The quality of life as it now exists for those residents would be totally destroyed. For those residents who remained, their quality of life would be significantly altered. There would be a disruption of the existing peace and quiet of the canyon with a major construction project for 5 to 10 years. Associated with that would be increased traffic, noise, and dust. There would be an extremely negative impact on the scenic beauty, which includes not only the natural environment but the viewing of wildlife as well. The fish and wildlife habitat potentials would be significantly reduced by accelerated development. The effects of newcomers on retirees and long-time residents could be disruptive due to different ages, values, and socioeconomic status. Residential development on the remaining private land would be inevitable. Visual quality would be affected by trailer parks, temporary housing, and new homes for 50 new families, and by the drawdown of the reservoirs at certain times of the year.

The necessary relocation of the highway through the canyon due to dam construction will have significant short-term and long-term effects on the quality of life in the canyon. Visual effects, traffic and noise, inconvenience during the construction phase, land acquisition, and so on would contribute to the downfall of the existing lifestyle and valued attributes associated with canyon living. There is also the possibility that Red Feather Lakes and communities within Poudre Canyon would

increasingly become bedroom communities, with loss of cohesiveness, sense of community, etc.

Planning Area: Perhaps the most significant effect on the entire planning area resulting from this alternative would be that the diversity of recreation opportunities would decrease. There are already numerous lakes in this area. Inundating a major mountain river in the area and replacing it with a type of recreation opportunity that is already a nearby opportunity for most of the planning area would have a highly negative effect on those who currently recreate in the canyon. Grey Mountain and Idylwilde reservoirs would add 3,500 surface acres of water for recreation. These additional surface acres will add only a small increment to existing reservoir opportunities in the planning area.

A positive effect of this alternative for the planning area is that additional municipal and industrial water would be available, forestalling restrictions or other use controls. It could possibly preclude condemnation of agricultural water supplies through the analysis period. However, the available water could be just one more attraction to additional growth.

Additional detrimental effects on the quality of life associated with this alternative include 1) the loss of one of the most scenic stretches of the canyon at the Idylwilde site, and 2) the loss of an area in the canyon that receives the most boating use. The nearest similar opportunities to accommodate whitewater boating use are approximately 3 to 5 hours driving time from the major communities in the planning area.

Life, Health, Safety

The vulnerability to drought is reduced in this alternative, more than in C, producing a highly positive effect for the entire planning area. This positively affects agricultural, municipal, and industrial water users. There is a certain degree of risk of structural failure. However, those negative effects may be offset to an unknown degree by the flood control benefits of the project.

Displacement

This alternative could displace people who have traditionally spent summers in the canyon trailerparks due to the high demand for trailer rentals from construction workers and their ability to pay high rental costs. Also some current residents who rent could be displaced because of demand for housing and the ability of construction workers to pay higher rental costs.

During the construction phase, it is estimated that approximately 51 structures would be removed or inundated. About 40 are permanent residences, which would involve an estimated 150 people who would lose their homes. The potential for these people to relocate in the canyon is low. The dams inundate a significant portion of the developable private land. Loss of the fish hatchery would displace approximately 8 to 10 employees unless it were relocated elsewhere on the main stem of the river.

Alternative E

This alternative is similar in effects to alternative A, with the exception that segment 1 is not designated. This absence of designation in the most populous section of the corridor has significant impacts to the canyon area, with reduced impacts elsewhere.

Urban and Community Impacts

Income, employment, and population distribution are positively impacted by this alternative, except for income effects on the rural communities. Segment 1 is available to become an urban forest environment with many commercial opportunities in recreation-related business possible proximate to a designated component of the Wild and Scenic River System. Rural communities face the likely prospect of reduced water availability because of municipal condemnation in the second half of the analysis period. The fiscal condition of State and local governments would not be impacted much differently from alternative A, except that additional sales tax revenue would be projected from broader support services in segment 1.

Quality of Life

Poudre Canyon: Residents of Poudre Park, as well as the residential population below, would have fewer restrictions on land use under this alternative. As in alternative C, this might be beneficial to the landowners in terms of freedom of choice and detrimental to the public in terms of visual quality impairment.

This alternative allows for the enhancement of commercial development of recreation support, a positive impact. Additional use would bring revenue to the local economy of the corridor but would also bring inherent problems with trespass and disruption of solitude. Intense pressures for development are likely during the analysis period due to the designation of upper segments of the corridor.

Similar benefits to those in alternative A accrue to other affected communities. Conflict over water remains the single largest adverse effect predictable under this alternative.

Life, Health, Safety

Effects are identical to alternative A.

Displacement

Rural communities, principally irrigated agriculture, would be at risk to be displaced when condemnation of agricultural water supplies occurs.

Other OSE Effects

Long-Term Productivity

Long-term productivity is variously impacted by the alternatives. Alternative A designates the entire corridor, maintaining and enhancing the renewable recreation, visual, and biologic resources of the Poudre River for use by future generations. Alternative D would maintain and enhance the renewable resources of water and hydropower, maintaining the productivity of irrigated agricultural lands. Alternative C would accomplish fewer of these goals, yet would preserve the river resource in somewhat its current condition and maintain the option for future water resource development. Alternative E nearly duplicates A, but would maintain the option for water resource development in segment 1. Alternative B would maintain and enhance the renewable resource of the river's upper segments, maintaining options for future development in segments 1, 2, 3, and 4.

Conservation and Energy Requirements

Conservation impacts on the alternatives were discussed in Chapter III and are not considered in the effects of the alternatives. The time will come when competing demands for the water resource will be taken to the legal arena for resolution. Conservation, as a total effort or a component of the alternatives, can provide only a short increment of delay.

Energy requirements will continue to increase to meet the growing needs of the planning area population. Electrical energy requirements could be positively impacted by the hydro-generated peaking power of alternative D. If produced by Platte River Power Authority (a likely local alternative owned by the cities of Estes Park, Fort Collins, Longmont, and Loveland; its Rawhide thermoelectric generation facility is located northwest of Fort Collins), equivalent peaking energy would require approximately 110,000 tons of coal annually. That facility is already producing and marketing surplus capacity as peaking power. Hydropower, as a renewable resource, is preferable to coal or other thermoelectric fuels for the production of peaking power.

Irreversible Resource Commitments

An irreversible resource commitment reflects a direction that cannot be changed, that is permanent in the perspective of a prudent individual. The study team has identified the water resource development features in alternatives B, C, and D as irreversible commitments of resources and attributes. The loss of wildlife habitat, scenic quality, and quality of the recreation experience due to projected increases in residential/-commercial development in alternatives B and C are also considered irreversible.

During the comment period, it was suggested that designation of the Poudre as a Wild and Scenic River is an irreversible resource commitment. The team does not agree. Designation of any reach(es) is a legislative act, subject to revision or reversal through a similar

Category	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
I. Urban & Community					
a) Income	Slightly greater increases than Alt. C. Similar rural effect.	Increases slightly more than Alt. C but less than Alt. A.	Net income increases with some second-half decrease in rural community.	High magnitude changes from construction workers and permanent project residents. Rural decreases postponed.	Greater increases than Alts. C, B, and A but not as great as Alt. D.
b) Employment	New tourist-related employment opportunities approx. 15% more than Alt. C.	Slightly less than Alt. A but more than Alt. C.	Net increase of employment opportunity in all communities.	Construction and support services sector greatly expanded for short duration. Reservoir-based recreation services somewhat similar to Alt. A over long run.	(Same as above)
c) Population	Similar to Alt. C except that populations will be concentrated on developed enclaves in the canyon.	Similar to Alt. C	Total populations will increase but rural share will decline.	Similar to Alt. A: populations concentrated between inundations.	Similar to Alt. A except segment 1 remains available for development.
d) Fiscal	No net difference.	Similar to Alt. C	Higher costs for law enforcement, search and rescue, etc., offset by tax base increases from valuation and population increases.	Greater valuation increases than Alt. C create broader tax base, hence more fiscal stability.	No net difference from Alt. C.
e) Quality of Life	Preserves existing lifestyle to the highest degree, though disruptions will occur in developed enclaves. Maintains Canyon recreation experience levels, including symbolism of the free-flowing river. Water use conflicts occur earlier than in Alt. A or C.	Similar to Alt. C except there is uncertainty about future development. Maintains widest choice of future options.	Increased disruption of existing peace, quiet, and privacy for canyon community. Gradual erosion of recreation experience over time, accessibility of river declines, conflicts with residents increase. Rural, municipal, industrial water conflicts postponed for first half of period.	Greatest disruption of canyon residential lifestyle. Recreation activities are changed along with experience levels. Rural/municipal water conflicts postponed for the longest period.	Similar to Alt. A except segment 1 would have effects similar to Alt. B, i.e., uncertainty.
II. Displacement	No displacement of present residents. Agriculture displacement occurs sooner than Alt. C.	Similar to Alt. C	No displacement in canyon or urban community. Water use conflicts lead to some agriculture displacement.	Inundation of 40 residences displaces 150 people. Agriculture displacement postponed for longest time.	(Same as above)
III. Life, Health, & Safety:	Fire danger similar to Alt. C. Vulnerability to drought is greater than Alt. C.	Similar to Alt. C	Increased fire danger and traffic problems in canyon. Slightly less vulnerability to effects of drought.	Vulnerability to drought is reduced considerably over Alt. C. Structural failure/flood risk increased.	Similar to Alt. A
IV. Energy Requirements				Creates new hydropower equal to approx. 110,000 tons of coal used for peak power generation.	

process. By definition and by experience, legislative action is not irreversible.

Irretrievable Resource Commitments

An irretrievable resource commitment reflects the lost productive potential of a resource while it is committed to a particular use. The use may be subsequently changed, but the lost productivity cannot be retrieved. The principal commitments in this category are the annual benefits of alternative D that would be foregone under any of the other alternatives: approximately 36,000-40,000 acre-feet of new water supply, 274,000 kilowatts of installed capacity, and 186.5 million kilowatt-hours of energy annually. Gravel supplies in the corridor that would not be recoverable under alternatives A or E would similarly represent an irretrievable resource commitment, at an average annual loss of \$35,000. Alternatives A or E would also forgo the 4,900 acre-feet of additional M&I water supply at Rockwell.

Overall OSE Effects

The three types of communities considered in this analysis, canyon, rural, and urban, actually merge into two affected communities. The canyon and rural populations share many common factors and are most impacted by the direct effects of the alternatives. Effects on urban communities are more indirect and diluted over the social experience. The positive effects of designation come at the high cost of negative effects on rural communities as water supplies and price become constraining effects. The positive effects of development come at a similarly high cost, borne by the displaced canyon community. Even the without-plans condition, with fewer net OSE benefits, has long-term negative effects on canyon and rural populations. The urban communities enjoy a greater degree of insulation because of a viable, growing economy, an increasing tax base, strong governmental/institutional support, and the constitutional authority (State) to meet water supply needs through the preference mechanism.

The greatest number of positive OSE effects would be generated by designation of the Poudre and additional water supply storage outside the main channel of the river. Since these currently appear to be mutually exclusive goals, the best alternative may become the one that preserves the greatest long-term choice for all communities.

VI. EVALUATION OF THE ALTERNATIVES

This chapter evaluates the alternatives using the evaluation criteria in Chapter III. The discussion provides the basis for identification of the preferred alternative in Chapter VII. The evaluation is summarized in Table VI-1, page 95. This chapter has been completely redone since the DEIS/SR in response to comments and new guidance to allow a full evaluation of each of the revised alternatives.

A. Protect and/or Enhance Scenic, Recreational, and Historic Values

Alternatives proposing designation best meet this criterion, as it is one of the purposes of including a river in the National Wild and Scenic Rivers System. Alternative A provides maximum satisfaction for this criterion by designating the entire study corridor. Alternative E, designating all but segment 1, would not provide protections to scenic values of this segment (already modified by residential development), to two prehistoric sites, or to the extensive recreation uses of the segment. No additional protections are proposed in alternative B for segments 1-4, but opportunities for preservation and enhancement exist in segments 5-8.

No additional protections or opportunities to enhance existing values are contained in alternative C, the without-plans condition.

Alternative D does not offer additional protections. Instead, it would negatively impact existing values through the construction of the Grey Mountain-Idylwilde project. The loss of existing values is sufficiently great that net negative impacts remain after consideration of potential flatwater benefits to scenic and recreation values.

B. Increase the Forest Service Share of Dispersed Public Recreation

The analysis of the alternatives indicates no significant difference between them in total opportunities provided. The types of dispersed recreation and the Forest Service participation in providing them are, however, widely different. Alternatives A and E could best meet this criterion because they would provide maximum opportunities for planned and managed dispersed recreation for the study corridor. Similarly, water-based opportunities associated with reservoir development are dispersed recreation opportunities, but they foreclose existing opportunities and access to them under alternative D. Alternative C projects a decrease in access to dispersed recreation through continuation of the statewide trend to fence and eliminate access across private lands. It remains a negative impact even after considering the increased dispersed opportunities created at Rockwell Reservoir. Alternative B is similar to C, although experience from other designated rivers indicates that dispersed recreation activity increases after designation, and its value is higher.

C. Provide Incentives for Development of Private Recreation Facilities

Private-sector involvement in recreation in the corridor has been minimal in the past. Tourist lodges, accommodations, and some limited whitewater

commercial operations have accounted for most of the activity. Part of the reasoning behind this lack of private development is the discouraging influence of existing facilities managed by the Forest Service and the high capital requirements necessary to initiate private developments. Investors have not perceived a potential market adequate to warrant the high front-end investments.

Alternatives A, D, and E meet this criterion to the highest level of satisfaction. Alternatives A and E would stimulate regional and national visitation to the river, providing a clear incentive to private sector activity. Alternative D would have a similar effect on a more regional-local recreation group wishing to use the reservoirs. These alternatives could influence the development of private facilities within developed private enclaves, at the upper and lower ends of the canyon, or proximate to the corridor.

Alternative B would have a moderate level of satisfaction by combining segments of designated river and large sections of the corridor maintained for potential new development. Two new 100-unit campgrounds are projected for Forest Service construction during the analysis period, but no new facilities are envisioned in the designated segments.

The without-plans condition projects three new 100-unit campgrounds in the corridor. This significant public sector development, in addition to a projected visitation rate based on present attractions, would have a moderately low impact on satisfying the criterion. Current management emphasis involves a reappraisal of public management of existing facilities and taking advantage of opportunities for increased private sector involvement in the operation of Forest Service campgrounds and picnic-grounds. The effects of this direction cannot be projected at this time.

D. Provide a Mix of Resource Opportunities that Contributes to Local Dependent Industries

The multiple-use objectives of National Forest management provide for a diversity of resource opportunities to contribute to local dependent industries such as timber, range, minerals, recreation, and fish and wildlife related service industries. Recreation, fish and wildlife, and minerals are the only multiple-use resources that have current significant impacts on the local businesses in the corridor. Water and hydropower represent potential resources of the Poudre. The impact of timber and range is minimal due to low suitability of much of the corridor to these resource opportunities.

All the alternatives have positive impacts on the regional share of NED benefits (RED). The level of satisfaction is very similar in each alternative. Alternatives A and E rate highest because they provide a significant new resource to the planning area in a designated Wild and Scenic River. The Poudre represents the only potential addition of its type to the recreation mosaic on the entire Front Range. Mineral activity for gravel would be reduced under these alternatives. Alternatives B and D are rated to have a moderate level of satisfaction of this criterion. Parts of the river are designated under B, but the main canyon remains

in its present state. In alternative D, the flatwater increase is an achievement for the corridor, but much less important to the planning area. Alternative C receives the lowest rating because it does not improve the mix of resource opportunities as the other alternatives do.

E. Give High Priority to Maintaining the Free-flowing Conditions of the Poudre River

The evaluation of the alternatives under this criterion is based on the amount of free-flowing river preserved or protected by each alternative.

Alternative A most highly satisfies the criterion and alternative D achieves the lowest level of satisfaction. While it would be possible for extensive developments to alter the free-flowing nature of the river below designated segments in alternatives B and E, that eventuality cannot be clearly predicted or discounted at this time.

F. Ensure that Adequate Quantity and Quality of Water is Available to Meet On-Site Needs

Two of the main provisions of the Wild and Scenic Rivers Act are to preserve rivers in a free-flowing condition and protect the quality of their water. This provides water of high quality and in amounts necessary to support river recreation activities. The maximum contributions to this criteria are contained in alternatives A and E. These alternatives would prevent any developments that might negatively impact the values for which the river was designated. Alternative B would have beneficial effects on designated segments and provide the opportunity to ensure that releases from Rockwell Reservoir do not compromise water quality and quantity. Alternative C projects a continuation of current management emphasis without additional protections.

The lowest rating is achieved by alternative D, where inundation and river regulation reduce water quantity for on-site needs. A brief analysis of flows below major features of the project indicates that, for much of the year, flows in the regulated reaches of the river (segments 1-4) will be below normal. This could preclude whitewater boating and wild trout reproduction in quality trout areas. Statements were offered during the comment period suggesting potential beneficial effects of regulation, but these cannot be calculated until more precise data is analyzed using state-of-the-art instream flow techniques. Alternative D could enhance water quality by reducing sediment loads within the river below impoundments. The Bureau of Sport Fisheries and Wildlife, in a 1966 memorandum to the BR, stated it was not possible to determine the effects of Idylwilde on the downstream reaches of the Poudre. It was recommended that sustained flows be provided for all reaches affected by the project. The Colorado Division of Wildlife has recommended a minimum flow of 90 cfs during the summer season and 50 cfs in winter for the downstream reaches of the Poudre to protect fishing values.

G. Respond to Issues and Concerns Identified Through Public Involvement

Results of the public involvement process are described in greater detail in Chapter VIII, but issues and concerns may be summarized into the following general categories:

1. The problems associated with recreational use in the corridor
2. Water resource development on the main channel

The Poudre River and its immediate surroundings are generally given higher public regard than other riverine systems in the planning area. In fact, the Poudre system is often accorded recognition more commonly associated with a National Recreation Area. The widespread popularity of the Poudre as a recreation resource suggests that some of the problems associated with recreation use of the area will continue under all of the alternatives. The greatest ability to respond to these problems is contained in the designation alternatives, which mandate a separate, specific management plan to be formulated after designation. This plan would comprehensively address concerns and direct management actions to preserve river values. Alternative A, proposing designation of the entire study corridor, would be most effective in this regard. Alternatives E and B would provide respectively less opportunity to meet this criterion. Alternative C would continue the present management direction which recognizes the Poudre as one of many recreational opportunities on the Forest. Alternative D would have a higher level of satisfaction than C, assuming that a recreation plan for the reservoirs would be a part of the Grey Mountain-Idylwilde project; still, it would be less than any of the designation alternatives.

A satisfactory response to the concern over water development is nearly impossible. Most comments received during the public involvement process indicated a highly polarized condition, either strongly opposed to or strongly supportive of, dams on the main channel. Of the alternatives considered, C achieves the lowest rating since it proposes no major development or designation. Alternatives A, B, D, and E receive higher ratings because they address some part of the issue. Alternative B maintains the greatest number of options for designation, limited development off-main channel, and the potential for subsequent development in segments 1-4.

The overall responsiveness of each alternative to these concerns is reflected in the net ratings as shown in the display.

H. Minimum Impacts on Private Property Rights

Private property rights take a dual focus in this criterion. Currently, canyon communities experience trespass, vandalism, litter, and disruption of solitude by some recreation users. At the same time, some of the alternatives have the potential to reduce or eliminate the owner's control over private property.

Alternative C does the most to respond to this criterion. Projecting current management into the future, the best opportunity for landowners to resolve existing difficulties might be to limit access through fencing

and posting of private lands. This trend is occurring statewide. Increased law enforcement and public education may reduce current impacts.

The designation alternatives could acquire scenic easements and access rights-of-way across some private lands. While this could mean more public impacts on some private lands, it is anticipated to channel use, reducing widespread impacts currently experienced. Easements and rights-of-way would be compensated. There would be some potential reductions in freedom-of-choice on private lands under the designation alternatives, as future developments in designated segments would have to be consistent with the existing values of the river and corridor. Alternative B, as the least restrictive of the designation proposals, receives the highest rating.

Alternative D preempts private property decisions on some lands by inundation, even though compensation may be made to the landowner. For those lands that remain, many of the inherent values which initially influenced the owner's decision to locate in the canyon will be permanently altered.

I. National Economic Development Objective

Each of the alternatives makes a positive contribution to the NED objective. See Chapter IV for a summary of NED opportunities and Chapter V for NED account. Alternative D nets the greatest annualized benefits. If viewed from the perspective of dollars invested to earn beneficial effects (benefit/cost ratio), the designation alternatives not only show a favorable return, but a return at a higher rate than other alternatives. Overall, alternative D achieves the highest level of satisfaction under this criterion, with the other alternatives rated moderately low.

J. Environmental Quality Objective

The designation alternatives make the greatest contribution to the EQ objective. See Chapter IV for a summary of EQ opportunities and Chapter V for the EQ account. Alternative A earns the highest rating, followed by alternative E, and alternative B. Contributions toward the EQ objective of alternative C are estimated to be only moderately low. The development components of alternative D and their net adverse effects on EQ resources achieve the lowest rating under this criterion.

K. Summary of Alternative Evaluation

The various criteria used to evaluate the alternatives, in combination with applicable legislative and regulatory guidance, are designed to allow consideration of the relative merits of each alternative. The overall level of satisfaction provided in each alternative rates as follows:

Alternative A - Moderately High
Alternative B - Moderate
Alternative C - Moderately Low
Alternative D - Low
Alternative E - Moderately High

The P&S require that a recommended plan, when considered on the basis of a with-plan versus without-plan comparison, must have combined beneficial NED and EQ effects that outweigh combined adverse NED and EQ effects. This involves looking at total benefits, economic and environmental, on one hand and total costs (again, from both accounts) on the other. If a plan is judged to have more combined beneficial effects than adverse effects, it has successfully passed the net beneficial effects rule. Using this rule, it is possible for a plan to be selected on the basis of an accurate "bottom line" evaluation. The bottom line of each plan is then compared to the without-plan condition. Alternatives A, B, and E successfully pass the net beneficial effects rule; alternative D does not. (Alternative C, which is the without-plan condition, is not evaluated under the net beneficial effects rule.)

From the field of candidate plans, a preferred alternative was selected. Considerations and comments relative to the preferred alternative, and a description of its effects, are discussed in the following chapter.

TABLE VI-1
Evaluation of Alternatives

	Alternatives				
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
A. Protect and/or enhance scenic, recreational, and historic values	H	M	ML	L	MH
B. Increase the Forest Service share of dispersed public recreation	H	MH	MH	L	H
C. Provide incentives for development of private recreation facilities	H	M	ML	H	H
D. Provide a mix of resource opportunities that contributes to local dependent industries	MH	M	ML	M	MH
E. Give high priority to maintaining the free-flowing conditions of the Poudre River	H	M	ML	L	MH
F. Ensure that adequate quantity and quality of water is available to meet on-site needs	H	M	ML	L	H
G. Respond to issues and concerns identified through public involvement	M	MH	L	ML	M
H. Minimum impacts on private rights	M	MH	H	L	M
I. National Economic Development Objective	ML	ML	ML	H	ML
J. Environmental Quality Objective	H	M	ML	L	MH

Legend

Level of Satisfaction

H = High
MH = Moderately High
M = Moderate
ML = Moderately Low
L = Low



Camping at Kelly Flats Campground



Family Recreation along the Poudre River



Picnic Facilities at Poudre Park



Tubing on the Poudre River



Grey Rock Hiking Trail Bridge

VII. THE PREFERRED ALTERNATIVE

This chapter identifies alternative B, as modified by additional considerations stated below, as the preferred alternative of this final environmental impact statement and study report (see map 14, page 98).

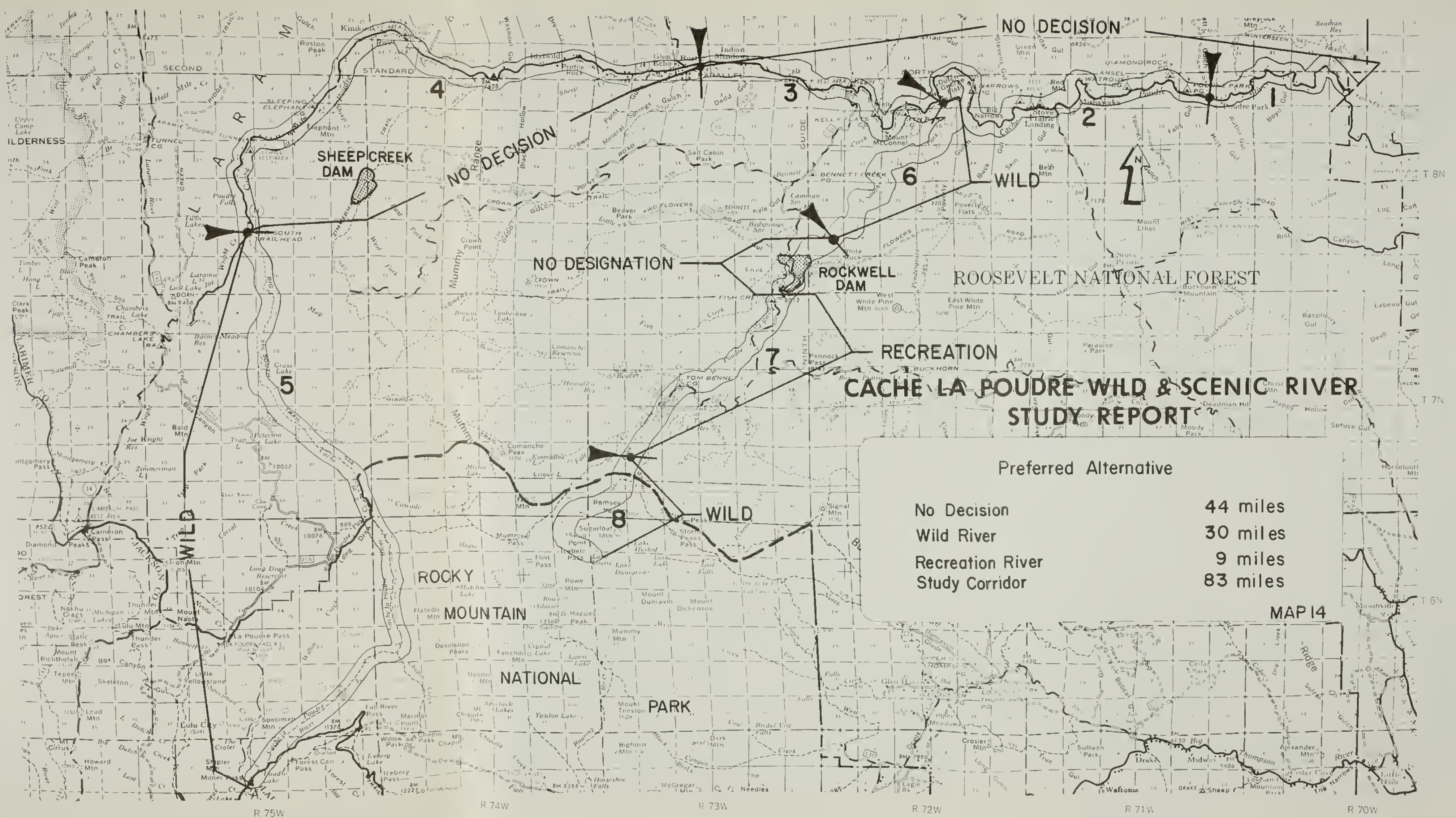
The clearly stated purpose of the Wild and Scenic Rivers Act is to recognize that certain rivers should be protected for the benefit and enjoyment of present and future generations. Analysis of the Poudre River indicates its eligibility for inclusion in the Wild and Scenic Rivers System. Evaluation of alternative proposals and public participation in the study process suggest that the Poudre River is an excellent candidate for designation. Absent unresolved conflicts concerning the alternative uses of the Poudre's water resource, the conclusion of this final study would be to recommend alternative A (the "citizen's alternative") or alternative E (the preferred alternative of the DEIS/SR). In the opinion of the study team, such a recommendation cannot be made at this time.

Uncertainty is a major contributor to the lack of resolution. The center of controversy is segments 1-4 of the corridor. Inadequate knowledge exists to support either a designation or development recommendation for these reaches.

Before long-range resource decisions are made for segments 1-4, additional data is required. In June 1981, the State funded a study to investigate water resource development opportunities on the Poudre River, above Fort Collins. It is anticipated that the results of this study will be available in 1983. This type of additional analysis is encouraged by the study team. The recommendation of this final environmental impact statement and study report is compatible with the findings of any further studies and may be implemented, if desired, without jeopardizing the value of on-going investigations. Until a thorough inventory is made of potential projects, effects, and contributions--both on and off the main channel--consistent with the Principles and Standards, Congress is urged to make no decision on segments 1-4. Continuing protections available to rivers under study are encouraged to prevent irreversible adverse effects until a final decision is reached.

The presence of unresolved conflicts leads to an additional assessment of the alternatives for their contribution to social well-being. Decision-makers are asked to view their land and water resources as setting contexts in which different groups will have a variety of conflicting preferences. The challenge is to sustain the widest possible diversity of choice opportunities on how these resources will be used.

Alternative B was identified as the most favorable alternative in terms of social well-being. Segments 5-8 are designated. Segments 1-4 are maintained in their current status, with the opportunities for either development or designation left open at this time. No futures are lost for any interest group, whether they believe that designation or development would most contribute to their quality of life. The unique opportunities which the Poudre provides in its present state--a free-flowing river, various types of river-based recreation, and the symbolic



meaning of a Wild and Scenic River--are maintained. The opportunity for dam construction is also maintained, in the event that the evaluation of new information recommends such a project.

The recommendation to Congress is that 39 miles of the Cache la Poudre River should be added to the National Wild and Scenic Rivers System. The preferred alternative is alternative B, which recommends the designation of 9 miles of recreational river area (segment 7), and 30 miles of wild river area (segments 5, 6, and 8), as shown on map 2, page S-2. The following clarifying statements apply to the preferred alternative:

- A. The pending Colorado State University/Forest Service land exchange on the South Fork of the Cache la Poudre should be consummated. This action will have no effect on the values of the South Fork and protection afforded to the values will be provided by the State of Colorado.
- B. The segment of the South Fork in section 36, Township 7 North, Range 73 West, consisting of approximately 1.3 miles of river and sufficient land to allow for construction of the Rockwell Reservoir, is excluded from the recommended designation.
- C. The portion of the river paralleled by Colorado Highway 14 (segments 1, 2, 3, and 4) qualifies for inclusion in the National Wild and Scenic Rivers System, but no decision to designate should be made until additional information is available upon which to evaluate the trade-offs of designation or water resource development. Until a decision is reached, the "study status" protections should be extended.

This recommendation could best provide a diversity of goods and services for all interested parties, while preserving future options to be exercised at an appropriate time.

Tables VII-1 and VII-2 show the effects of the preferred alternative on particular types of resources that are recognized by certain Federal policies and compliance with certain designated environmental statutes, as required by the P&S. (64)

TABLE VII-1
Effects of the Recommended Plan on Resources of Principal National Recognition

<u>Types of Resources</u>	<u>Principal Sources of National Recognition</u>	<u>Measurement of Effects</u>
Air quality.....	Clean Air Act, as amended (42 U.S.C. 1857h-7).	No effect
Areas of particular concern within the coastal zone.	Coastal Zone Management Act of 1972 as amended (16 U.S.C. 1451).	Not present in planning area
Endangered and threatened species critical habitat.	Endangered Species Act of 1973 as amended (16 U.S.C. 1531).	No effect
Fish and wildlife habitat.....	Fish and Wildlife Coordination Act (16 U.S.C. Sec. 661).	167 acres of riparian lost in new reservoir, 30 acres riverine habitat lost, 300 acres of reservoir habitat gained
Flood plains.....	Executive Order 11988, Flood Plain Management.	No effect
Historic and cultural properties.	National Historic Preservation Act of 1966 as amended (16 U.S.C. Sec. 470).	No effect
Prime and unique farmland.....	CEQ Memorandum of August 1, 1980, Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act.	No effect
Water quality.....	Clean Water Act of 1977, (33 U.S.C. 1251).	No effect
Wetlands.....	Executive Order 11990, Protection of Wetlands, Clean Water Act of 1977, (42 U.S.C. 1857h-7).	No effect
Wild and scenic rivers.....	Wild and Scenic Rivers Act as amended, (16 U.S.C. 1271).	30 miles wild gained, 9 miles recreational gained

Note: Based on essential postponement of designation decision on river segments other than 5, 6, 7, and 8 until water development studies are completed.

TABLE VII-2

Compliance of the Recommended Plan with WRC-Designated Environmental Statutes

<u>Federal Policies</u>	<u>Compliance</u>
Archeological and Historic Preservation Act, 16 USC 469	Full Compliance
Clean Air Act, as amended, 42 USC 1857h-7	Full Compliance
Clean Water Act (Fed. Water Pollution Control Act) 33 USC 1251	Full Compliance
Coastal Zone Management Act, 16 USC 1451	Not Applicable
Endangered Species Act, 16 USC 1531	Full Compliance
Estuary Protection Act, 16 USC 1221	Not Applicable
Federal Water Project Recreation Act, 16 USC 460-1(12)	Full Compliance
Fish and Wildlife Coordination Act, 16 USC 661	Full Compliance
Land and Water Conservation Fund Act, 16 USC 460/-460/-11	Full Compliance
Marine Protection, Research and Sanctuary Act, 33 USC 1401	Not Applicable
National Environmental Policy Act, 42 USC 4321	Full Compliance
National Historic Preservation Act, 16 USC 470a	Full Compliance
Rivers and Harbours Act, 33 USC 403	Full Compliance
Watershed Protection and Flood Prevention Act, 16 USC 1001	Full Compliance
Wild and Scenic Rivers Act, 16 USC 1271.	Full Compliance

Management Options for the Preferred Alternative

The following summarizes the management strategy and implications of the segment classifications of the Poudre as proposed in the preferred alternative. (A more extensive plan would be prepared if the river is designated by the Congress.) It is proposed that administration of lands within the corridor, including costs thereof, be conducted in accordance with existing management responsibilities of the Forest Service, National Park Service, Colorado Division of Wildlife, and Larimer County. Costs would be similar or proportional to existing levels. It is not estimated that local governments will incur additional significant costs related to management and administration of the river corridor.

A. Recreational River - Segment 7

The management goal for this segment of the river is to preserve and protect those values for which the river was designated within the following policy guidelines.

1. Recreation

- a. Developed recreation facilities are not projected for construction by the Forest Service. If facilities are required to absorb user impacts, the private sector will be encouraged to play an active part in ownership and management. Developments must be consistent with existing scenic and free-flowing values and all impacts mitigated. Existing developed facilities will be maintained. Some small sites may be eliminated to increase efficiency of management services and provide incentives for private sector participation.
- b. Dispersed recreation activities will be encouraged. Colorado Division of Wildlife to administer hunting and fishing. Larimer County to administer boating use of river.

2. Access

- a. Road improvements must be consistent with water and scenic quality. Bridges, if needed, must meet acceptable scenic compatibility. Access to utilities on existing rights-of-way to be preserved.
- b. Trail access (right-of-way) to be purchased on approximately 6 miles of trail.
- c. Trailhead facilities and trails serving areas outside the corridor may be located inside the designated area if they are consistent with scenic values.

3. Minerals

Subject to existing provisions of the Mining Laws of 1872.

4. Vegetation and Timber

Timber harvest is consistent with recreational designation. It is estimated that 1 million board feet of timber will be removed through selection cutting for sanitation and salvage by 2050. Timber sales will be administered by the Forest Service.

5. Utilities

Utility construction and/or rights-of-way will be consistent with scenic values of segment. Minimum impacts will be emphasized. Maintenance of existing facilities will be permitted.

6. Fish and Wildlife

Priority to protection of existing fish and wildlife values. Habitat enhancement through vegetative manipulation may occur where it meets visual quality objectives. Fish and wildlife administered by Colorado Division of Wildlife.

7. Fire

Fire will be fought aggressively, consistent with management guidance.

8. Water

If a conflict between water quality and resource activities and use occurs, protection of water quality will take precedence.

9. Land Acquisition

Not planned. Exchanges will be considered where net value accrues to the public.

10. Easements

Scenic values of the segment will be protected through the acquisition of scenic easements as necessary. Easement acquisition is estimated to be up to 487 acres. Easements will only be acquired in the event of potential threats to existing values.

B. Wild River - Segments 5, 6, and 8

The management goal for these segments is to preserve and enhance those values for which the river was designated within the following policy guidelines, complemented by established National Forest and National Park policy.

1. Recreation

- a. Developed recreation facilities, except for trailheads, will not be constructed. Primitive facilities may be constructed for resource protection, maintaining orientation to "vestiges of primitive America."
- b. Dispersed recreation activities will be encouraged. Colorado Division of Wildlife to administer hunting and fishing. Use may be restricted to carrying capacity of resource, if necessary.

2. Access

- a. No new roads will be constructed, as all wild areas are Wilderness or National Park.
- b. No additional trail access is anticipated. Existing trail systems are sufficient.
- c. Trailhead facilities and trails serving areas outside the corridor may be located in the designated area if they are consistent with scenic values and a primitive experience.

3. Minerals

Subject to valid, existing rights located outside Rocky Mountain National Park, mineral entry is withdrawn on lands within the designated corridor.

4. Vegetation and Timber

Timber harvest is not permitted.

5. Utilities

Utility construction or rights-of-way will be permitted if consistent with scenic values of segments and existing policy. It is unlikely, however, that utility construction will be proposed in wild segments.

6. Fish and Wildlife

Priority to protecting existing fish and wildlife values. Habitat enhancement through non-mechanized vegetative manipulation allowed, but only on National Forest lands. Emphasis on greenback cutthroat trout (a threatened species) coordination with Colorado Division of Wildlife. Fish and game management administered in National Forest portions by Colorado Division of Wildlife. Rocky Mountain National Park administers fish and wildlife within Park boundaries.

7. Fire

Fire will be fought in accordance with Forest Service and National Park Service policies. Emphasis will be on resource protection within limits of response capabilities.

8. Water

Modification of the waterway is prohibited. Water quality will be protected.

9. Land Acquisition

Not planned. Nearly 100 percent of segments already in public ownership.

10. Easements

Not planned. Nearly 100 percent of segments already in public ownership.

C. Deferred Decision - Segments 1, 2, 3, and 4

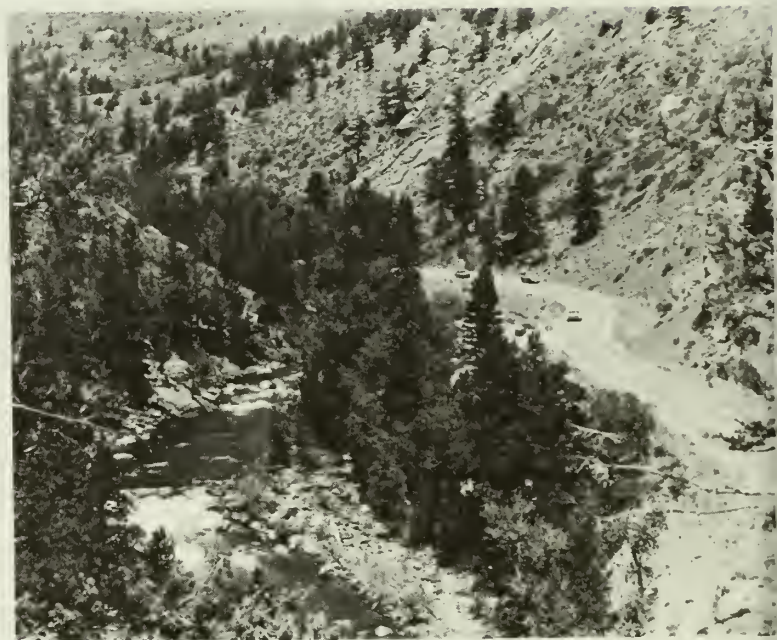
The management goal for these segments is to provide effective multiple-use management, consistent with applicable guidance. Specific management direction is provided in the Arapaho and Roosevelt National Forests Land and Resource Management Plan. The segments would be managed to preserve those outstandingly remarkable values currently present until a decision to designate or develop is reached, consistent with the "study river" provisions of the Wild and Scenic Rivers Act.



Hombres Ranch near Rustic



Recreation home along
the Poudre River



Highway 14 along the Poudre River
near Mountain Park Campground



The community of Rustic

CHAPTER VIII. CONSULTATION WITH OTHERS

This chapter describes the activities undertaken to involve a variety of publics in the Wild and Scenic Rivers Study process for the Cache la Poudre River. The time line for consultation with others extends from 1977, when the study team was being developed, until the final decision is reached by the Congress. Documented here are those portions that occurred prior to the printing of this final report. The collection of comments and participation by the public at large does not have an identifiable termination date, and responses by individuals or groups are encouraged. All comments received are incorporated by reference.

A. Inception of Study to Publication of Draft Environmental Impact Statement

An interagency, interdisciplinary team was formed for the purpose of collecting, analyzing, and evaluating data pertinent to the river study. The principal participants are identified in appendix B. Represented on the team were the following:

Federal

U.S. Department of Agriculture:
Forest Service
Economic Research Service
U.S. Department of the Interior:
Heritage Conservation and
Recreation Service
Bureau of Reclamation
National Park Service
Geological Survey
Fish and Wildlife Service
Bureau of Mines
Environmental Protection Agency

State of Colorado

Water Conservation Board
Division of Wildlife
Division of Parks and
Outdoor Recreation
State Historical Society
Colorado Geological Survey
Colorado Forest Service
Division of Planning
Division of Highways
State Archaeologist

Four public meetings were held between June 1977 and March 1979 to facilitate public understanding of the legislation and the issues, to determine public concerns, and to obtain additional information for the study. Similar to the alternative formulation process discussed in Chapter IV, this is an iterative process, requiring that regular opportunities be presented to the public to respond.

In addition, members of the interdisciplinary team conducted informal visits to the Poudre Canyon and other locations in the planning area to accumulate information and perceptions by the public. The Estes-Poudre Ranger District of the Arapaho and Roosevelt National Forests acted as a clearinghouse for this information exchange.

The study process was covered in mass media located in the planning area.

B. Publication of DEIS/SR and Public Comment Period

The Draft Environmental Impact Statement and Study Report was released to the public on April 8, 1980. For the next 90 days, pursuant to the Wild and Scenic Rivers Act and NEPA, comments and reactions to the DEIS/SR were collected at the Supervisor's Office, Arapaho and Roosevelt National Forests. Nearly 1,200 individual pieces of correspondence were received from individuals, groups, government agencies at all levels, and local government elected officials. These comments were sequentially numbered, and a file copy was made available for inspection at the Supervisor's Office. A content analysis of the responses was performed and appears on pages 109 to 117. Selected letters were chosen from the total received for reproduction in this final study, with appropriate responses by the study team, and appear on pages 117 to 161.

At the publication date of the DEIS/SR, copies were sent to the following:

Federal Agencies:

- Advisory Council on Historic Preservation
- Department of Agriculture
- Department of Commerce
- Department of Defense (Army Corps of Engineers)
- Department of Energy
- Environmental Protection Agency
- Federal Energy Regulatory Commission
- Department of Health, Education and Welfare
- Department of Housing and Urban Development
- Department of the Interior
- Department of Transportation
- Water Resources Council

State of Colorado and Other Local Agencies:

- State of Colorado Clearinghouse
- Colorado Department of Natural Resources
- Colorado Division of Wildlife
- Colorado State University
- Larimer-Weld Regional Council of Governments
- Denver Board of Water Commissioners
- Colorado Water Conservation Board
- City of Fort Collins, Colorado
- Larimer County Historical Society
- Larimer County Board of Commissioners

Other Organizations:

- The Wilderness Society
- Sierra Club
- Colorado Open Space Council
- Federal Timber Purchasers Association
- Colorado Trout Unlimited
- University of Colorado Wilderness Study Group
- Colorado Cattlemen's Association
- American Rivers Conservation Council
- American Mining Congress

Colorado Guides and Outfitters Association
Mile "Hi" Jeep Club
Audubon Society
American Sportsman Club, Inc.
Colorado Mountain Club
Izaak Walton League of America
National Four Wheel Drive Association
Cache la Poudre Water Users Association
Weld County Underground Water Users Association
Colorado White Water Association
Poudre Canyon Association
Federation of Fly Fishermen
St. Vrain 4-Wheelers
Forestry West

Additional copies were made available upon request to interested individuals and groups. In total, 1,000 copies of the DEIS/SR were printed. Before the close of the comment period, all but 50 had been distributed. Review copies were exhausted prior to the end of 1980. A list of persons requesting copies of the DEIS/SR is on file with the planning records at the Supervisor's Office.

Upon publication of the DEIS/SR, a series of public meetings was scheduled by the Estes-Poudre Ranger District. Forty-six informational meetings were conducted in the planning area in April, May, June, and July of 1980, supported by a slide presentation and maps of the study corridor and the preferred alternative. Groups scheduled for these presentations included local civic organizations, professional societies, resident associations, university classes, conservation societies, church groups, and interested citizens. Under the leadership of the District, comments and responses from these sessions were summarized and presented to the study team for consideration.

No formal hearings were held.

Some of the comments received, particularly from water development interests, suggested that the river study and DEIS/SR recommendations were biased, inadequate, or based on incomplete information. A special effort to develop comments from this group is outlined below.

C. Public Comment Content Analysis

This section of the report analyzes collectively the comments received during the 90-day comment period collectively. The technique for this analysis involved the use of Quick Query, an information system designed to allow distillation of the comments into a data base, followed by an opportunity to question the data base to achieve a variety of comparisons. It provides a method of depicting the comments in an objective, numerical manner.

Throughout the process, the study team has endeavored to present various points of view without "weighing" the gross comments received. No attempt was made to count signatures or make inferences not clearly

stated in the comments. The total comments included a number of resolutions, tabulations, petitions, and multiple signatures, each of which was evaluated as one comment in the collective analysis. Should a formal request for legislation be presented to Congress, copies of all correspondence received during the comment period will be sent to the appropriate committees of the Senate and House of Representatives (40 CFR 1506.8(c)).

During the comment period of April 8 to July 8, 1980, 1,103 responses were received. These responses were analyzed to answer three principal questions.

Who commented on the Draft EIS and Study Report?

Which alternatives did the respondents prefer and why?

What additional information was provided that could assist in the preparation of this final report and in reaching a final recommendation?

Summaries extracted from the Quick Query data base were used to answer these questions. They are presented below.

Who Responded?

Both residence and group affiliation were noted for each response. These were the primary categories used to organize later steps of the analysis.

TABLE VIII-1
Residence

	<u>Percent of Total Response</u>	<u>Number</u>
Larimer-Weld County residents (does not include Poudre Canyon residents)	65.7	725
Colorado residents (does not include residents of Larimer or Weld counties)	17.3	191
Out-of-state residents	9.2	101
Poudre Canyon residents	3.7	41
Other (No residence stated or coding error)	2.4	26
Poudre Canyon property owners (No residence stated)	<u>1.7</u>	<u>19</u>
	100	1103

In addition to the 19 responses identified only as Poudre Canyon property owners, four responses from Larimer and Weld counties, three responses from Colorado, and five responses from other states stated that the respondents owned property in the canyon. These responses were grouped by their respective residences in the following tables rather than with the general category of canyon property owners.

TABLE VIII-2
Affiliation

	<u>Percent of Total Response</u>	<u>Number*</u>
Individual citizen	85.7	945
Academic institution or student	8.9	98
Conservation or environmental group	2.6	29
Government agency (not water board or Forest Service)	2.2	24
Resource professional	1.6	18
Water agency or board	1.5	17
Commercial/civic organization	1.5	16
Recreation group or club	less	5 or
Agriculture/ranching	than	less
Development industry/business (real estate)	0.5	each
Resource industry/business	each	
U.S. Forest Service		

*Some responses indicated more than one affiliation so the number of affiliations is more than the number of responses.

All affiliations generally included representatives from each of the residence categories identified in Table VIII-1. However, there were several notable exceptions. Responses from academic institutions and students, agriculture and ranching interests, and resource industry came exclusively from those portions of Larimer and Weld counties outside the Poudre Canyon. Forest Service responses all came from outside Colorado. Responses from Poudre Canyon property owners and residents identified fewer affiliations than other residence categories. Respondents who owned property in the canyon were affiliated with either a recreation group, development industry, resource professional, or individual citizen grouping. Canyon residents' comments came from individual citizens except for one canyon resident response from a commercial or civic organization.

Which Alternatives Were Preferred?

Each respondent's preference of action to be taken and the reasons cited for supporting or opposing designation of the Poudre as a Wild and Scenic River were noted. Table VIII-3 summarizes the number of responses advocating particular alternatives, variations on alternatives, or other actions.

The distribution of responses from a particular residential grouping tended to follow the same pattern of alternative preference as the overall distribution of preferences. However, the percentage of Poudre Canyon property owners favoring alternative D (no designation) was more than twice as high as the percentage of all respondents who favored alternative D. Also, the out-of-state respondents as a group favored designation but no specific alternative about as often as they favored alternative E instead of following the overall trend of the strong preference for E.

Reasons for supporting particular alternatives or courses of action were not recorded from the responses. Instead, reasons cited in favor or against designation of all or parts of the Poudre as a Wild and Scenic River were noted. Results are summarized in Tables VIII-4 and VIII-5.

What Additional Information Was Provided?

Relatively few respondents expressed an opinion on the quality of the study or the efforts made in preparing it. The opinions that were expressed are summarized in Tables VIII-6 and VIII-7.

TABLE VIII-3
Preferred Action

	<u>Number</u>	<u>Total Number</u>	<u>Percent of Total Response</u>
Alternative E and variations		385	53.0
Alternative E	177		
E and add segment 1 with Recreational designation	83		
E but delete segment 6 Wild designation	1		
E but delete segment 7 Recreational designation	6		
E and add segment 7 Recreational designation	1		
E but change segment 7 designation to Wild	317		
Support for designation but no specific alternative mentioned		217	19.7
General support for designation	215		
Support for designation but change segment 7 designation to Wild	1		
Support for designation but delete segment 7 Recreational designation	1		
Alternative A and variations		117	10.6
Alternative A	111		
A but change segment 7 designation to Wild	6		
Opposed to dams but no specific support or opposition to designation		76	6.9
Alternative D and variations		64	5.8
No response		25	2.3
Alternative B and variations		5	0.4
Alternative C and variations		2	0.2
Support for water development but no specific support or opposition to designation		2	0.2

TABLE VIII-4
Reasons Cited for Designation

	<u>Percent of Total Responses</u>
Water projects/dams (general)	43.8
Recreation opportunities	34.3
Scenic beauty	32.9
River preservation	22.5
Uniqueness	18.0
Free-flowing	16.5
Fish and wildlife	13.9
Grey Mountain Dam	9.1
Idylwilde Dam	3.8
Historic values	2.1

TABLE VIII-5
Reasons Cited Against Designation

	<u>Percent of Total Responses</u>
Water projects/dams (general)	3.4
Water needs (now and future)	3.3
Grey Mountain Dam	2.9
Needs further study for water projects	2.5
Idylwilde Dam and Reservoir	1.9
Foreclosed futures (general)	1.5
Recreation opportunities	1.5
Energy needs	1.3
Property rights (general)	1.0
Needs further study - river	.9

TABLE VIII-6
Public Perception of Study Report and Preparation Effort

	<u>Approve</u>	<u>Disapprove</u>	<u>Maps Incorrect</u>	<u>Study Biased</u>	<u>Incorrect Data</u>	<u>No Comment</u>
Commercial/Civic	2			1		13
Conservation/En- vironmental	4					25
Recreation group						2
Resource profes- sional	3	1			1	13
Academic Inst./ Student	2	1				95
Government	2	2				20
U.S. Forest Service						5
Water Agency		5				12
Agricultural/ Ranching				1		
Individual citizen	54	6		1	2	883
Development industry						3
Resource industry		1			4	5

Because some respondents indicated more than one affiliation, the above table includes some duplication of responses. The following table displays the same information using the mutually exclusive residence groupings to eliminate the overlap.

TABLE VIII-7
Perception of Study by Residence

	<u>Approve</u>	<u>Disapprove</u>	<u>Maps Incorrect</u>	<u>Study Biased</u>	<u>Incorrect Data</u>	<u>Possible No. of Responses</u>
Poudre Canyon property owner						19
Canyon resident	6					41
Larimer-Weld resident	41	10		1	1	725
Colorado resident	9	1		1	1	191
Out-of-state resident		1				101
No residence stated	<u>1</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>26</u>
Total	57	12	0	2	2	1103

Many of the respondents indicated how they presently use the Poudre.
The uses mentioned by more than 20 people are listed below.

TABLE VIII-8
Major Uses of the Poudre River

	<u>Percent of respondents mentioning</u>
Fishing	17.3
Boating or floating	10.4
Hiking	9.0
Camping	8.1
Picnicking	3.3
Auto driving	3.2
Swimming	2.2

Other uses mentioned: skiing/snowshoeing, climbing, backpacking, bicycling, motorcycling, hunting, 4x4 and dirt biking, snowmobiling, photography, bird and wildlife observation, prospecting, rockhounding, nature study, plant study, grazing, vacation home site, commercial/business, commuting, research, presence

TABLE VIII-9
Top Three Uses of the Poudre by Residence

<u>Poudre Canyon Property Owners</u>	<u>Poudre Canyon Residents</u>	<u>Larimer-Weld Co. Residents</u>
Fishing	Fishing	Fishing
Vacation Home Site	Boating/Auto Driving	Hiking
Boating/Hiking/Hunting	Camping/Hunting	Boating
<u>Colorado Residents</u>	<u>Out-of-State Residents</u>	
Fishing	Fishing	
Boating	Hiking	
Hiking/Camping	Boating/Camping	

The respondents from Larimer and Weld counties listed the most (27) uses of the Poudre. Only five uses were cited by the respondents who owned property in the canyon. All other residence groups mentioned similar ranges of activities.

River uses were also compared by the alternative the respondent favored. Those respondents favoring alternative E, the variation of alternative E that changed the designation of segment 7 to wild, or generally favoring designation of the river without expressing support for a particular alternative mentioned the most uses of the Poudre. Only one response out of 117 supporting alternative A mentioned fishing (the number one overall use) as a use.

D. Response to Comments

The response procedure is detailed in the CEQ Guidelines, requiring assessment and consideration of comments, both individually and collectively. This section addresses individual comments received during the 90-day comment period. An agency is instructed by the Guidelines to respond to comments in the final statement in one of the following ways:

1. Modify alternatives including the proposed action.
2. Develop and evaluate alternatives not previously given serious consideration by the agency.
3. Supplement, improve, or modify its analysis.
4. Make factual corrections.
5. Explain why the comments do not warrant further agency response.

Representative comments received on the DEIS/SR are reprinted in this final statement. The volume of comments would require approximately 500 pages to reproduce all letters, which would entail a prohibitive cost. Therefore, sample comments are reprinted on the following pages. Where appropriate, the comment receives a response in parallel text. In instances where a letter develops a comment previously responded to, there is no further response. The letters that appear represent the scope and nature of comments received, as well as the more intangible "sense" of the commentors.



MAIL 7 1980

Ref: 84-EE

Gray F. Reynolds, Forest Supervisor
Arapahoe and Roosevelt National Forests
301 South Howes
Ft. Collins, Colorado 80522

Dear Mr. Reynolds:

The Region VIII Office of the Environmental Protection Agency has reviewed the Draft Environmental Impact Statement and Study Report for the Cache la Poudre Wild and Scenic River. EPA supports the Forest Service's preferred Alternative E. The Cache la Poudre is the largest Front Range stream still free-flowing from its source to the mouth of the canyon. We believe that strong consideration should be given through the Wild and Scenic Rivers Act to protecting it in this state while preserving existing multiple uses for recreation and irrigation. We also see some opportunities through this designation to enhance the natural, recreational and historic values associated with the River. We offer the following comments for your consideration in preparing the final EIS.

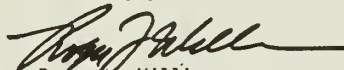
1) The tradeoffs between water resources development and preservation of the Cache la Poudre must be considered in terms of the environmental benefits/impacts from these alternatives. For example, hydroelectric projects have fairly specific impacts that could significantly affect the potential quality of the Cache la Poudre as a recreational and biological resource. New hydroelectric facilities have their greatest economic value as peaking units to supplement the much larger fossil-fuel base load facilities owned by private or municipal utilities. However, operation of reservoirs in the peaking mode means discharging high flows for short periods (perhaps four hours per day) while discharging little flows at other times. This could have severe repercussions including potential safety problems for streamside recreation users and aquatic biota.

2) The EIS notes on page 33 that while the Cache la Poudre meets many of the eligibility criteria for wild and scenic rivers, it does not do so for fish and wildlife values and historic values. We wonder whether inclusion of the river into the Wild and Scenic Rivers system might not offer some possibilities to enhance both of these latter categories in a significant way. It is mentioned that currently the endangered greenback cutthroat trout is limited to Black Hollow Creek. Given the fairly extensive to undeveloped reach, particularly in Segment 5, would it be possible to

1. The tradeoffs between water resources development and preservation of the Poudre have been reassessed. Using the most complete information available, alternative D projects these effects. They are summarized in Tables V-1 through V-4. The uncertainty relative to alternative D is also discussed in Chapter II, page 20.
2. The DEIS/SR finding that fish and wildlife and historic values are of high quality, but are not "outstandingly remarkable" remains accurate. The opportunity to enhance the condition of these values through designation does exist.

EPA appreciates the opportunity to comment on this EIS. According to the system used to rate EIS's under its review, EPA has rated this EIS as LO-1. This means we have no objections to the project proposal. Again, EPA supports the effort to make these portions of the Cache la Poudre a part of the Wild and Scenic Rivers system.

Sincerely yours,



Roger L. Williams
Regional Administrator



United States
Department of
Agriculture

Soil
Conservation
Service

P.O. Box 2890
Washington, D.C.
20013

Subject:

INTERA - Wild and Scenic Rivers -
Cache La Poudre River, Colorado

Date:

MAY 2 2 1980

To: Charles R. Hartgraves, Director, Land Management Planning
Forest Service

This is in response to your memorandum of April 4, 1980, requesting our review and comments on the Cache La Poudre Wild and Scenic River report and Draft Environmental Impact Statement.

The Soil Conservation Service has no objection to the recommendation for including approximately sixty-two miles of the river in the National Wild and Scenic River Systems in accordance with the preferred alternative (Alternative E).

We believe that the statement on page v, "Gross regional product will increase by \$2,092,000; employment by 185 annual person-years and personal income by \$1,135,000," is misleading. It is true that these parameters will increase by these amounts over present conditions. However, since these are estimates for the future, the true comparison should be against the No Action Alternative. Thus, it appears the proposal will really decrease gross regional product by \$12,328,000 (\$14,420,000 - \$2,092,000), employment by 985 annual person-years (1,170 - 185), and personal income by \$11,325,000 (\$12,460,000 - \$1,135,000). We do not question the conclusion that the proposal has positive attributes that outweigh these economic losses. However, page v should be changed to show the true comparison of economic impacts, since the Summary section is so commonly read.

Similarly, we have been unable to verify some of the other estimates on page v.

Please provide us with a copy of the USDA comments on this report.

James W. Mitchell

JAMES W. MITCHELL
Associate Deputy Chief for
Natural Resource Projects



The Soil Conservation Service
is an agency of the
Department of Agriculture

WO-AS-2
10-79



United States
Department
of Agriculture

Rural
Electrification
Administration

Washington
D.C.
20250

May 19 1966

SUBJECT: Draft Environmental Impact Statement
Cache La Poudre Wild and Scenic
River, Colorado

TO: Charles R. Hartgraves
Director, Land Management Planning
U. S. Forest Service

In response to your request, our staff has reviewed the referenced impact statement and offers the following comments:

1. On page v, it states that the effects of implementing the preferred alternative include a reduction of 148,000 acre-feet of potential water storage and 274,000 kilowatts of potential power. With the current national awareness of the need for all sources of available power, both existing and new, the environmental impact of the loss of all or part of the 274,000 kilowatts of potential power should be assessed.

2. A 1963 and 1966 Bureau of Reclamation Reconnaissance Report (pages 14 and 15) discussed a development plan for the Poudre River which included two storage dams and reservoirs, two hydroelectric power plants and associated facilities, but questioned the market for peaking power within the confines of the Bureau's laws and policies. The 1966 Concluding Report only recommended the possible development of the Idylwilde Dam and Reservoir with minimum provisions to permit the possible future inclusion of power. The development plan should be reviewed to determine if there is presently a market for peaking power. The potential for low-head hydro facilities on existing impoundments should also be examined.

3. Section v entitled, "Effects of Implementation" should contain a discussion on impacts to utilities, specifically transmission, distribution, and pipeline rights-of-way and access roads.

4. Under Management Options (page 75 and 76) it is stated that utility construction is permitted providing... are not adversely affected. What type of construction will be permitted (i.e., distribution lines, transmission lines, underground lines)? What about the access roads needed to maintain the lines?

Thank you for the opportunity to comment. Should you have any questions, please contact Allen Webb at 447-7447.

Allen Webb
CHARLES T. CROWLEY
Chief, Environmental Services Branch
Environmental and Energy
Requirements Division

1. The revised preferred alternative B does not immediately reduce either water storage or hydroelectric potentials in segments 1-4. The effects of producing a comparable amount of power thermoelectrically are discussed in Chapter V, page 86.
2. Review of the development plan was considered by the study team and determined to be outside the scope of this study. Recommendations for additional inquiry are contained in Chapter VII.
3. Existing utility structures (located in segments 1-4 and 7) would not be impacted by the preferred alternative.
4. Development consistent with the values for which a particular segment is designated and classified must be protected. New construction proposals would be considered on an individual basis, using the environmental assessment process to guide decisionmaking.

FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON 20426

In Reply Refer To:

OEPR-DRB
Cooperative Studies
Wild & Scenic R. Reports
Cache la Poudre River

JUN 17 1980

Mr. Charles R. Hartgraves
Director, Land Management Planning
Forest Service
U.S. Department of Agriculture
P.O. Box 2417
Washington, D.C. 20013

Dear Mr. Hartgraves:

This is in response to your letter of April 4, 1980, requesting our comments on the draft environmental impact statement and study report for the proposed Cache la Poudre Wild and Scenic River in Colorado.

The report was prepared pursuant to the provisions of the Wild and Scenic Rivers Act (Public Law 90-542), as amended, which specified the study of the upper 74 miles of the Cache la Poudre River. The proposed Cache la Poudre Wild and Scenic River would include 42.25 miles of classified recreational river and 25 miles of classified wild river, totaling 67.25 miles.

We have reviewed the draft report to determine the effects of the proposal on the Commission's responsibilities under the Federal Power Act, Natural Gas Act, and other authorities. Such responsibilities relate to the licensing of non-Federal hydroelectric power projects, participation in the planning of Federal water and power resources projects, and the regulation of construction and operation of natural gas pipeline facilities.

Water resources development opportunities in the basin were recognized as a major issue and concern in the proposed wild and scenic river study. The study evaluated the hydroelectric power potential of the Cache la Poudre River, utilizing data from the Water and Power Resources Service (WPRS), formerly the Bureau of Reclamation. A

comprehensive plan of development on the Cache la Poudre River, as presented in a 1963 WPRS report and mentioned on page 15, included two hydroelectric powerplants for peaking power production which appeared to be economically justified and financially feasible, but the market for peaking power within the confines of reclamation law and policy was questionable. The wild and scenic river study identified five potential hydroelectric powerplants -- Hague, Mummy, Mt. Moriah, Cache la Poudre, and Pendergrass -- which would be located on the proposed wild and scenic river based on 1979 WPRS data (pages 14 and 97). The total installed capacity of these five potential projects is calculated as 328,400 kilowatts. The study report states that the implementation of the wild and scenic river proposal would preclude the development of 274,000 kilowatts of potential hydroelectric power (pages v, 48, and 69). This 274,000-kilowatt value does not agree with the total capacity of the five potential hydroelectric projects shown on page 97.

Federal Energy Regulatory Commission reports identify six potential hydroelectric projects on the proposed wild and scenic river. Per-
tinent project data are summarized below:

Potential Project	Installed Capacity (kW)	Average Annual Generation (1,000 kWh)	Plant Factor (%)
Cascade	15,100	46,000	35
Poudre	12,600	77,000	70
Sheep Creek	13,500	89,000	75
Bennett Creek	23,800	147,000	71
Elkhorn	27,400	168,000	70
Canyon	19,800	117,000	67
Total	112,200	644,000	

These six additional potential projects appear to be located at sites different than those of the five potential projects shown on page 97 of your draft report. The project data were based on a 1951 WPRS report, Power Resources, Requirements, and Supply, Missouri River Basin. Four of these projects -- Poudre, Sheep Creek, Elkhorn, and Canyon -- were identified as possible future hydroelectric developments in the Missouri Basin Inter-Agency Committee's report, The Missouri River Basin Comprehensive Framework Study, Volume 5, December 1971.

The available information obviously indicates the existence of a substantial amount of hydroelectric power on the study river. It is well known that hydroelectric powerplants are particularly suitable

1. The additional information cited in this response has been included in the final report. Current interest in the Grey Mountain/Idylwild Project proposal by predominantly non-Federal groups is one of the reasons for including it as an alternative for analysis.

Mr. Charles R. Hartgraves

-3-

1.

to supply peak loads, and that they could preclude the eventual need for peaking combustion-turbine powerplants which burn oil. The economic feasibility of developing hydroelectric power on the study river for peaking purpose has been demonstrated in the 1963 WPRS report. This hydroelectric power development could be carried out by non-Federal entities in the future, if reclamation law would preclude such development by the WPRS. However, we know of no plans at the present time for the development of potential hydroelectric power on the study river.

FERC staff studies indicate that the wild and scenic river proposal would not have a significant effect on natural gas facilities or hydrocarbon resources.

In summary, based on considerations of the draft study report, environmental impact statement, data in our files, and our studies, we conclude that the proposed wild and scenic river designation of 67.25 miles of the Cache la Poudre River would conflict with possible future development of a substantial amount of hydroelectric power. We believe that the possible power benefits foregone should be thoroughly considered in deciding whether to include this reach of the river in the National Wild and Scenic Rivers System.

Sincerely,



for William W. Lindsay, Director
Office of Electric Power Regulation



L. PARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, D.C. 20310

20 JUN 26 15:50

20 JUN 1980

Honorable Bob Bergland
Secretary of Agriculture
Washington, D. C. 20250

Dear Mr. Secretary:

This is in response to your recent letter requesting comments of the Department of the Army on your proposed report and draft EIS on the wild and scenic river study of the Cache La Poudre River, Colorado.

Designation of this stream as a component of the Wild and Scenic River System would not affect existing or proposed water resources development of the U. S. Army Corps of Engineers.

Should any portion of the Cache La Poudre be designated, future planning and permitting activities for work in waters of the United States would recognize the values for which such segments were designated.

Any actions that would discourage habitation of the Cache La Poudre floodplain or its principal tributaries should be viewed as beneficial. Special flood warning studies presently in progress reveal that the flash flood potential of this stream is similar to that along the neighboring Big Thompson River where the catastrophic flood of July - August 1976 resulted in the loss of 139 lives.

I appreciate the opportunity to review and comment on your proposed report.

Sincerely,

Michael Blumenfeld
Assistant Secretary of the Army
(Civil Works)

1. Difficulty was encountered in evaluating potential NED or OSE flood damage benefits to be realized from designation. Attempting to calculate populations at risk or removed from risk is too subject to uncertainty. Additional flash flooding in mountain canyons is certain, but the location or severity of the events are also difficult to predict. The comment is, however, appreciated.



Department of Energy
Washington, D.C. 20585

JUL 28 1980

Honorable Bob Bergland
Secretary of Agriculture
Washington, D.C. 20250

Dear Mr. Secretary:

This is in response to your April 2, 1980, letter requesting our review and comment on the draft environmental impact statement and study report for the proposed Cache La Poudre Wild and Scenic River.

We have reviewed the draft environmental impact statement and study report, and pursuant to Section 4(b) of the Wild and Scenic Rivers Act offer the following comments:

- o The draft environmental impact statement appears to address the qualification of the Cache La Poudre River for inclusion into the wild and scenic river system, and only briefly addresses the actual impact the designation would have on energy resources, renewable and nonrenewable natural resources, and the human environment. We believe more detailed impact evaluation is necessary before a decision can be made on the river's elevation to Wild/Scenic/Recreational status.
- o The preferred alternative identified in the draft environmental impact statement is estimated to preclude 274,000 kilowatt-hour of potential hydroelectric power. The evaluation of hydroelectric potential is derived from a 1963 Bureau of Reclamation Report and a 1966 Concluding Report. The Colorado Front Range has experienced rapid growth since publication of these reports, and significant amounts of power for the area is produced by hydroelectric Powerplants. Because of both the economic growth and power demand growth, more up-to-date studies are necessary to determine actual needs of the area and the impacts due to the projected loss in hydroelectric power potential if the proposal were implemented.

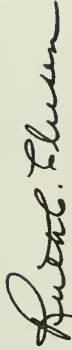
1. A more detailed impact evaluation has been conducted in the revised Chapter V, pages 63 to 88. The need for additional information is identified throughout the final statement.
2. There is no disagreement. More up-to-date studies are needed.

3. Uranium activity presently occurs outside the study corridor of the Poudre. A reevaluation of the mineral potential of the study corridor supported the findings of the DEIS/SR that overall potential is low.

o The draft environmental impacts statement generally discounts the potential for uranium resources as insignificant. According to the Department of Energy's 1979 National Uranium Resource Evaluation Interim Report, potential uranium resources have been identified within the study area and basins draining into the river system. The Colorado Geological Survey, Bulletin 40, 1978, gives location and detailed descriptions of the known uranium mines and prospects along the Cache La Poudre River in Larimer County. The impact statement should be revised to assess the uranium resource potential more accurately.

We trust these comments will be useful and look forward to receiving the final environmental impact statement when it is completed.

Sincerely,



Ruth C. Clusen
Assistant Secretary
for Environment



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER-80/305

JUL 23 1980

Honorable Bob Bergland
Secretary of Agriculture
Washington, D.C. 20250

Dear Secretary Bergland:

We are pleased to review the Draft Environmental Impact Statement and the Wild and Scenic River Study Report for the Cache La Poudre River in Colorado. We feel the report has been well prepared overall. We agree with the findings and have no serious objection to the report recommendations. However, we do request that further consideration be given to Alternative A before deciding upon the final recommendation to the President.

1.

Alternative E, for which the Forest Service has indicated its preference, would not designate Segment 1 (five miles in length) due to heavy development and presumed high cost for acquisition in fee and scenic easements. However, it is stated on page 34 that this segment "... has the potential to be qualified as recreational." The finding of heavy development would appear to be somewhat at odds with the determination of eligibility, but setting aside this apparent inconsistency, leaving a qualified segment outside the system will not maximize resource protection. If this segment were designated, it may be possible to work with the affected jurisdiction(s) and landowners to assure greater protection of scenic values than with non-designation without resorting to an expensive (both in terms of money and social costs) acquisition program.

We also feel that deletion of the area in Segment 7 which is proposed for land exchange with Colorado State University is unnecessary and unwarranted. Information in the report indicates that present and planned activities and land uses of the University are not incompatible with those appropriate in the corridor of a river in the national system. In addition, the statement on page 66 that "The proposed land exchange in Alternative E would not significantly violate the purposes of the Wild and Scenic Rivers Act." accents the question as to why these lands should not be designated. While Sections 8(a) and 8(b) of the Act normally would preclude the implementation of the proposed exchange, legislation could be drafted to amend Section 3(a) of the Act to specifically allow the proposed land exchange between United States Department of Agriculture's Forest Service and the Colorado State University to be implemented subsequent to designation.

2.

1. Alternative A was given further consideration in the analysis. As stated in Chapter VII, absent uncertainty surrounding segments 1 through 4, either alternative A or E would be preferred and recommended to the President.

2. The recommendation to permanently delete lands to facilitate the CSU/Forest Service land exchange has been modified in response to several comments. Implementation of the exchange subsequent to designation, or vice versa, is now a part of the recommendation to the President and Congress.

Honorable Bob Bergland

2

3. In addition to the major points of concern cited above, we have enclosed others for your consideration. We hope these will be helpful in finalizing the report. Thank you for the opportunity to comment, and for granting the time extension.

3. Other specific comments contained editing and clarifying suggestions that were considered in preparation of this final report.

Sincerely,


Special Assistant to
Assistant SECRETARY

Enclosures



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
REGIONAL/AREA OFFICE
EXECUTIVE TOWER - 1405 CURTIS STREET
DENVER, COLORADO 80202

REGION VIII

June 2, 1980

IN REPLY REFER TO:

850Q

Mr. R. Max Peterson
U.S. Department of
Agriculture-Forest Service
12th & Independence Avenue, S.W.
Washington, D.C. 20250

Dear Mr. Peterson:

Thank you for the opportunity to comment on the draft Environmental Impact Statement (EIS) for the Cache La Poudre River in Colorado, Number 02-10-80-03.

This statement does not address the secondary or indirect impact that approval of Alternatives A or E would have on the housing market of Eastern Colorado. As you know, the monthly costs of water and electric power are contributing to the ever increasing costs of homeownership. Either of the two mentioned alternatives would eliminate potentially feasible hydroelectric or water storage sites.

The draft EIS states; studies on all proposals (dam and power plant sites) have not advanced to the point where their impact can be evaluated. "Since your latest reference (15) for concluding this is a document dated December 9, 1964 it would appear necessary to update all studies to a present condition status before reaching any conclusions on the locations of stretches of wild and scenic rivers."

If you have any questions regarding these comments please contact Mr. Carroll F. Goodwin, Area Environmental Clearance Officer at FTS 327-3102.

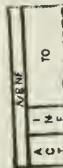
Sincerely,

Raymond D. McKinney
Raymond D. McKinney
Director

Program Planning and Evaluation

AREA OFFICE
Denver, Colorado

1. At the present time, too much uncertainty exists to quantitatively predict secondary or indirect impacts of designation on the housing market of eastern Colorado. Contacts with real estate and utility experts in the planning area yielded no quantifiable results. A more thorough evaluation of these considerations should be included in subsequent water development investigations.
2. The 1980 IECO Report has been used as the nucleus for alternative D. While additional information is required to evaluate segments 1 through 4, conclusions may be reached on segments 5 through 8.



PHONE (303) 484-4220

June 5, 1980

Ladies and Gentlemen:

The City of Fort Collins has some major concerns with the study and recommendations of the Forest Service and the Colorado Department of Natural Resources in regard to the possible designation of the Cache La Poudre River as a wild and recreational river. You have overlooked some essential points which we would like to call to your attention in the hope, and even the expectation, that if they are properly considered, you modify your conclusions and recommendations.

Many years ago, the cities of Greeley and Fort Collins purchased lands on the Little South Fork of the Cache La Poudre River with the intention of constructing a reservoir for the storage of water for the benefit of both of the cities. Over these past many years, the cities have expended substantial sums, not only for the acquisition of the lands, but in necessary studies. We have obtained appropriate water decrees from our Water Court. We have also engaged at some length in discussions with the Forest Service concerning the trading of lands in that area so as to consolidate our holdings at the reservoir site in return for transferring to the Forest Service some beautiful lands for the development of campgrounds and the like.

Just as we are about to reach fruition on all of these endeavors, we are faced with a recommendation that nearly all of the Little South be designated as a wild or recreational river. Such a designation would preclude the possibility of the completion of the planned reservoir. We note that the Forest Service which is interested in another land trade on the Little South did exclude that particular area from its recommendations. It found benefits as a result of that contemplated exchange far in excess of the wild and recreational designation; and we submit that the same view should apply to ours.

i.

08, 6

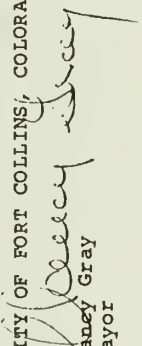
We ask that you rectify this oversight.

Specifically, we request that that portion of the Little South from the South line of Section 36, Township 8 North, Range 73 West and following the course of the river in a northerly and easterly direction to the East line of Section 25, in said Township and Range, not be designated under the Act. The course of the river within these sections is less than a mile and a half in length, most is along the road, and could be excluded without any detriment to the aesthetic value of the Cache La Poudre River.

It is difficult for us to convey to you the necessity which we feel to preserve this possible reservoir site for the cities of this area. Our population is expected to double in the next 20 years. Our alternative to the construction of the Rockwell Reservoir is to obtain water now used for agricultural purposes. This is undesirable from all social, economic and aesthetic standpoints. Our concern with the study is based upon the unwillingness of its authors to consider the results of foreclosing the cities' ability to obtain this additional water for its citizens.

Yours truly,

CITY OF FORT COLLINS, COLORADO


Nancy Gray
Mayor

NG:kc

1. The comment is correct. The probable construction of Rockwell Reservoir is assumed in both the without-plans condition (alternative C) and the preferred alternative B.



PLATTE RIVER POWER AUTHORITY

TIMBERLINE & HORSETOOTH ROADS • FORT COLLINS, COLORADO 80525

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Telephone (303) 226-4000
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July 7, 1980

United States Forest Service
301 So. Howes Street
Fort Collins, Colorado 80521

Gentlemen:

Enclosed please find a copy of Resolution 56-80 that was passed unanimously by the Board of Directors of Platte River Power Authority at its meeting of July 3, 1980. This resolution states Platte River's strong objection to the United States Forest Service's recent recommendation that the Cache La Poudre River be, in major part, designated as a "wild or recreational" river under the Wild and Scenic Rivers Act.

Our Board believes that the Forest Service's recommendation is deficient and premature because there has not been sufficient investigation of alternatives and their effects. A reading of the U. S. Forest Service's Draft Environmental Impact Statement and Study Report, dated April 8, 1980 fails to disclose any adequate consideration of "the reasonably foreseeable potential uses of the land and water" with respect to energy supply which would be "enhanced, foreclosed, or curtailed if the area were included in the National Wild and Scenic River system" as required by the Act. It would be most unfortunate if Congress were to act in this important matter upon the basis of the inadequate April 8 study.

Platte River -- undoubtedly because it is heavily involved in electric energy production in this region -- has received a number of inquiries about the value of hydroelectric power which might be produced by developments on the Cache La Poudre River. We are unable to respond to such questions because there is no indication in the U. S. Forest Service recommendation as to either the average-year or dry-year stream flow of the Cache La Poudre at potential storage and power generation sites.

Please understand that Platte River's Board has taken no position with regard to the ultimate question, i.e., what, if any, portions of the Cache La Poudre River should be designated as

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1. The role of uncertainty in projecting "reasonably foreseeable potential uses of land and water" is discussed in Chapters II, V, VI, and VII.
2. Subsequent to the publication of the DEIS/SR, the advisability of appending Poudre River flows as metered at USGS gauging stations along the river was considered. Since the records are commonly available from the State Engineer, however, it was determined to instead insert the summary data found in appendix D.

PLATTE
RIVER
POWER
AUTHORITY

United States Forest Service
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Page Two

"wild" or "recreational." Our Board is unable to take any position on the merits of the proposed designation for the very reason that the Forest Service draft EIS and Study Report is inadequate in an important area. We hope that Congress will be similarly disposed until such inadequacy is remedied.

Sincerely yours,

PLATTE RIVER POWER AUTHORITY


Albert J. Hamilton
General Manager

/kr

Enclosure

DAVIS, GRAHAM & STUBBS

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July 7, 1980

HAND DELIVERED

Mr. Don Meyer
Principal Staff Officer, Planning
Arapahoe and Roosevelt National Forest
Federal Building
301 South Howes Street
Fort Collins, Colorado 80521

Re: Comments of the Northern Colorado Water
Conservancy District on the Cache La
Poudre River Wild and Scenic River
Draft Environmental Impact Statement

Dear Mr. Meyer:

We offer these comments on behalf of the Northern Colorado Water Conservancy District regarding the Draft Environmental Impact Statement and Study Report published by the Forest Service in conjunction with the U.S. Department of Agriculture concerning the proposed inclusion of the Cache La Poudre River ("the River") in the Wild and Scenic Rivers System ("the System"). The District is very concerned with both the proposal to include the Cache La Poudre River in the System and the inadequacy of the draft environmental impact statement ("EIS"). The Cache La Poudre River is not the type of river intended by Congress to be included in the Wild and Scenic Rivers System. The draft EIS is seriously incomplete in its analysis and sketchy in its documentation. Since the Poudre River is of such importance to the state of Colorado and the satisfaction of its future water needs, the District asks that the Forest Service reconsider the proposal and revise the EIS substantially, as suggested by the following comments.

- I. The Cache La Poudre River is Ineligible for Inclusion in the Wild and Scenic River System.

While the Cache La Poudre River is beautiful and a source of recreational pleasure to many Colorado residents and visitors to the State, as it will continue to be after even further water development, the Poudre River is not the

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type of river that Congress intended to include in the Wild and Scenic Rivers System. The Wild and Scenic Rivers Act states that "a wild, scenic or recreational river area eligible to be included in the system is a free-flowing stream and the related adjacent land area that possesses one or more of the values referred to in section 1271 of this title." 16 U.S.C. § 1273(b). The qualities referred to in section 1271 are that the river "possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values." 16 U.S.C. § 1271. An objective examination of the Poudre River makes clear that it does not qualify.

The Poudre River is not a free-flowing river. According to a publication entitled Guidelines for Evaluating Wild, Scenic, and Recreational River Areas Proposed for Inclusion in the National Wild and Scenic River System Under Section 2, Public Law 90-542 prepared by the United States Department of Agriculture and the Department of the Interior, rivers which are in a free-flowing natural condition are those "which are without impoundment, diversion, straightening, rip-rapping or other modification of the waterway." Guidelines at A-18 (1970). An impoundment is defined on page A-21 of this report as "a slack water pool formed by any man-made structure." Guidelines at A-21. The Poudre River has already been altered by man-made impoundments and diversions. The draft EIS concedes that "[t]he Poudre River Basin water storage capacity has been extensively developed to supply water for agriculture, industrial, and municipal uses." EIS at 12. The diversions listed in the draft EIS are the Cameron Pass Ditch, Michigan Ditch, Skyline Ditch, Laramie-Poudre Tunnel, Wilson Supply Ditch, Bob Creek Ditch and Columbine Ditch. EIS at 12. Not mentioned is the Grand Ditch. The report also acknowledges that the free-flowing characteristics of the river are affected by the Comanche, Big Beaver, Twin Lakes, Long Draw, Peterson and Chambers Lake, Joe Wright, and Barnes Meadow reservoirs. EIS at 12. Also mentioned are the North Poudre Supply Canal, the Fort Collins Pipeline, and thirty other ditches. EIS at 12. The USDA and Department of Interior guidelines state that "low dams, diversion works, and other minor structures will not automatically preclude the river unit from being included in the National Wild and Scenic Rivers System, providing such structures do not unreasonably diminish the free-flowing nature of the stream and the scenic, scientific, geological, historical, cultural, recreational, and fish and wildlife values present in the area." Guidelines at A-18. Thirty-nine ditches and seven reservoirs can hardly be termed minor, however, and the Poudre River can hardly be termed free-flowing.

Other factors also contribute to the inevitable conclusion that the Poudre River is not a good candidate for

1. Applicable statutory and regulatory guidance define the criteria for evaluating a river for inclusion in the National Wild and Scenic Rivers System (endnotes 1 and 50). An objective examination of the Poudre River, one of the purposes of this study, has determined that it does qualify.
2. The question of the free-flowing nature of the Poudre River is central to the river study process. The Wild and Scenic Rivers Act defines free-flowing as "...existing or flowing in a natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion in the national wild and scenic rivers system shall not automatically bar its consideration for such inclusion..." Based on the information developed in Chapters II and III, the Poudre has only one low dam/diversion structure in the entire study corridor (segment 1). The other diversion structures mentioned in the comment, and in the study report, occur outside the study corridor. More importantly, their flows represent a supplement to the Poudre River, not a depletion. The language of the Act is interpreted to speak to modifications of the waterway, inside the study corridor, which reduce the river's values. It is recognized that the existing reservoir flows into the Poudre can actually enhance its values, an occurrence entirely consistent with the Act. The Poudre River within the study corridor is not obstructed, restricted, or impeded by modifications of the waterway, therefore is determined to meet the Act's free-flowing definition.

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inclusion in the Wild and Scenic Rivers System. As the draft EIS acknowledges, the River is near a major urban population growth area. Much of the length of the River is bordered by Highway 14, an all-season highway. Also, a large residential population exists in the corridor proposed to be included. EIS at 7. Homes, campgrounds and tourist facilities exist along much of the river corridor. EIS at 11. Much of the attractiveness of the River is due to management of the waters from the many reservoirs. EIS at 11. The River is now used to irrigate much of the eastern portion of Larimer County. EIS at 18. Because of a short high flow season and short discontinuous boatable stretches, the River has limited attractiveness for wilderness raft trips. EIS at 20. The above factors and the fact that the Poudre River has no outstanding historic, cultural or archeological significance make clear that the Poudre River should not be considered eligible for inclusion in the Wild and Scenic River System.

II. Inadequacy of the Environmental Impact Statement.

- A. An Environmental Impact Statement is Required Under Both the Wild and Scenic Rivers Act, 16 U.S.C. § 1271 and the National Environmental Protection Act, 42 U.S.C. § 4321.

The proposal being considered is the inclusion of the Cache La Poudre River in the Wild and Scenic Rivers System pursuant to Section 1273(a)(1) of the Wild and Scenic Rivers Act. 16 U.S.C. § 1273(a)(1). Section 1275 of the Wild and Scenic Rivers Act requires that a study shall be made of each river proposed to be added to the system. Each report must include a discussion of

the area included within the report; the characteristics which do or do not make the area a worthy addition to the system; the current status of land ownership and use in the area; the reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the national wild and scenic river system; the Federal agency (which in the case of a river which is wholly or substantially within a national forest, shall be the Department of Agriculture) by which it is proposed the area should be added to the System, be administered; the extent to which it is proposed that such administration, including the costs

3. Proximity to an urban area has no effect on whether or not the Poudre is eligible for inclusion in the National Wild and Scenic Rivers System. Many commentators (see part B, this chapter) felt this was a good reason for inclusion.

The presence of Colorado Highway 14 parallel to the river in segments 1 through 4 does not preclude the Poudre from eligibility. The Act defines a "recreational river area" as follows: "...those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past."

A river is required to possess only one "outstandingly remarkable" value to become eligible. As documented in Chapter III on page 42, the Poudre was determined to possess several such values.

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thereof, be shared by State and local agencies; and the estimated cost to the United States of acquiring necessary lands and interests in land and of administering the area, should it be added to the System.

16 U.S.C. § 1275 (emphasis added). It is thus clear that the Wild and Scenic Rivers Act requires that a detailed environmental impact statement be prepared with respect to each proposed addition to the System.

It is also clear that the requirements and procedures provided for in the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 et seq (1970) apply to the designation of a river as part of the Wild and Scenic Rivers System. Section 4332(c) of NEPA provides that all Federal agencies shall "include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official." 42 U.S.C. § 4332(c). The proposal being considered is to include the Cache La Poudre River in the Wild and Scenic Rivers System pursuant to Section 1273(a)(1) of the Wild and Scenic Rivers Act. 16 U.S.C. § 1732. Since an act of Congress is required under this Section, a proposal for legislation is involved and NEPA applies. All requirements of NEPA, including those dealing with an environmental impact statement, must be satisfied with respect to a legislative proposal of this type. "[T]he section 102(2)(c) EIS requirement for legislative proposals is enforceable by a private right of action and that private right of action includes challenges to the adequacy of, as well as to the absence of, an EIS." Atchison, T. & S. F. Ry. Co. v. Callaway, 431 F. Supp. 722, 726 (D.D.C. 1977). Regulations promulgated pursuant to NEPA by the Council on Environmental Quality ("CEQ") outline a special NEPA process required when legislation significantly affecting the quality of the human environment is involved. A legislative environmental impact statement is to be "considered part of the formal transmittal of a legislative proposal to Congress; however, it may be transmitted to Congress up to 30 days later in order to allow time for completion of an accurate statement which can serve as the basis for public and Congressional debate." 40 C.F.R. Section 1506.8 (1979). The regulations specifically refer to the Wild and Scenic Rivers Act in Section 1506.8(b)(2)(ii) where it is provided that a draft and final EIS must be prepared and circulated. Therefore, all statutory and common law requirements of the National Environmental Policy Act are applicable to the proposal to

include the Cache La Poudre River in the Wild and Scenic Rivers System.

B. What is Required in an Environmental Impact Statement.

The requirements for an Environmental Impact Statement prepared in conformity with the Wild and Scenic Rivers Act and NEPA are extensive. Section 1275 of the Wild and Scenic Rivers Act, quoted above, lists several requirements. Most important is the necessity that the statement discuss "the reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the National Wild and Scenic Rivers System." 16 U.S.C. § 1275. Section 4332 of NEPA provides that all Federal agencies must

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on -

- (i) the environmental impact of the proposed action,
- (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
- (iii) alternatives to the proposed action,
- (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

42 U.S.C. Section 4332. Section 4332(c)(iv) is explained in further detail by regulations promulgated by the CEQ. Section 1502.14, Alternatives including the proposed action, states:

This section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on

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the Affected Environment (§ 1502.15) and the Environmental Consequences (§ 1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. In this section agencies shall:

- (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
- (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that the reviewers may evaluate their comparative merits.
- (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
- (d) Include the alternative of no action.
- (e) Identify the agencies preferred alternative or alternatives, 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.
- (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

40 C.F.R. § 1502.14 (1979). Therefore, in order for an environmental impact statement to be adequate under both the Wild and Scenic Rivers Act and NEPA, all possible uses of the waterway must be discussed in rigorous detail.

- C. The Draft Environmental Impact Statement is not Sufficiently Detailed.

Section 4332 of NEPA requires that the agency prepare a detailed statement discussing all of the factors listed in

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that section. The importance of this requirement has been emphasized in many court cases.

A statement which includes a detailed discussion of all reasonable alternatives to a proposed project and their effects, [citation omitted], insures that agency officials will be acquainted with the trade offs which will have to be made if any particular line of action is chosen. A complete impact study is an integral part of the "careful and informed decision-making process."

Environmental Defense Fund, Inc. v. Froehlke, 473 F.2d 346, 350-51 (8th Cir. 1972). Not only must all of the facts be presented in a clear and concise fashion but also the analysis and reasoning of the agency must be explained.

The complete impact statement must contain more than a catalog of environmental facts, however. The agency must also "explicate fully its course of inquiry, its analysis and its reasoning." [citation omitted]. Thus, the complete formal impact statement represents an accessible means for opening up the agency decision-making process and subjecting it to critical evaluation by those outside the agency, including the public.

473 F.2d at 351.

The Draft EIS discussing the Poudre River satisfies neither of these requirements. Many statements made in the draft are not entirely accurate. On page 12 it is stated that "the Poudre River Basin storage capacity has been extensively developed to supply water for agricultural, industrial and municipal uses." While the nine circles drawn on map 3, page 13, may appear to be extensive development, they have a total storage capacity of only 42,724 acre-feet as compared to the projected 400,000 acre-feet in the Grey Mountain and Idylwilde reservoirs which have been proposed to be built in this area. On page 15 of the Draft EIS, a 1963 BR Reconnaissance Report is quoted as concluding that "the total irrigated area in the Poudre River Basin had facilities and water supplies ample to meet an average of most of the theoretical requirements." EIS at 15. This 1963 study is certainly of little value in view of the great population growth experienced in Larimer and Weld Counties in recent years. Another example of a misleading

4. The language in Chapter II referring to the degree of water resource development has been changed to reflect the historical development perspective. It was not the study's intent to infer that the basin has been developed to 100 percent of capacity.

5. Limitations to the utility of the BR Reconnaissance Report are discussed in Chapters II, IV, V, VI, and VII. More current water demand projections appear in appendix H.

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statement is on page 52 where it is said that under the favored alternative E, the Grey Mountain Dam could still be constructed. What is not explained is that this dam is part of a proposed system and would not be economically feasible unless the other segments of the system were also constructed.

Many important factors are not discussed at all in the Draft EIS. For example, while the report describes an increase in boating and fishing on the river, it does not discuss what percentage of that increase is at the man-made reservoir areas. The effect on the cities of Fort Collins and Greeley of the inability to build any additional storage capacity in this area is discussed nowhere in the report. Similarly, the effects of alternative energy sources such as nuclear power plants or strip mining projects which may be necessary if the hydraulic power plant now proposed is not built, is also not mentioned. Some parts of the Draft EIS are vague. The discussion of the social well-being study conducted by Professor Freeman is extremely difficult to follow. How the values used are arrived at and what the variables represent are unclear. The analysis is shown to be of questionable reliability by the statement, "However, it is important to note that this study can conclude only that Alternative C possesses attributes superior to Alternatives A, B, and D; it cannot be concluded that it is the best possible alternative." EIS at 63. Therefore, the authors themselves discount the reliability of the study.

D. Alternatives are not Sufficiently Discussed in the Draft Environmental Impact Statement.

As § 1502.14 of the CEQ Regulations, quoted above, explains, the discussion of alternatives is the most important part of an environmental impact statement. A discussion of this type if required by both the Wild and Scenic Rivers Act and NEPA.

Section 102(2)(D) [of NEPA] requires all agencies specifically to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." This requirement, like the "detailed statement" requirement, seeks to ensure that each agency decisionmaker has before him and takes into proper account all possible approaches to a particular project (including total abandonment

6. The Grey Mountain feature has been documented by the BR as a non-separable feature of the Grey Mountain/Idylwilde Project proposal (1962) and as a sole feature (1977) for water storage. The statement is not misleading.
7. The final report discusses this comment under the EQ Account, in Chapter V, page 84, especially as it relates to whitewater boating and quality trout fishing experiences.
8. The effect on the cities of Fort Collins and Greeley of the inability to build additional storage is subject to uncertainty because there are other storage opportunities within the planning area. Under the revised preferred alternative, increased storage is assumed at Rockwell Reservoir. Other potential alternatives have not been sufficiently examined to warrant the inference that Grey Mountain/Idylwilde is the sole site for additional storage capacity.
9. The amount of energy necessary to offset that proposed in alternative D is discussed in the OSE Account, Chapter V, page 86. The amount is approximately 110,000 tons of coal annually if produced at Rawhide.
10. A number of comments were received concerning the social well-being analysis performed by Professor Freeman. It has been replaced in the final report to respond to comments and new guidance from the P&S by the OSE Account in Chapter V, pages 77 to 88.

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of the project) which would alter the environmental impact and the cost-benefit balance. Only in that fashion is it likely that the most intelligent, optimally beneficial decision will ultimately be made. Moreover, by compelling a formal "detailed statement" and a description of alternatives, NEPA provides evidence that the mandated decisionmaking process has in fact taken place and, most importantly, allows those removed from the initial process to evaluate and balance the factors on their own.

Calvert Cliffs' Coordinating Committee, Inc. v. Atomic Energy Commission, 449 F.2d 1109, 1114 (D.D.C. 1971). The most grievous fault of the Draft Environmental Impact Statement dealing with the Poudre River is that the major alternative to its inclusion in the Wild and Scenic Rivers System, the construction of the Grey Mountain-Idylwilde Reservoir Project, is hardly mentioned. On page 15 of the EIS it is stated that studies of the water development proposal have not advanced to the point where its impact on the river can be evaluated. If the goals of the Wild and Scenic Rivers Act and NEPA are really the concern of the agencies preparing this EIS, it would be acknowledged that proper impact study is impossible until studies of the proposed water development project are complete. Indeed, a study of this project is required under both section 1275 of the Wild and Scenic Rivers Act and section 4332 of NEPA. A major goal of NEPA is to "achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities." 42 U.S.C. § 4331(b)(5). Protection of the environment, preservation of natural beauty, and the needs of a growing population must be delicately balanced. The purpose of an environmental impact statement is to present the facts and arguments supporting each conflicting policy alternative so that Congress can decide what the most important need is. The Draft Environmental Impact Statement fails in this essential respect.

The Grey Mountain-Idylwilde project is not even considered as an alternative under Alternatives A-E discussed in the report. Few of the many factors that it introduces into the analysis are discussed. The long-term economic growth which will result from increased power availability on both national and regional economic development are not discussed. The increased fishing, boating, and camping opportunities provided by the construction of two new reservoirs are not mentioned. The advantages of clean hydraulic energy

11. The 1962 BR proposal for Grey Mountain/Idylwilde was not extensively investigated in the DEIS/SR due to its relative value discussed elsewhere, including page 7 of this comment. The indexed values of the old BR report were reluctantly analyzed in this final study in response to comments, and appear in Chapter V, pages 63 to 88.

12. The potential beneficial and adverse effects of the Grey Mountain/Idylwilde proposal are now described in alternative D. The central theme of this comment is instructive to understanding the perception of this project by water development proponents: "Lack of additional storage on the Poudre River will hasten conversion of agricultural water to other uses." The proposed project will not prevent the predictable conversion (condemnation) of agricultural water, but it will postpone it.

Mr. Don Meyer

-10-

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over polluting resource and power development which may be necessary, absent this project, is not considered. This area of Colorado is growing rapidly. Water and power is needed for industry, agriculture, and residential uses. Lack of additional storage on the Poudre River will hasten conversion of agricultural water to other uses. Thus, the impact of precluding the needed storage on agricultural productivity must be studied in the EIS. These problems cannot be ignored and must, by law, be studied in the EIS. The alternative of not designating the River as a Wild and Scenic River has simply not been adequately studied.

III. Conclusion

The Poudre River has been, is, and will be a River vitally important to the health and welfare of Colorado citizens and visitors to Colorado. Paramount among its uses is water supply to agriculture, municipalities and industry uses. One of the foremost challenges in North-eastern Colorado is to build water storage projects which function for multi-purpose beneficial uses, so that agricultural water is not converted to uses which will erode the nationally important farming base of the area. The historic operation of the Big Thompson Project, including such facilities as Granby, Shadow Mountain, Horsetooth, and Carter reservoirs, demonstrates that water development can have very positive recreational benefits for the millions of people who live in and visit Colorado. To classify the Poudre River as a Wild and Scenic River would be an exercise in romanticism and would be a positive detriment to the human environment through ignorance of the critical role this River has and must continue to play for human needs. Thus, the impacts of so classifying this River must be thoroughly studied for what will be precluded by such a designation.

Very truly yours,
John M. Sayre
John M. Sayre

Gregory J. Hobbs, Jr.
Gregory J. Hobbs, Jr.
for
DAVIS, GRAHAM & STUBBS

13. Designation of the Poudre River would not be an exercise in romanticism. On the contrary, the values of the river are "outstandingly remarkable" and deserving of preservation and protection. Before these values are irreversibly committed to other purposes, a thorough, modern analysis of water storage alternatives must be made.

FISCHER, BROWN, HUDDLESON AND GUNN

ATTORNEYS AT LAW

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WARD H. FISCHER
WILLIAM H. BROWN
CHAS. R. HUDDLESON
WILLIAM C. GUNN
STEVEN B. RAY
W. PAUL ECKMAN

July 1, 1980

U.S. Department of Agriculture
Forest Service
301 South Howes Street
Fort Collins, CO 80521
Gentlemen:

I have carefully reviewed the Environmental Impact Statement concerning the possible designation of the Cache La Poudre River as a wild and scenic river. I am really appalled by the shallowness of the study. While you do give some consideration to the enhancement of the quality of life above the mouth of the canyon, you avoid any discussion concerning the enhancement of the quality of life below the mouth of the canyon. Are there no beneficial affects for agriculture expected to be realized through the construction of the Idylwilde-Gray Mountain Project? Will the quality of life for the citizens of Fort Collins be enhanced by the construction of the Rockwell Reservoir? If Fort Collins and Greeley and the other municipalities cannot develop reservoirs in the Poudre to satisfy future water requirements, what will happen? Will we reduce the irrigation of grass and quit planting trees? Or will we see the cities acquiring waters presently used for agriculture? And what will be the effect of all of this on the area, speaking both from an economic sense and from the sense of quality of life? What of the other potential water storage projects in the Poudre? What are the benefits and detriments for the enlargement of the existing reservoirs? What other potential reservoir sites are being precluded from development, and what will they affect and in what degree? These are just some of the questions which the Forest Service would undoubtedly require any private person to investigate in preparing an environmental impact study. I cannot understand why the government itself is not required to conduct an investigation with the same thoroughness. It seems to me that the cursory study thus far presented is totally deficient, and does not even approach compliance with the law. Will you not require than an adequate study be first done before any recommendation is forwarded to Congress?

Yours truly,

Ward H. Fischer

Ward H. Fischer

WHF:KC

1. The effects of the alternatives have been reevaluated to more accurately predict impacts throughout the planning area, based on the information available. Other questions developed by the commentor are many of the unknowns that contribute to uncertainty. The Council on Environmental Quality Guidelines requires that when these types of questions cannot be considered within the resources made available to the study, a "worst case" description of opportunities foreclosed, foregone, or curtailed be presented. Alternative D, by projecting development potentials addresses this requirement.

It is apparent that several of these questions do not hinge solely on the use of Poudre River's resources. Urbanization of irrigated agricultural land has occurred consistently during the past two decades and is discussed in Chapter II, page 19 and Chapter IV, pages 60-61. Local and State governments have recognized this phenomenon and its potential effects on quality of life, but have reached no consensus on an acceptable course of action. A long-term resolution will require cooperative, integrated planning for all resources and resource users.

THE CACHE LA POUFRE WATER USERS ASSOCIATION
11801 North County Rd. #9
Wellington, Colorado 80549

May 15, 1980

United State Department of Agriculture
Forest Service
301 South Howes Street
Fort Collins, CO 80521

Gentlemen:

The Cache La Poudre Water Users Association is a non-profit corporation whose members include all of the major water users, whether cities, industries or mutual ditch and reservoir companies, which use the waters of the Cache La Poudre River. Our Association hopes that before you release either your study or your recommendation concerning the possible designation of the Cache La Poudre as a wild and scenic river, you will reconsider your conclusions.

We had expected the study to be done with thoroughness and impartiality. It was not. Although it has many deficiencies, its greatest is the failure of the study team to consider in any meaningful way the "reasonable foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the national wild and scenic river system" as required by 16 USC 1275. (emphasis supplied)

Discussion of the effects of precluding the reservoir development is not just deficient; it is non-existent.

It is not mentioned, for instance, that Grey Mountain Dam is dependent upon the concurrent construction of the Idylwilde Reservoir for practicability; and although it is acknowledged that "one of the major uses" (the other uses are not mentioned) of the Poudre River water is irrigation of approximately 400,000 acres in Larimer and Weld counties, no discussion of the lost benefit to that agricultural community by the foreclosure of the building of the Idylwilde-Grey Mountain Project is discussed.

Similarly, while acknowledging that the population of the Fort Collins area will double in the next twenty years, there is no mention of the effects of that city's inability to serve that expanded population from the foregone reservoirs.

MAY 19 1980

I was particularly disturbed by the refusal of the study team to consider, or even mention, the adverse environmental effects which would necessarily result if the recommendation were adopted. Some newcomers to this area seem to think that the Poudre valley, and all of its beauty, existed historically as it exists today. It did not. It was a barren plain. The cities of Fort Collins and Greeley were dusty and treeless expanses. The Poudre valley was made into an oasis as a result of water development, utilizing the waters of the Poudre River. Our lovely lawns and trees in the city and our attractive and productive fields in the country exist only so long as the waters of the Poudre are properly conserved and utilized. The population of this area will surely double in the next 15 or 20 years. I wonder if the study team has ever considered what will happen to our fields, our lawns and our trees if we have this increased population, but limit our water resources to those that now exist, as will be the inevitable result of the prohibition of the building of reservoirs. One can guarantee that either agriculture, or the lawns and trees, or perhaps both will suffer; and the area will not be the same attractive area in the future as it is today if our remaining water resources cannot be developed. One of the great deficiencies of the report is its absolute failure to consider this fact.

I have been involved in water in this area since the early 30s. I served with others who promoted the development of the Colorado Big Thompson Project. Since 1935 I have served with the Water Supply & Storage Company, for many of the later years as its President. I was secretary of the steering committee which worked with the Bureau of Reclamation with regard to the Grey Mountain study which was conducted in the 1960s. I know the needs of this area, I know its potential, I know its need for the development of water resources, and I know the effects (which are not unpleasant) which result from the development of our resources. While there are certainly areas of the Poudre which could be designated as wild and scenic rivers without traumatic effects upon the quality of life in this area, the adoption of the alternative selected by the report would have catastrophic results.

Respectfully submitted,

WATER SUPPLY & STORAGE COMPANY

Harvey Johnson
Harvey Johnson
President

HJ:kc

cc: The Honorable The Governor of Colorado
Colorado Dept. of Natural Resources
Colorado Water Conservation Board
R. Max Peterson

1. Consideration of the likely future without-plans is made in this final document. Even with the benefit of new information included after the publication of the DEIS/SR and in the comment process, a certain future condition is elusive.

THE WATER SUPPLY AND STORAGE COMPANY

HARVEY G. JOHNSON, PRESIDENT

POST OFFICE BOX 1584

2319 EAST MULBERRY

FORT COLLINS, COLORADO 80522

VIVIENNE L. WOODWARD, SECRETARY

PHONE 482-3433

May 13, 1980

United States Department
of Agriculture
Forest Service
301 South Howes Street
Fort Collins, CO 80521

Gentlemen:

I submit this comment relating to the Draft Environmental Impact Statement and Study Report concerning the designation of the Cache La Poudre as a wild and scenic river. The study seems superficial and the recommendations totally contrary to the best interests of the people of the state of Colorado, and in particular to those of the citizens of the Cache La Poudre Basin.

It has always been difficult for me to see how the Cache La Poudre River could meet the criteria established for wild and scenic rivers, which are supposed to be free-flowing streams. You surely have observed the many reservoirs along the main stem and the tributaries in the Poudre canyon area. The study implies that any additional reservoirs would destroy the beauty of the stream. Our experience does not indicate that this is true. The existence of the many reservoirs, including the reservoirs constructed by the Water Supply & Storage Company, have contributed greatly to the beauty of the canyon by capturing the flood waters and releasing them at times of low flows, thus maintaining a much more stable and beautiful stream than would naturally occur. The river is also enhanced by the fact that substantial importations of water have been brought into the basin. Water Supply & Storage Company diverts an average of 26,000 acre feet into the Poudre River from its Grand Ditch alone; and then of course there is the tunnel importation of over 19,000 acre feet per year. Our importation from the western slope would not be possible if we did not have our Long Draw Reservoir to hold the water; and the importations of all of these waters have greatly enhanced the flow of the river, increasing its usefulness as a fish habitat, making possible some of the boating activities you are so anxious to protect and making the river otherwise pleasant to view. A blanket prohibition on the construction of similar facilities would detract from, rather than promote, the aesthetic values to which your study is devoted.

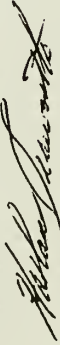
The study is otherwise biased and incomplete. The implication is that any reservoir, or other interference with the "free flowing" stream, would be an environmental tragedy. That is just not true. The present beautiful stream exists in spite of (and, in fact, enhanced) by the existence of eight reservoirs and eight transbasin diversions bringing water to this basin. The beauty of the stream has been enhanced, not diminished, by the enhancement and regulation of its natural flow. Is this discussed? Of course not!

What of the power potential of the Idylwilde-Grey Mountain project? Nuclear power is in disfavor; our citizens seem to resist the coal plants because of pollution potential; and yet we have no analysis of the effect on this region if we forego the one source of hydro-electric power available.

We feel we are justified in our request that the study be redone and the statutory guidelines followed; that all social and economic and environmental questions be examined on a complete and impartial and factual basis; and that no recommendation be forwarded to the Congress until this has been completed.

Yours truly,

CACHE LA POUDRE WATER USERS ASSOCIATION



Harlan Seaworth
President

BS:kc

1. The protections available to the Poudre River under alternatives A, B, or E would not necessarily prohibit construction of facilities similar to those in existence (off-main channel, outside the study corridor). The preferred alternative B would not prohibit more major development, should Congress so choose, as is projected in the Grey Mountain/Idylwilde proposal.
2. The net EQ effects appraisal of alternative D has been identified as adverse in Chapter VI, pages 93-94. Whether or not these effects would be overshadowed by benefits developed in a new study cannot be adequately ascertained at this time. The effects of supplementary flows provided by existing development are recognized as contributing to the Poudre's value in Chapter II, page 14. The Grey Mountain/Idylwilde proposal, in addition to inundating 15 miles of presently free-flowing river, would reduce flows significantly in segments 2, 3, and 4 in summer months, the period of greatest recreational use, to the point they may be unusable for a variety of recreational uses.
3. The BR has identified many additional sources of hydropower generation at existing facilities (appendix L).



LARIMER COUNTY FARM BUREAU

1980
AFFILIATED WITH
COLORADO FARM BUREAU
AMERICAN FARM BUREAU FEDERATION

COUNTY OFFICE

335 EAST MOUNTAIN AVENUE TELEPHONE 482-3952
FORT COLLINS, COLORADO 80524

June 6, 1980

Gray F. Reynolds
Forest Supervisor
Arapaho and Roosevelt National Forests
301 South Howes
Ft. Collins, Co. 80521

Dear Sir:

The comments which follow are made after reading the Cache La Poudre Wild and Scenic River Study Report.

The report needs to be updated in light of the recent activity and extreme interest in getting a feasibility study done on the development of resources of the Poudre River.

The Act directs to study and report on the suitability or unsuitability of selected rivers or sections thereof and further directs evaluation of existing and potential uses and to recommend future management of the river.

The report, however, has reached a foregone conclusion that a wild and scenic rivers act preclude construction of water and hydroelectric potential projects. It is also biased to river recreation even after the statement: "Upstream water resource projects generally have had a positive effect on recreation activity opportunities by making flows more predictable." The reservoir potential for recreation needs additional study.

The Poudre River basin would suffer major economic losses if potential water and hydroelectric development projects were foregone. Total annual potential increase benefits are projected to be \$38,640,000 (from Vol. I, report City of Greeley, December 1979).

The Cache La Poudre River also flows through one of the fastest growing areas in the nation. Regional development effects Weld County as well as Larimer County; in fact all of northern Colorado is effected. The future need for additional water storage facilities and power utilization should be given a higher priority in the recommendations. Alternative D serves the directive best. It keeps future development options open. Development projects could proceed, both water storage and hydroelectric power generation for the benefit of future generations.

3. Who speaks for the State of Colorado (summary page 73) and believes that

1. The report was updated to reflect a number of events that occurred after publication of the DEIS/SR, including extreme interest in getting a feasibility study done on the development of water resources of the Poudre River.

2. The Act prohibits major water resource developments from being constructed in a river corridor after designation. The value of river-based recreation, given its short supply in the planning area, is high. While reservoir potential for recreation may need additional study, that subject is more appropriate to a reservoir analysis or project proposal.

3. The State of Colorado, as represented by the Colorado Water Conservation Board, is a full partner in this study. Copies of resolutions mentioned in the comment appear in the appendix.

4. See note 1.

alternative E could best provide a diversity of goods and services for all interested parties? I have 16 resolutions which come from entities representing county and city governments, service organizations, industries and ditch companies of Larimer and Weld Counties. All request a feasibility study be done on the water resources of the Poudre River basin. Most of the resolutions specify the Grey Mountain-Idlewild dams and hydroelectric power plants.

I quote from Senator Bill Armstrong's Senate Bill S-2791 Wilderness Act of 1980, Sec. 3-(1): "which shall be known as the Cache La Poudre Wilderness Area; provided that this act shall not affect in any way any existing right, any existing conditional right, or any existing claim of right or conditional right, to the use of water by the Cities of Greeley and Fort Collins for the Grey Mountain-Idlewild water development project, nor shall it affect in any way the construction, operation, maintenance or repair of such project."

It is therefore strongly recommended that the recommendations in the report be altered or held in abeyance until the feasibility study is completed and fully assessed.

Respectfully yours,

Francis A. Bee

Francis A. Bee
4320 E. County Road 58
Ft. Collins, Co. 80524

FAB:tls

1. The scope of the social well-being analysis has been broadened and is found in the OSE Account in Chapter V, pages 77 to 88. It is more subjective in nature than Professor Freeman's study and encompasses a broader range of considerations.

April 30, 1980

Mr. Gray F. Reynolds
Forest Supervision
Arapaho and Roosevelt National Forest
301 South Howes
Fort Collins, Colorado 80524

Dear Mr. Reynolds:

Please accept the support of our family for Alternative E of the Poudre Wild and Scenic River Study. First on a personal note, quality of life for us goes beyond a temporarily booming economy and includes allowing our children and theirs to know what a real river, with all its natural moods, highs and lows, is like. It includes knowing that some beauty will remain constant and that we can in future years count on a nice drive along the main river or a hike down the Big South Trail. Thoughts like that prevent us from abandoning this area and enable us to feel that our own sense of commitment stewardship towards the area is not in vain.

The Poudre is an old friend to thousands of people. It is still relatively unencumbered when compared to any other front range river. Without consuming a lot of energy one can quickly be in a land and riverscape that balances the pressures of a modern existence. Our family members are third and fourth generation Coloradans' for whom this accessibility constitutes an important part of our "Social Well Being" (treated only in part by Mr. Feeman in the study).

On a more analytical note, we are also irrigators and I am a member of the Northern Poudre Irrigation Company and a member of the Water Board for the City of Fort Collins, so we have given much thought to the implications of Alternative E for our water supply. I realize that the strongest opposition to your recommendations will come from those who wish to develop the series of impoundment structures (14) diversion and transmission connected with the Grey Mountain-Idlewild (GI) Project. After reading the study of the GI Project done by International Engineering Company, I have several observations which I hope will be helpful in balancing this "dams or wild rivers" discussion:

-neither the irrigators or the municipalities in this area are in any danger of running low on water. Most development occurs on land that yields water 25% in excess of that needed for domestic consumption and that water is then leased back to agriculture. If we in agriculture lose water it will be only that which we sell to others (see Ray Anderson's study), loss of agricultural water is a land land use problem and not a supply problem in Larimer County.

MAY 5 1980

George Wallace
April 30, 1980

-there exists a series of smaller water projects, some new, some in progress that can provide us with as much water as Grey Mountain-Idlewild and at a much lower per acre foot cost. I refer here to the sum of the waters from the Sheep Creek, Windy Gap, and Grand and Michigan ditch projects and several plains reservoirs that with improvement on their dams could greatly increase their capacities. I'm firmly convinced that we must not abandon our plains reservoirs for a large main stem project but learn to maintain and improve them for reasons to numerous to list here. In addition there are a variety of possible re-use agreements that the cities could work out with agriculture. The Rawhide pipeline, for example, could be utilized in those exchanges.

-it is questionable at the Grey Mountain-Idlewild project is even possible since the rights for the remaining unadjudicated water in the river have been filed on and conditionally awarded to an agricultural group in N.E. Colorado called "Trans-County." This recent development needs to become public knowledge. This group has the potential to use the water for both an irrigation district and for recharge of the Ogallala aquifer. Some state and Federal level planners see this as both a good way to store water and a way to sustain and bolster the economy of towns like Wray, Yuma, Holyoke-a better use perhaps than facilitating the further impactation of the front range.

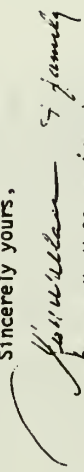
-finally of course Alternative E does leave open the site for the lower main stem dam. I see this as a suitable option only after we have some complete review of the basins potential water resources. It was for this reason that neither the Water Board nor the City Council endorsed a Grey Mountain-Idlewild study but rather a regional inventory of water resources.

While some of the above mentioned projects are less versatile than a series of main stem dams, when you add the value of a free flowing river, wildlife habitat, etc., to the factors already mentioned and others like cost, new roads, further loss of habitat, the vulnerability of a centralized water supply etc., the prudence of a project like Grey Mountain-Idlewild is seriously questioned.

George Wallace
April 30, 1980
Page 3

It takes a poet, an Emerson or a Thoreau, which I am not, to explain the enduring value of a wild and senic river. Teddy Roosevelt, John Muir, Stewart Udall and others knew that this part of the defense was the hardest which may explain why they moved with the sweep of executive hand to preserve many of the resources we enjoy today. Let's hope that in the course of the current democratic debate and within the public process dominated by the language of cost-benefit analysis that there is a place also for the person who just feels, for many reasons hard to talk about, that we should have a few rivers like the Poudre.

Sincerely yours,

 5/1/80
George N. Wallace (Member
Water Board-City of Fort Collins)

1824 West County Road 66
Fort Collins, Colorado 80524

April 17, 1980

Mr. Louis Bertishofer
Poudre District Ranger
U.S. Forest Service
Estes-Poudre District
148 Remington
Fort Collins, CO 80524

Dear Mr. Bertishofer:

Some of the land owners in the region covered by the Poudre Wild and Scenic Draft Statement have noticed discrepancies among the maps and in the definition of private and CSU properties. Recently I discussed this by telephone with Mr. Hank Deutsch of the Redfeather District Office. He asked that I document my statements with a letter to you.

Our discussion concerned maps 5, 8, 9-E and 10. Beginning with map 5, the region of concern is segment 7 surrounding the CSU property. Map 5 would appear to be the most accurate of those mentioned above if the cross-hatched areas were designated as NON-FEDERAL LANDS WITHIN THE RIVER CORRIDOR instead of PRIVATE LANDS. Please note particularly on this map that non-federal lands near CSU Pingree lands extend south into section 29 along the little south fork of the Poudre. Map 8 also shows a shaded area in section 29 but no definition of what the shaded areas represent is shown on the map. The right-most half of the shaded area in section 29 belongs to Mummy Range Corporation as does the square just to the north and a third square diagonally N.W. from the second square. (See attached map, Corporation land is shaded in red.) If, in fact, the boundary of the wild and scenic designation were to be drawn along the north boundary of section 29, it would cut in two the three parcels belonging to members of the association from the remainder of the exemption plat. (About 7 or 8 owners would be involved.) It is my understanding that the land shaded in blue on my map (land just west of the Mummy Range land) is also subject to trade and is currently Forest Service land which CSU would like to acquire. Map 9-E is my greatest concern since it explicitly shows that the southern boundary of the land excluded from consideration because of the proposed CSU-Forest Service land swap would fall on the north boundary of section 29. If this boundary is selected it would divide property owned jointly by the Mummy Range Corporation and, I believe, would exclude part of the Forest Service property which is involved in the proposed land exchange. Map 9-E is not consistent with map 10 which clearly extends the "No Designation" region south into section 29. I have shaded the Corporation land red on this map (enclosed) and shaded land I believe belongs to the Forest Service and is desired by CSU in blue. I do not represent CSU or the Corporation, but simply wish to point out some possible discrepancies and conflicts which could arise unless the maps are made uniform. (Please note the transpose in the title "No Designation" on map 10.)

1. Map corrections have been made in this final report. (Inadvertently, the size of the study corridor was incorrectly drawn on maps in the DEIS/SR as one-half mile on either side of the Poudre instead of one-quarter mile.)

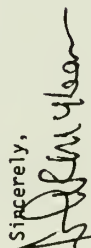
The revised recommendation eliminates the potential for dividing designation along the property in question. It is now a part of the recommendation that only lands necessary for the construction of Rockwell Reservoir and associated facilities be withdrawn from the corridor.

Mr. Louis Bertishofer
April 17, 1980
Page 2

On a different matter, I would like to state the opinion that the portion of the little south fork of the Poudre which lies above the "No Designation" area could well be considered for "wild" rather than "Recreational" designation. Although the segment is short, it is pristine country and either lies inside or adjoins the national park. Except for some early logging on the Corporation and Pingree Park land, no development or other impacts are apparent.

I would like to thank you and Mr. Deutsch for your patience and your interest in discussing the Poudre Study Report.

Sincerely,


John R. McKean
Professor of Economics

JRM:ldc
cc: Mr. Henry Deutsch
Redfeather District
U.S. Forest Service
1600 N. College Ave.
Fort Collins, CO 80524

417 West 7th Avenue
Cheyenne, WY 82001

May 14, 1980

Mr. Don Meyer
Principal Staff Officer
Arapaho and Roosevelt National Forest
301 South Howes Street
Fort Collins, CO 80522

Dear Mr. Meyer:

I am responding to the Draft Environmental Impact Statement for the Cache La Poudre River (02-10-80-03).

It appears to me that the report has not totally considered the flood hazard in segment one of the river. The unpublished U.S. Army Corps of Engineers report, describing the flood characteristics of the Poudre Park area, pinpoints the problem squarely. Geological Survey Professional Paper 1115 (U.S. Geological Survey and National Oceanic Atmospheric Administration) predicts that floods, similar to the characteristics of the one of July 31-August 1, 1976, will occur in the Poudre area.

Based upon these assumptions, Alternative A appears to be far more preferable than Alternative E. Designation of segment one does not have to include any fee title acquisition but rather could be helpful in eliminating or retarding future development in the segment one flood plain. This would be particularly true if the designation is coupled with county zoning and/or consideration of purchasing scenic easements on a willing buyer-willing seller basis.

While I realize that Alternative A will likely be resisted by some who reside in the flood plain, the flood plain continues to be developed despite warnings of the potential destruction. Under these circumstances, I do not believe taxpayers should be expected to pick up the tab for the eventual rescue, loss of property, and cost of restoring private structures and the capital facilities serving those structures.

Sincerely,


W. Don Nelson

1. The flood potentials of the Poudre River are recognized and mentioned at several locations in the text. The river has not been mapped for the 100-year floodplain in the area under consideration in this study. The flash flood potential of the Poudre Canyon could result in flooding similar to that experienced in the Big Thompson drainage in 1976. The potentials described in the unpublished report are incorporated by reference.

MAY 19 1980

ROBERT M. TARBOX
5419 South Waco Street: Aurora, Colorado 80015

24 April 1980

Mr. Gray F. Reynolds
Forest Supervisor
Arapahoe and Roosevelt National Forests
301 South Howes
Fort Collins, Colorado 80522

Dear Mr. Reynolds:

Thank you for your letter of 8 April 1980 inviting a review of the Cache la Poudre Wild and Scenic River Draft Environmental Impact Statement and Study Report. I appreciate the opportunity to do so.

I think that the report does a fine job of supporting what appears to be a foregone conclusion that the Cache la Poudre River should be classified as a Wild and Scenic River, and that development of it must be prevented, regardless of the benefits foregone thereby and the need for them.

In the introduction, Section IC, it is stated that the "study is a comprehensive process which attempts to evaluate physical, biological, social, and economic impacts and trade offs (sic) involved in development and allocation of a proposed wild and scenic river. Inter-agency consultation and public participation was (sic) a major factor in developing the study." It is difficult to determine what data were considered in the evaluation because of the paucity of facts and figures in the report. However, it appears that a great deal of information was not considered, based on what I read.

On page 12 it is stated that "The Poudre River basin storage capacity has been extensively developed to supply water for agricultural, industrial and municipal uses." Although the nine circles drawn on Map 3, page 13, may look like extensive development, they have a total storage capacity of only 42,724 acre-feet, as compared to the projected 400,000 acre-feet in Grey Mountain and Idylwilde Reservoirs. The downstream cities of Fort Collins and Greeley are currently investigating how they can increase their storage to meet foreseen requirements, and the members of the Cache la Poudre Water Users Association have expressed a need for more storage to assure them of the water to which they are entitled when they need it.

On page 15 it is stated, correctly, that "A 1963 BR Reconnaissance Report . . . concluded that the total irrigated area in the Poudre River basin had facilities and water supplies ample to meet an average

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24 April 1980

of most of the theoretical requirements." Apparently, no effort was made to determine whether that conclusion would still be correct in 1980, particularly in view of the growth experienced in Larimer and Weld Counties and the effects of a critical drought like that suffered in 1977 and 1978.

Also on page 15 it is stated that "serious questions were raised concerning the market for peaking power within the confines of the Bureau's laws and policies." Again, it is a serious flaw in the study to draw conclusions based on that out-of-date information and to ignore the critical need for power - clean power, produced from a renewable resource and which will reduce our need for oil. There is no question as to the marketability of the hydropower which could be generated by the Grey Mountain-Idylwild project; both the Platte River Power Authority and the Public Service Company of Colorado have stated that the power is needed and can be marketed. Undoubtedly, even the Water and Power Resources Service (former Bureau of Reclamation) would change its 1963 conclusion today.

To leave Segment 1 undesignated, as in Alternative E, and thus permit the construction of Grey Mountain Dam, is not an acceptable solution. The project studied by the Bureau of Reclamation and reported on in 1963 is, as described on page 15, a comprehensive plan of development. Prohibition of Idylwild Dam and Power Plant and Kinnikinnick Afterbay in Segment 4 along with Rustic Diversion Dam and Elkhorn Conduit in Segment 3 (thereby preventing the building of the Cache la Poudre Power Plant, even though it is outside of the designated segments), could well make the construction of Grey Mountain Dam and Reservoir in undesignated Segment 1 economically unjustified -- which has probably occurred to the study team. This comprehensive project should be studied as such, to permit the optimum development of the water resources of the Cache la Poudre River basin.

It is somewhat misleading to present Map 4 on page 14 and to label it "Bureau of Reclamation Potential Power Developments, Cache la Poudre 1979." The supporting table on page 97, Appendix E, "Potential Power Developments, Cache la Poudre," with attribution "Source: Bureau of Reclamation, 1979," is of the same nature. Although both of these may have been obtained from the Bureau in 1979, it is believed that they date back to the 1962 studies and include alternative possibilities which were considered during the Bureau's studies, but were discarded and not recommended in favor of the plan presented in the 1963 report. Such misleading representations are bound to be inflammatory and to arouse opposition to any development, including development which is vitally needed for the citizens of Colorado and which is compatible with the objectives of the Wild and Scenic Rivers Act.

1. The comment is partially correct. 1979 was selected as the date for the material by the BR. Use of the date was not made to mislead, but to verify the source of the material and when it was provided. The final study has eliminated the graphic.

24 April 1980

Section II C, Social and Economic Factors, presents some interesting figures. However, again the omissions are significant. For example, citing a 2,000 percent increase in boating does not contribute much -- a 2000% increase from what to what? Also, how many acres are there along the thin ribbon of the main stem, which averaged 279 man-days of fishing per acre? Of even more significance, what are the experience figures for boating and fishing at Carter Lake and Horsetooth Reservoir? Doesn't their present high usage need some relief? What percentage of the contributing population appear to prefer the type of boating and fishing which can be provided by Grey Mountain and Idylwild Reservoirs? Can the Cache la Poudre River, designated as recommended, provide adequate recreational opportunities for the burgeoning population of the contributing area, or are additional lake areas required to meet those requirements?

The level of visitation developed and set forth opposite Item 7, Recreation, Table V-1, page 49, cannot be correct. It is inconceivable that the usage will be the same under each of the various alternatives. Reservoir areas with developed boating areas, parking areas, campgrounds, picnic grounds and hiking trails are bound to attract and be able to provide pleasurable visitation to many times the number of visitors that would be able to use areas restricted under the other alternatives.

The discussion of National Economic Development on page 38 limits the area affected to only the Poudre River basin above the mouth of the canyon, thereby eliminating any consideration of the national economic benefits derived from the improved municipal and agricultural use of the water which could be developed in Grey Mountain and Idylwild Reservoirs and the nationally marketed power which could be generated at those projects. The impacts noted in Table V-1, pages 48 and 49, are thereby incomplete and quite narrow in their outlook.

It is difficult to evaluate the validity of the regional development impacts set forth in Table V-3, page 59, in the absence of supporting data and the minimal discussion thereon. This might be a misinterpretation of the brief statement on page 58, but it appears that the benefits of constructing the Grey Mountain-Idylwild project were limited to only those which would occur during the construction of the project. It would be a serious omission to ignore the increases in gross regional product, income and employment which would derive from an assured supply of water, power and recreational opportunities. The value of the flood damages which would be prevented by Idylwild and Grey Mountain Reservoirs is considerable, and full credit for this economic benefit should be given to the alternative which would permit the construction of the project.

2. Broader explanation of the figures cited have been provided in the text on pages 8 and 27. Relief for flatwater recreation, if needed, is outside the scope and intent of a Wild and Scenic River Study. Data from these reservoirs was used in projecting some recreation impacts under alternative D, and are available from the BR.
3. Projections for developed and dispersed recreation use were recalculated for this final report and are discussed in Chapter V, pages 65, 71, and 74.
4. The planning area has been defined in Chapter II, pages 29 to 35, to include areas outside the legislative specification of the study corridor.
5. The RED Account has been recalculated and appears in Table V-3. The value of flood damage protection is a part of the NED account and appears in Table V-1.

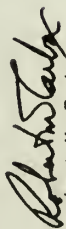
Mr. Gray F. Reynolds
Page 4

24 April 1980

It is unfortunate that the study team apparently limited its consultation to mainly those who showed up at the three public meetings. The list of "Other Organizations" on page vi, from whom review comments have been requested, is another indication of the slanted, unbalanced nature of the study. Recent surveys by others of city governments, water users, industry and agriculture interests in the area have revealed that there are widespread awakening and realization of the need to capture and to put to beneficial use all of the water of the Cache la Poudre River to which the citizens of Colorado are entitled, as well as to develop the full hydropower potential of the river -- clean power, developed from a renewable resource. It has been demonstrated that a policy of no development will not inhibit population growth in an attractive area like Larimer County. Rather, people will move there anyway, and if sufficient water, power and recreational opportunities are not available, the older residents as well as the newer will suffer the effects of poor decisions such as that recommended in this report.

Under the discussion on Alternative E on page 52, it is stated, "Rather than being characterized by absolute prohibitions, the Wild and Scenic River Act embodies a flexible approach." This is a misleading statement, and it is hard to believe that it is not intentionally so. Once the segments of the River are classified, it would require a decision by the President of the United States to change them in any degree, and that would not be obtained easily, no matter how well justified. It would be a much more flexible approach to leave undesignated Segments 1, 2, 3 and 4 until current studies of the Grey Mountain-Idylwild Project and its alternatives have been completed, and I recommend that your study recommendations be revised to do so. To do otherwise would be a disservice to the citizens of Colorado.

Very truly yours,


Robert M. Tarbox

cc: Senator Gary W. Hart
Senator William L. Armstrong
Representative James P. Johnson
Representative Kenneth Kramer

6. In an effort to fully consult a variety of Federal, non-Federal, and non-governmental entities, the study team conducted an expanded consultation effort subsequent to publication of the DEIS/SR. Some of the results of this inquiry are detailed later in this chapter.

7. The comment is incorrect, in that it fails to consider the need for Congressional action either to designate or to subsequently modify such a decision. The preferred alternative B, using the Act, embodies a -flexible opportunity for legislative and executive consideration.

Roland C. Kufeld
2609 Killdeer Drive
Fort Collins, Colorado 80526
June 23, 1980

Mr. Gray F. Reynolds, Supervisor
Arapahoe - Roosevelt National Forests
301 S. Hoves
Fort Collins, Colorado 80522

Dear Mr. Reynolds:

I would like to express my support for your recommended proposal to add 68 miles of the Cache la Poudre River to the Wild and Scenic Rivers System. I strongly feel, however, that segment 1 from Poudre Park downstream to the National Forest Boundary should also be included and classified as "Recreational", and that the upper portion of Segment 7 should be classified "Wild" rather than "Recreational".

Poudre Canyon is one of the most heavily used recreational areas in Colorado. It will become even more important as the demand for recreation continues to increase. It contains important habitat for deer, elk and bighorn sheep. It is the last essentially free-flowing river on the Front Range of the Rocky Mountains. Because it is unique and the last of its kind, and because of its tremendous value for human recreation and wildlife habitat, it must be protected for future generations. People yet unborn will thank us for having the foresight to set aside the Poudre as a "Wild and Scenic River" so they too can enjoy its recreational and wildlife values. I am very grateful to those, who years ago, had the foresight to establish National Forests and National Parks to protect many of our nation's greatest assets. Can we do less for those generations that will come after us?

I recognize that future generations will also need more power and water. Rawhide power plant is being built by the Platte River Power Authority. When completed it can provide up to 750 megawatts of electricity. The cities of Fort Collins, Loveland, Longmont and Estes Park, which constitute the Platte River Power Authority service area, used 143.8 megawatts of electricity in 1978. Thus, Rawhide will be able to sustain 504 % more people in those four towns than were there in 1978.

Joe Wright Reservoir is under construction, and the Windy Gap project could become a reality in the near future. Both will provide additional water. The dam on Seaman Reservoir could be repaired, and plains reservoirs near Fort Collins could be renovated and restored to hold more water.

The fact is that we have planned for, and have potential for enough electricity and water to provide for a great deal of population growth. Those additional people will also need the recreational values provided by Poudre Canyon.

At some point we will have to realize that our area resources are limited and can only be developed so far, and that a vastly increased population simply

will not fit in Larimer County. We have already provided for additional electricity and water. Now we must also provide for future recreation and wildlife values by placing the Poudre River under the highest possible designation allowable under the Wild and Scenic Rivers Act of 1968.

Sincerely,

Roland C. Kufeld

Roland C. Kufeld

cc U.S. Rep. Johnson
U.S. Sen. Hart
U.S. Sen. Armstrong

1006 W. Mulberry St.
Fort Collins, Colo. 80521
July 5, 1980

Gray F. Reynolds, Supervisor
Arapaho and Roosevelt National Forests
301 S. Howes St.
Fort Collins, Colo. 80522

Dear Mr. Reynolds:

I am writing for two reasons: to urge you to support your Alternative E on the proposed wild river designation for the Cache la Poudre River, and to present agricultural information, which as an irrigation specialist I can verify, that places in doubt the wisdom of proposed dams (excluding the Grey Mountain Dam) that may be built on the river if Alternative E is not adopted by Congress.

There is an urgent need to preserve the natural beauty of the river canyon because Larimer and Weld Counties are among the fastest growing areas in the United States. The inevitable increases in population will increase pressure on already-crowded recreation sites in the canyon. Without some control, private land development, the proposed dams (if built) and ever more intense crowding in camp sites will spoil the experience thousands of people come to enjoy.

As a property owner and a retired leader, for 31 years, of irrigation research for the U.S. Department of Agriculture, I believe I have valid criticisms of the proposed dams and storage reservoirs. Thus, I will urge our Congressional delegation to consider these views, and ultimately to vote for Alternative E.

This alternative best preserves the beauty of the canyon by providing a good compromise between the extreme alternatives in this case, A and D. Alternative E excludes from wild or recreational designation that part of the river from its mouth to Poudre Park. This is good because 80 percent of that stretch is privately owned, and Forest Service officials have said it would be difficult to administer in a wild or recreational designation. It is also good because it retains the site for the proposed Grey Mountain Dam should it ever be needed.

Alternative D is a bad idea, I feel, because it allows for development of the Bureau of Reclamation plan for dams in the canyon. Farmers want the Idylwilde Dam and Storage Project

because it is the key to the bureau's hydroelectric power development scheme. It is important to farmers because they believe the generated power, if sold, will pay for dam construction, allowing them virtually "free" use of spring run-off water in above-normal years—in addition to water already available to them.

No one should seriously question the need for water because there are dry years, and farmers do need all the reasonable help they can get. Based on my work in irrigation research in this area, however, I believe farmers could use the water they have much more efficiently. Studies in the Larimer and Weld County area have shown that irrigation efficiency ranges from 25 to 70 percent, depending on system design and the skill of the irrigators. Irrigation efficiency is a measure of the water held in the root zone to be used by crops.

One reason, I think, that farmers do not have higher irrigation efficiency is that they have little incentive to conserve when water here is so cheap. Many farmers find it economical to waste water rather than pay for extra labor and equipment that would preserve water.

The cost of one acre-foot of water (339,488 gallons) in this area ranges from \$1.75 to \$9.87. The reason for the variance is that some water districts have better equipment and better organization, as is the case with the North Poudre Irrigation Co.—thus, their higher charge. But even at the highest local price, water is inexpensive compared to southern California, where some water sells for \$75 per acre-foot. There, farmers are forced to find ways to use water more efficiently, including sprinkler and trickle irrigation systems on high-value crops.

More efficient local use of water is possible. For example, in the Buckeye area farmers have rehabilitated old surface-distribution systems and fields to supply water to center pivot systems that irrigate 135 acres in one circle. Yields of sugar beets have exceeded 20 tons per acre, and irrigation efficiency has increased from an average of about 50 percent to 90 percent. One man can tend 10 center pivots, so labor costs are drastically reduced. In addition, there are automated surface irrigation systems that re-circulate run-off water.

Granted, these methods are expensive. But there are less costly means of conserving water. Using siphon tubes instead of cutting ditch banks with shovels to control flow to borders and furrows would be a step in the right direction. Knowing when and how much to irrigate where water is available

on demand would also help. Irrigation scheduling can now be accomplished using computers and climatic data to estimate the amount of water used by specific crops. In some areas a service to inform farmers when and how much to irrigate is being supplied by firms for about \$2.50 per acre.

There are still other measures: rehabilitating wasteful systems (for example, converting from border ditch to border strip or dike irrigation); augmenting water supplies with wells, where feasible; lining farm laterals and/or head ditches; using more gated pipe, including relatively inexpensive lay-flat plastic varieties; reducing too-long (1/4 to 1/2 mile) irrigation runs; and changing 12-hour sets to 6-hour sets, or other similar time reductions, to avoid deep percolation and run-off losses.

In short, I think Larimer and Weld County farmers have enough water to get by in most years, and that the Idylwilde Dam is unnecessary from an irrigation standpoint. If excess run-off were to be used to recharge plains aquifers, as has been suggested, I believe the proposed Grey Mountain Dam would capture enough water for this purpose.

Moreover, the proposed dams may well be an economic fiasco. It has been pointed out that the bureau proposal is no more feasible today than it was in 1963, when it was first proposed. The water that will be stored is sufficient to operate hydroelectric generators only 7 percent of the time. In other words, power output would be restricted to 1.65 hours per day per year, or 25.5 days per year under continuous operation. Further, even though power revenues have increased threefold since 1963, there has been a corresponding rise in the construction costs for dams and power plants. In fact, the cost of building the Local Rawhide Power Plant, which is just under way, has increased even faster—a tenfold rise in the last decade, from \$400 per kilowatt in 1969 to \$1,000 per kilowatt in 1979. Transmission wire is also up in price, having risen by 64 percent in the last year alone.

Even more questionable, however, is the revenue that could be generated under the operational restrictions described above. Wholesale power was selling for 0.6 mills in 1963; in 1965, when the bureau dam proposal was last considered, it sold for 1.0 cent per kw hour. In both years when the proposal was studied in the past, its economic feasibility could not be shown.

Today, the comparable price per kw hour ranges from 2.0 to 2.6 cents. Similarly, construction costs for the power scheme in 1963 were \$375 million. With inflation, this figure would be tripled—or more than 1 billion dollars. More conservative estimates are in the neighborhood of \$750

at 3 1/2% million. Even at this cost, and assuming that all revenues at 2.6 cents per kw hour are used to pay interest on debit and principle, it would take more than 300 years to repay the construction loan. This calculation, moreover, does not take into account operation and maintenance costs. If financed by a government loan at 3.5%, the going rate for federally subsidized projects, the taxpayers—not the water users—would be paying the bill for three centuries.

As with all multi-use projects, the alleged benefits of these dams—such as enhanced recreational opportunities (boating and lake fishing), the sale of water to cities and industries, the sale of power, and the increased water storage for irrigation—are used to justify costs. In my view these supposed benefits, with the exception of water sales to cities, are subjective matters and in this case highly questionable. Such "benefits," it seems, are often exaggerated to show hoped-for regional economic values, and to justify projects at almost any cost. I have observed this in many Bureau of Reclamation projects over the years.

Finally, there is the nagging question of who will get the water if and when it becomes available. Certainly junior water rights must be satisfied before excess water is used for any purpose other than domestic supply, which has priority. Filings have already been made by the Tri-County Water Conservation District on all spring run-off, for the purpose of ground water recharge. If this claim withstands the legal test, many of those now advocating construction of the Idylwilde Dam may be left holding an empty bucket.

So I hope you are successful in arguing for Alternative E in Congress.

Sincerely,

Howard R. Haise

Howard R. Haise

July 3, 1980

Gray Reynolds, Forest Supervisor
U.S. Department of Agriculture
Arapaho-Roosevelt National Forest
P.O. Box 1366
Fort Collins, CO. 80522

Dear Mr. Reynolds,

The insatiable thirst of the Department of Agriculture to procure more acreage for national forest lands is utterly ridiculous. Millions of acres have already been commandeered and stand useless - without access for the general public.

It appears that the Department of Agriculture does not realize that workable decisions can be reached whereby everybody's needs can be met.

The Grey Mountain project will furnish the water storage needed so badly for the future with the additional benefit of providing new recreational areas that are accessible to the general public.

The Poudre Highway #14 is our direct route to North Park and the Western slope. As the growth continues in Northern Colorado, the traffic flow will continue to increase. The fact that the highway already parallels the river does not, I believe, meet your guidelines for wild rivers.

The St. Croix river in Minnesota which has been classified as a wild river differs drastically in scope, i.e. no major highway along its banks. It leads me to wonder about your justification in your application of the Wild and Scenic Rivers Act. How two rivers that appear on opposite ends of the spectrum can be judged on an equal basis is pure bureaucratic nonsense.

I believe the Poudre River should be developed for its maximum potential as a water shed, recreational area and scenic drive. In doing this, everybody can enjoy those benefits and the Department of Agriculture's thirst can be satisfied by a drink of water furnished through the auspices of the Gray Mountain project.

Sincerely,

Dale S. Gustafson

Dale Gustafson

Poudre City Resort
32595 Poudre Canyon
Bellvue, Colorado 80512

July 6, 1980

Mr. Gray Reynolds, Supervisor
Arapahoe and Roosevelt National Forests
301 South Iowes Street
Fort Collins, Colorado 80521

Dear Mr. Reynolds:

As a long time resident of Fort Collins, I have been recently moved into a new sense of appreciation of this unique part of our country -- certainly did not appreciate it enough in the past.

As a short time property owner on the Poudre, I have tried to be non-biased in forming opinions relative to the proposed canyon changes. Needless to say, having made a substantial financial investment being non-biased is difficult.

Fortified with that new appreciation of the Poudre and somewhat non-biased thoughts of my future here, I find myself campaigning for the following action:

First, a tabling of all Poudre River changes in appearance and designations

Second, believing that our government will impose changes, the acceptance generally of the "Wild and Scenic" designation

Third, cancellation of any reservoir construction plans on the Poudre.

Would you kindly consider this writer's feelings in your contacts with the Department of Agriculture and others?

Yours truly,

Robert C. Frison
Robert C. Frison

JUL 7 1980

June 7, 1980

Gray F. Reynolds
Forest Supervisor
301 S. Howes
Ft. Collins, Colo.

Dear Mr. Reynolds,

We are very much opposed to the possibility of one or more dams on the Poudre River. It is a rare and beautiful river with stretch after stretch of the most interesting water. It must be preserved in as nearly its natural state as possible for future generations. Not many areas are blessed with such a natural asset and yet many people are joining forces to dam it up and change the characteristics of much of its length.

There have to be alternative solutions to water storage for this area. Plains reservoirs do lose more water to evaporation but enrich their environment rather than detracting from it. The basic reason for proposing the Poudre dams is to enable the population to grow and thus improve business in the front range cities. We are not coping well with our rapid growth now and an increase in our growth rate made possible by plentiful domestic water would exacerbate the situation.

We must dedicate ourselves to the preservation of this rare and beautiful river. Those wishing to dam it have financial gains in mind and will be powerful advisers and will try time and time again. They will use whatever arguments are currently fashionable such as the production of energy is in this decade. They will pay talented people in the legal, editorial and political fields to help convince

us that damming the Poudre is a worthy project. The arguments proposed will seem very rational and will be well presented and publicized. The proponents will be well organized and will include highly regarded people. Those of us opposed will be poorly organized and funded and sometimes working at crossed purposes. Hopefully some dedicated leadership will emerge and unify the people who believe an irreplaceable natural wonder should not be degraded for financial gain.

Sincerely yours,

Pete Martinelli
Elnora Martinelli

Pete, Elnora and Lynn Martinelli

2921 Terry Lake Road
Ft. Collins, Colorado
80526

JUN 12 1980

300 Remington-#902
Fort Collins, Colo. 80524

Arapahoe and Roosevelt National Forest
301 S. Hovos
Ft. Collins, Colo. 80521

Gentlemen:

I wish to go on record as recommending the Poudre River be given the designation as a "wild and scenic" river.

In the 41 years I have lived in this area, I have come to appreciate that it was and is now, and have lived long enough to see what dam projects can do to a river. Is it not presumptuous of the generation living now, to attempt to speak for the generations of people yet to be born that this will mean in their lives?

Once the construction is started, there can be no going back- no way of undoing the damage. If in the 20 to 50 years hence there should arise a dire need for additional reserved water the river will still be there. Laws can be changed, but once the project is put into effect, the die is cast.

Who are we to deny our children's children the experience of knowing a river as untouched by man as possible? Are the greedy needs (no, not needs but wants), of the now generation to be catered to at the expense of future generations? I want my grandchildren to see as close as possible, that my Uncle Tom Bennett saw when he drove in a buckboard with his young wife to settle in the little South Poudre some 80-90 years ago. We do not need another reservoir for the populace to water-ski and boat on when it is full, and be a sea of mud when the waters are low.

The Fort Collins Chamber of Commerce states a nationally protected river would place future generations at an extreme disadvantage, but I challenge that statement. Just the opposite is true. The impact of two reservoirs on our Cache la Poudre River will allow exploitation of our resources by select groups intent on providing water as an incentive to developing more and more growth for industry.

We have an obligation to preserve and care for, not exploit and destroy.

Sincerely yours,

JUN 4 1980

Edna R. Hooks
Edna R. Hooks

July 1, 1980

Gray Reynolds, Forest Supervisor
U.S. Dept. of Agriculture
Arapahoe-Roosevelt National Forest Service
P.O. Box 1366
Fort Collins, CO 80522

Dear Mr. Reynolds:

I do not believe the main fork of the Poudre qualifies as a wild river under the definition of wild rivers. Therefore, I think it beneficial to not only wildlife inhabiting the area, but also to the many nature loving people who would enjoy the benefits that the Gray Mountain project would create. Let's make our beautiful mountain area along the Poudre more accessible and convenient for all to enjoy without excluding the many folks who do not hike or can not hike in a number of miles to reach camping sites and National Park areas.

Thank you,

Sincerely,

Gray Reynolds
Gray Reynolds

Grayford Blake III

CB/b1

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RAY MURSKI, V.P.
4329 FAIRFAX
DALLAS, TEXAS 75205
(214) 521-9040

June 19, 1980

Mr. Gray F. Reynolds
Forest Supervisor
Arapaho & Roosevelt National Forests
301 So. Howes
Fort Collins, Colo. 80522

Dear Mr. Reynolds,

I've just learned that after all the talk I've heard over the past few years they really intend to get serious about the Grey Mountain Project.

I simply can't believe they would consider a project such as this that would benefit so few, and deprive so many of one of our last "wild" recreational spots.

You may think it strange to hear this coming from Texas, but I was born and raised in Greeley, and have not missed a summer on the Poudre River in sixty-three years with the exception of three years during WW II when I was out of the country. I might add that it was exactly spots like our Poudre River that made those long missions over Germany seem worth while.

I just can't imagine this beautiful canyon ruined with huge dams and power plants.

I've fished every inch of this old river from Ted's Place to Chambers lake, and would like to look forward to a few more years of doing exactly this. To me, my trip to the Poudre each summer is the high spot of my entire year, and I know that it is to many, many others.

I strongly urge you to recommend to Congress that the Poudre River in Colorado be designated as "Wild" and "recreational" as defined in Alternative E of the Wild and Scenic Rivers System Draft Environmental Impact Statement.

Sincerely

JUN 23 1980

May 28, 1980

Forest Supervisor
Arapaho & Roosevelt National Forest
301 So. Howes Street
Fort Collins, Colorado 80521

Dear Sir:

I have reviewed your "Draft Environmental Impact Statement and Study Report" on the "Cache La Poudre Wild and Scenic River" and congratulate your people on the fine job that they have done.

My first instinct on this whole project, since we live in Poudre Park, was to not do anything and to leave the River as is. We see and love this river as we go back and forth from town to home and I am certain that many thousands of others do too, from the traffic that we see every week of the year.

On having second thoughts, we feel that not putting any designation on the River would not preserve it as it is and the only way to preserve it would be to invoke a "Wild and Scenic" designation.

Accordingly I would prefer the so called "Citizen's Alternative" designation which is essentially Forest Service Alternative "E" with Segment I added as "Recreational" and the upper stretch of Segment 7 above Pingree Park preserved as "Wild", instead of "Recreational".

Sincerely:

E.P. Epler

E. P. Epler
10108 Poudre Canyon
Bellvue, Co. 80512

EPE:ve

JUN 2 1980

116. Poudre St
34. Collins Co 305-21
May 20, 1980

Mr. Gray F. Reynolds Supervisor
Chaparral and Roosevelt National Forests
301 S. Howes
Ft Collins, CO 80552
Dear Mr. Reynolds -

As a deeply concerned citizen of
Larimer County, I strongly support
your proposal to add 67 3/4 miles of
the Poudre to the National Wild and
Scenic Rivers System.

I would ask you to recommend
the seven mile segment of the South
Fork from Poudre Park to its source
in Rocky Mtn Park be "wild" rather
than "recreational"

Please include my letter in the
official record on the Poudre Proposal.

I urge you to press for this designation
Too much of our precious, irreplaceable
national treasury of beauty is being
lost to "progress"

JUN 3 1980

cc. M. Armstrong
G. Hart
J. Johnson

JUN 12 1980

Gray F. Reynolds
Forest Supervisor
301 S. Howes
Ft. Collins, CO 80522
Dear Mr. Reynolds:

We are in strong support of the environmental impact
statement and study report, which designates the
Cache La Poudre as a wild and scenic river. To dam
this river and flood its beautiful valleys would
be a travesty.

Sincerely,

Imolynn Kalert

Tom & Lynn Kalert

1317 Fairview
Ft. Collins, CO
June 10, 1980

W. G. WILKINSON, P.E. & L.S.

CONSULTING ENGINEER
1428 WEST VINE
FORT COLLINS, COLORADO 80521
303-444-1917

July 7, 1980

Mr. Gray F. Reynolds
Forest Supervisor
Arapaho and Roosevelt National Forests
301 South Howes
Fort Collins, Colorado 80522

Dear Mr. Reynolds:

Your letter accompanying a copy of the Cache la Poudre Wild and Scenic River Draft Environmental Impact Statement and Study Report requested review comments on that report. I was pleased to receive the report and to have this opportunity to submit my comments, opinions and recommendations.

By way of establishing my background and the foundation for some of my observations, I would first offer that I served the State of Colorado as Water Commissioner for Water District No. 3, the Cache la Poudre watershed, for a period of eighteen years following which I was Division Engineer for Irrigation Division No. 1, the South Platte, Laramie and Republican River watersheds, for nine years prior to my retirement in 1978. As a result of that seven years of close association with the Cache la Poudre River and this area, I feel that I am quite familiar with the river operation, water supplies and distribution as well as the agricultural and municipal water requirements. Having been a local resident since 1947, I have observed the tremendous growth in population with its accompanying expanding needs for water, power and recreation resources.

Briefly, I believe that the foreclosure of the potential for the future development and use of those resources by means of river designation, as proposed, would be a shortsighted reversal of the direction set by those courageous, energetic men of vision whose efforts transformed this valley from a semi-arid waste into the attractive, productive, prosperous area that we live in today.

The information in the subject report does not, in my opinion, adequately support those alternatives which would designate any segment which has potential for water, power or other desirable resource development. In support of that contention I would discuss some specific aspects of the report.

The declaration of policy on Page 1 has apparently been interpreted as a directive to prevent any future river alteration

Page 2

through designation of streams, regardless of potential for resource development. The last sentence of the quoted section states "...that established national policy of dam and other construction at appropriate sections of the rivers needs to be complemented (emphasis added) by a policy that would preserve other selected rivers and sections thereof...". I believe that the use of the word "complemented" instead of "restricted" or "limited" indicates an intent to preserve resource development and at the same time preserve those other sections of streams as free flowing which are subject to encroachment and quality problems.

The description of river flows on Page 12 correctly indicates the variability of river discharge both seasonally and annually. Channel reservoirs would provide control for flood prevention, water storage and minimum flow maintenance.

The map on Page 13 showing Water Development, shows only one transmountain diversion, the Laramie-Poudre Tunnel. There are eight other diversions to supply foreign water to the Poudre, all having been found beneficial. Potential sites should include both the Kinnikinnik Afterbay and the Cache la Poudre Forebay as features of the Grey Mountain-Idylwilde Project.

Although the report on Page 20, Paragraph 3, recognizes the very positive influence of past upstream water resource projects upon stream flow it chooses to minimize or disregard entirely the beneficial effects that would result from future water and power projects.

An important aspect of future needs and uses is a reasonable projection of population growth. The report makes a projection on Page 22, but does not indicate the source for those figures. That projection appears to be much more conservative than the Population Projection Table developed by Larimer County on Page 106 or the Population Growth Chart as developed by the Larimer-Weld COG and presented on Page 107 would indicate. What appears to be a 25% discrepancy for the year 2000 could reflect a very substantial difference in projected water, power and recreation demands for that future period. That need is recognized to some degree on Page 25 in the concluding statement of the Population-Regional Overview section.

The criteria for and formulation of alternatives are discussed in Chapter IV. The statements are made that "Each alternative must be designed and evaluated to serve the economic development or environmental quality objectives" and that the Act requires the report show "...the reasonable foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the National Wild and Scenic Rivers System..." (emphasis added). The Alternatives, with the exception of Alternative D, do not serve the economic

effectively, hereafter prohibit any such future development. I believe such designation would be a tragedy, unduly burdening future generations.

With the present interest and the anticipated studies into resource development on the Cache la Poudre River any current designation of any part of that stream is certainly premature. Certainly, at the least, the public should have the opportunity to make a timely comparison of the results of an independent study of resource potential and alternatives with the proposed designation of the river prior to any formal action upon designation. I believe the final report should include such a recommendation.

study of resource potential and alternatives with the proposed designation of the river prior to any formal action upon designation. I believe the final report should include such a recommendation.

Sincerely,

X.C.
 Senator William Armstrong
 Senator Gary Hart
 Representative James Johnson
 Senator Fred Anderson
 Representative Ronald Strahle
 Frances Bee
 Harlan Seaworth
 Ward Fischer
 Representative Wad Hinman

W. L. Whitford

The report makes a very valid assessment of the Effects on Emergency Preparedness on Page 64 and upon the Irreversible Resource Commitments on Page 65.

Study of the report as a whole seems to indicate that, although there is an awareness of the very substantial value of past water resource development on the Cache la Poudre River and the potential for future development of not only water resources but also power, recreation and flood prevention, the Forest Service feels compelled to propose a designation which would very

May 21, 1980

Gray F. Reynolds
Forest Supervisor
Arapaho and Roosevelt Nat'l Forests
301 South Ilwaco
Fort Collins, Colo 80521

Re: Cache La Poudre Wild and
Scenic River

Dear Mr. Reynolds,

I want to support the USDA Forest Service Environmental Impact
Draft and Proposal to add 67½ miles of the Poudre River to the National
Wild and Scenic River Systems.

I also support Alternative A of the Impact Statement and Study Report.
Please include my letter in the official record on the Poudre River
Proposal.

Sincerely,

Gene Durrell
330 (1st) Street NW
Fort Collins, CO

1501 Stover St
Fort Collins, CO. 80524
June 9, 1980

Mr. Gray F. Reynolds, Forest Supervisor
301 South Ilwaco
Fort Collins, Colorado 80521

Dear Mr. Reynolds:

I strongly support every effort made for the
Cache la Poudre River to be designated as a wild
and scenic river. Present and future generations
of people and wildlife need the Poudre and the
surrounding area in its natural form.
Thank you

Sincerely,
Marlyn G. Hein

JUN 6 1980

July 7, 1980
Fort Collins, Colorado

June 2, 1980

Gary F. Reynolds, Forest Supervisor.

Dear Sir,

we strongly support your proposal to add sixty-seven (67) miles of the Poudre to the wild and Scenic Rivers Act.

We prefer the "citizen's alternative" (essentially Forest Service Alternative "E" with Segment 1 added as "recreational").

we strongly recommend that the seven (7) mile segment of the South Fork from Pinger Park to its source in Rocky Mountain National Park be preserved as "wild" instead of "recreational".

Please include our letter in your official records on the Poudre proposal.

Yours truly,

Raymond L. Anderson

Raymond L. Anderson

letters sent to:

- Senator Gary Hart
- Senator William Armstrong
- Editor of The Denver Post
- Editor of The Rocky Mountain News
- Editor of The Fort Collins Coloradoan
- Editor of The Triangle Review
- Editor of The Loveland Daily Reporter Herald

Mr. Gray F. Reynolds, Supervisor
Roosevelt National Forest
301 S. Howes St.
Fort Collins, Colorado 80522

Dear Mr. Reynolds:

This letter is in regard to the Recreational Status proposed for the Poudre River. I believe that the study is only partially complete, and before a determination can be made to designate any of the canyon portion of the Poudre a recreational river, the effects of such designation on water development potential of several off-main-stem reservoirs must be examined. The questions related to the operation and use of the river by existing water right holders and users must also be studied in detail.

I was a member of the initial team that surveyed the river for possible Wild River Status in 1977. At that time there was no mention of possible preclusion of current or future use of the waters of the river. No study has been done of the effects of recreational designation on this vital and heavily used river. For the past hundred years it has supported a vigorous agricultural economy. Now it is being called upon to provide water for thousands of new residents each year and also to provide water to growing industrial demands.

The Forest Service would be remiss in its duty if it allowed high pressure tactics of recreational and environmental interests to override and preclude legitimate water development needs that would not prove devastating to the Poudre River.

Sincerely yours,

Raymond L. Anderson

Raymond L. Anderson
Resource Economist
Department of Economics
Colorado State University

JUN 6 1980



Preserve Our Poudre

P.O. Box H LaPorte, Co. 80535 221-5128

May 31, 1980

Dear Don,

I am writing to explain the reasons behind the Citizens' Alternative which we and others are advocating. What we want to "preserve" are the free-flowing characteristics, water quality and flow and outstanding scenic values of the Poudre River.

After studying the draft environmental impact statement we concur with the evaluation of alternatives which shows that Alternatives A and E:

- appear to best preserve the scenic, recreational and historic values of the river corridor.
- could best provide maximum opportunities for planned and managed dispersed recreation for most of the river's length.
- show the greatest increases in gross regional product and employment in man years.
- the private sector could develop in an orderly, positive and profitable way while meeting the requirements of the Act.
- could provide a mix of recreation resource opportunities.
- would not change the timber, range, wildlife habitat, and water output or significantly change the Forest's ability to meet changing local needs.
- would preserve the most miles of the river in a free-flowing condition.
- would provide the best protection to preserve the quantity and quality of the water by controlling the type of development for most of the river's length and would prevent the type of projects that would compromise the Act.
- would best provide the opportunities to accommodate recreation use in an orderly way and to minimize Poudre Canyon residents' concerns regarding recreation-caused impacts.
- After studying the report, attending meetings of canyon residents, talking to residents and property owners and others who use and enjoy the Poudre Canyon, we have incorporated the above evaluation into a Citizens' Alternative.

This alternative strongly supports the research efforts of the Forest Service by endorsing Alternative E, the Forest Service's Preferred Alternative, with two changes.

At the time the Forest Service compiled data for the study, canyon residents did not feel the immediate threat of inundation and condemnation by the Grey Mountain Project. Canyon residents in Segment 1 now would like to benefit from the protection offered by designation and want their segment to be included in the Forest

service recommendation. This change has been determined by meetings with residents and talking with spokesmen for the area. Now it is up to them to write their letters to you expressing this change.

Since the segment does qualify for designation and has outstanding fishing, scenic and recreation values we believe the entire canyon should receive the benefits of designation. We believe the canyon would be easier to manage as an entire unit.

The other change we would like to see incorporated into your final recommendation is to make the upper portion of Segment 7 which goes into Rocky Mountain National Park "wild" instead of "recreational". We feel this status would be more compatible with wilderness and National Park standards. I believe the Park has also agreed with this change.

Sincerely,

Karen Waddell
Karen Waddell

JUN 6 1980



OUTDOORS UNLIMITED, INC.

"Working Today to Develop the Wildlife Use of Public Lands"
P.O. Box 373
Kaysville, Utah 84037
(801) 376-0960

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- Joe McAlister
Trustee
- Leonard Hays
Trustee

Mr. Gray Reynolds
U. S. Forest Service
Federal Building
P.O. Box 1366
Fort Collins, CO 80522

Dear Mr. Reynolds:

The subject of this letter is the proposed Wild and Scenic Rivers status for the Cache La Poudre River. Our organization has some objection to the Draft Environmental Impact Statement as well as designation of Wild and Scenic segments of the Poudre River.

We're concerned first of all that much of the National Forest System in Colorado is the subject of proposed legislation as a result of the RAPE II study. We're concerned that if additional rivers and areas are considered piecemeal for Wild or Wilderness status that the planning effort which was aimed at being comprehensive for the National Forest System will be a sham. We feel any studies on the Poudre River should be delayed until it can be seen how river classification might fit in with the overall planning objectives for Colorado's National Forests and the National Forests of the nation.

We're concerned that the proposal of the Bureau of Reclamation for a reservoir system is out-of-date. It is very difficult in this time of environmental zeal to really make an accurate determination of what the trade-offs and costs may be in classifying a river for purposes other than water collection in Colorado's semi-arid climate. We feel that no options should be foreclosed on the possible use of the river to provide as much useable water as is necessary for the citizens of Colorado.

The Environmental Impact Statement contains information that there may be a need for acquisition of private land to make the river classification a success. It has been my experience that the people who own private land in the Colorado Rockies do so for a variety of very private purposes. It occurs to me also that their prime purpose was not to sell back to the federal government so that the people of the nation might have a larger park or river classifications system. We feel that the federal government has no business in private property acquisition and management, that the State of Colorado has quite enough federal land to keep federal managers happy for a long time, and that private land acquisition is out of the purview of the Forest Service or any other federal management agency.

Mr. Gray Reynolds
June 19, 1980
Page 2

Until costs, trade-offs and economic protections can be properly evaluated we specifically oppose classification of the Cache La Poudre for Wild, Scenic and Recreational status. Please place our comments in the record. Thank you for the opportunity for the input.

Sincerely yours,

MARLENE SIMONS
President

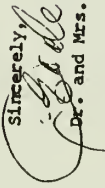
J.E. DALE, D.V.M.
6019 Poudre Canyon Route
Bellvue, Colorado 80512

June 4, 1980

Mr. Gray Reynolds, Forest Supervisor
Roosevelt National Forest
Federal Building
301 South Howes
Fort Collins, Colorado 80521

Dear Mr. Reynolds;

We are endorsing the Wild & Scenic River study but do wish it to include Segment I as recreational. This is mandatory to preserve the Poudre River and Canyon; thus Segment 7 above Pingree Park should be preserved as "wild".

Sincerely,

Dr. and Mrs. J.E. Dale

Dr. Mr. Reynolds, we have
wild - on rather narrow
California grazing area above
and on part of our property.
This in the lower canyon area
the deer come almost to our
door. These things cannot be
replaced or duplicated if destroyed
in the dam. Thank you.
Mrs. J.E. Dale

July 4th 1980
2629 N. Shields
Ft. Collins, Co
80524

Harpyho & Roosevelt Nat. Forest
301 S. Howes
Fort Collins, Co 80522

Dear Elroy F. Reynolds,

I am in full support of designating
the Cache la Poudre river as a wild
and scenic area. But because of
the Sky Mountain Project, I am
supporting the Citizens Alternative.
A recreational designation for
segment 1 and a wild rather than
recreational designation for above
Col. State Pingree Park Campsite.

The Sky Mountain Project should
have been buried forever, instead
of being back an old project that
wasn't feasible in 1963 nor in the
1980's. We want to secure that
Cache La Poudre will remain a free
flowing river.
Sincerely, Mary Wilson

E. Consultation for Additional Information

Following the close of the official comment period, correspondence was sent to more than 20 water development interests. Many of these had indicated that the DEIS/SR did not adequately reflect the development potentials foregone if the river were included in the National Wild and Scenic Rivers System. It is consistent with NEPA and the CEQ Guidelines to solicit information representing all points of view. The representatives were asked to provide any additional information that could be used to more accurately portray reasonably foreseeable water development potentials on the Poudre River. Five comments were received in the 30-day time period specified. Those letters and appropriate responses follow.

In a similar effort, personal interviews were conducted with a variety of experts and professionals associated with water development. These interviews included the educational community, water board members, local elected officials, utility representatives, and attorneys. While the meetings were instrumental in developing a better understanding of the study process and consistent with the P&S and CEQ Guidelines, they did not yield significant amounts of additional information. What they did provide was a more accurate picture of the development perspective and the concerns held by municipalities and agricultural water users. Information accumulated through these meetings has been incorporated into the final study.

FISCHER, BROWN, HUDDLESON AND GUNN

ATTORNEYS AT LAW
ELEVENTH FLOOR FIRST NATIONAL TOWER POST OFFICE DRAWER J
FORT COLLINS, COLORADO 80522
AREA CODE 303 482-1056

WARD H. FISCHER
WILLIAM H. BROWN
CHRIS M. HUDDLESON
JAMES M. GUNN
STEVEN B. RAY
W. PAUL ECKMAN

July 28, 1980

Mr. Gray F. Reynolds, Forest Supervisor
U.S. Department of Agriculture
Forest Service
P.O. Box 1366
Fort Collins, CO 80522

Dear Mr. Reynolds:

Any thorough study of a possible wild and scenic river designation would necessarily include and analyze other benefits thereby foregone as a result of the loss of future reservoirs.

I am not sure that I know all of the potential reservoir sites in the upper Poudre Basin. But here is a list of some of them that should be analyzed.

1. The City of Fort Collins is very serious in its desire to construct the Rockwell and Sheep Creek reservoirs. A description of these sites is attached. The Rockwell site is jointly owned with the City of Greeley and Greeley would therefore also be affected if that reservoir could not be built.
2. The Bureau of Reclamation located a number of desirable reservoir sites. Their location is on the exhibit attached. Some of these sites would be particularly desirable if constructed in connection with power projects; but some of them are surely desirable simply for municipal, industrial and agricultural water supplies.
3. The City of Greeley may need to renovate and reconstruct Seaman Reservoir. It is located just above the confluence of the North Fork of the Cache La Poudre River.
4. In Case No. W 6838-78, Division I Water Court (Greeley), the Little South Cache La Poudre Reservoir was decreed. It is to be located in the SW 1/4 of Section 30, Township 8 North, Range 72 West.

Yours truly,

Ward H. Fischer

WHF:kc
Enc.

cc: Harlan Seaworth/Earl Phipps/Roger Krempel

1. The information provided, excepting item 4, was part of the existing inventory of data. The map enclosed to support item #2 is taken from the DEIS/SR.

RECEIVED	
Roosevelt National Forest	
AUG 7 1980	
Copies Received.....	_____
Copies Sent To.....	_____
Date Copies Sent.....	_____
Promise.....	_____

August 4, 1980
Mr. Francis A. Bee
4320 East County Road #58
Fort Collins, Colorado 80521

Mr. Gray F. Reynolds, Forest Supervisor
U. S. Department of Agriculture
Forest Service
P. O. Box 1366
Fort Collins, Colorado 80522

Dear Mr. Reynolds:

Thank you for your letter of July 14 and the opportunity to inform you of the latest developments on the Grey Mountain -- Idylwilde dams and hydro-electric project. I am enclosing a resolution of April 14 requesting the Northern Colorado Water Conservancy District to be the agency to proceed with the feasibility study of this project. Others have since endorsed the same request and the District Board of Directors has approved. The Northern Colorado Water Conservancy District is preparing to file in the Water Court an application for adjudication of the water rights in the Poudre River for storage in these dams.

Bill McDonald, Director of the Colorado Water Conservation Board, has given assurance that funds can be made available for the feasibility study, but needs prior approval of the State Legislature.

On July 1, I appeared and gave testimony to the State Legislative Agriculture Interim Committee on the project and requested funds be approved for the feasibility study. I feel certain this committee favors proceeding with a full feasibility study and approval will be forthcoming at the next legislative session.

It is still hoped that the recommendations of the Forest Service on the Wild and Scenic River designation of the Cache la Poudre will permit this feasibility study to proceed unhampered.

Yours truly,

Francis A. Bee

Francis A. Bee

FAB:cl

Enclosure

1. Many resolutions were received during the comment period. The Cache la Poudre Water Users Association filed for 406,000 acre-feet of storage rights in connection with the Grey Mountain/Idylwilde proposal in 1981.
2. Funds were made available in June 1981 for a study of water development opportunities in the Poudre Basin.

CACHE LA POUUDRE WATER USERS ASSOCIATION

11801 North County Rd. #9

Wellington, Colorado 80549

Harlan Seaworth, President

August 4, 1980

Mr. Gray F. Reynolds
Forest Supervisor
U.S. Department of Agriculture
Forest Service
P.O. Box 11366
Fort Collins, Colorado 80522

Dear Mr. Reynolds:

I'm responding to your letter of July 14, 1980, on behalf of the Cache La Poudre Water Users Association. Our Association, as you know, has previously adopted resolutions supporting the Grey Mountain-Idylwilde Project and urging that no recommendation be made to Congress that any part of the Cache La Poudre River be designated as wild, scenic or recreational until the proposed feasibility studies as to the potential of the Poudre for storage of water, flood control and the development of hydro-electric facilities have been made.

Before turing to the specific requests in your letter, I was interested in noting that over one thousand individual letters were received in your office pertaining to this question. The number of letters did not particularly surprise me, since I knew that a group of people called the "Preserve Our Poudre" group had organized a letter writing campaign. This group was, I might observe, conspicuously absent from the series of public meetings that have been held these past years regarding the Wild and Scenic River Study.

What particularly interested me was that the letters were counted. I hope that this does not indicate you have treated these responses as being any way a vote or constituting any type of mandate. For instance, the letter I wrote was on behalf of an organization whose membership includes all of the mutual ditch and irrigation companies. These companies supply, in the aggregate, water to thousands of shareholders. Our organization made no attempt to bombard you with letters

1. In order to avoid the "weighing" process inferred in the comment, collective comment analysis was made on the basis of actual pieces of correspondence received, not a value judgment of how many individuals may have been "represented" by the commentator.

from individual members, or stockholders. Rather, I attempted to express the sentiment of our organization in one letter. Other organizations, I'm sure, made their comments in a similar manner. I can only trust that you have not only counted the number of letters received, but have taken into account its author. For example, a letter from Nancy Gray, writing as mayor of the City of Fort Collins for and on behalf of that City, should be considered in quite a different light than a letter from an individual who merely expresses his own opinion.

Similarly, we expect that you have thoroughly analyzed these letters from the standpoint of the qualifications of the writer to speak with knowledge and authority. Also, we trust that your analysis of these letters has not been superficial. For example, if one were to write to you expressing his sentiment that the Poudre is a beautiful river, one which he enjoys, and you would recognize that this same beautiful river exists in its present state in great part because of the mountain reservoirs we and our predecessors have developed--reservoirs which not only provide recreational activities in their own right but also do much to keep the river flowing in the mountains during the entire year.

Said simply, we who urge no designation, at least until after a feasibility study of the water development and power-generating capabilities of the river have been completed, also are familiar with the river and enjoy both its beauty and the recreational opportunities it provides. We do not think that these aspects are, however, necessarily incompatible with further development--development which may well be crucial to the continued well-being of our area.

Turning to specifics. As you know, this Association as well as other entities in our area, has gone on record as supporting in concept the "Grey Mountain-Idlywilde" Project. Under your current recommendation, this project, in complete form, could not be built, and the power-generating features would be lost. This is because the Idlywilde Dam and Power Plant, the Kinnikinnick Afterbay, the Rustic Diversion Dam, and the Elkhorn Conduit could not be built. Lack of these latter two structures would preclude the construction of the Cache La Poudre Power Plant downriver.

2. The impacts of the loss of this power-generating capability with a clean, renewable resource must, we submit, be

carefully analyzed and considered before you can say you have made the necessary studies and analysis to support your recommendations. Neither I, nor the Association I represent, is in a position to develop this information for you--nor do we believe that it is our responsibility to do so.

We point out, however, that the Reconnaissance Study and Report done by the then Bureau of Reclamation in the 1960's noted that the peaking power-generating capabilities of the project would be 274,000 kilowatts, which would generate revenue in excess of \$4,000,000 annually. This amount of money, to be accurate in 1980, would of course have to be multiplied many times over.

Have you concluded what impact the loss of this power-generating capability will have? For example, if a similar amount of power must be generated by a coal-fired plant, how many tons of coal must be burned annually to produce this amount of power? Will that burning cause pollution? If so, how much will it cost to control? Will the coal have to be transported? If so, what will that cost? If replacement power is not provided, and this power is lost to our region, what will be the monetary and other impacts of the loss of this power? Will clean industries, which could provide jobs to our young people, locate elsewhere or, if here, leave? Will we, in the future, face "brown-outs" like those experienced on the East Coast? These questions are many, and they are important. We submit that you must address them and answer them.

The Grey Mountain-Idylwilde Project would also, as I'm sure you know, provide a flood-control facility that is now not present on the Poudre River. We need not remind you of the devastating flood that occurred on the Big Thompson just a few years ago. The devastation and economic loss resulting from that occurrence was staggering. Should the Poudre watershed experience a similar phenomenon, the devastation that could be anticipated is almost unimaginable. Such devastation could be reduced, or possibly even eliminated, by the proper flood-control project such as Grey Mountain-Idylwilde. Is that not a benefit lost? Should the loss of that benefit not be analyzed and its impact to this area calculated? Certainly.

The Grey Mountain-Idylwilde Project is of course not the only potential water development project that wild river designation, as you propose, would preclude. The cities of Fort Collins and Greeley have what is known as the "Rockwell

2. The commentor was not asked to develop information relative to the loss of a potential power source. Most important to the team was new information not present in the DEIS/SR to which the commentor might have access.
3. These potential impacts of the alternatives are discussed to the degree possible in Chapter V.

Reservoir" site, of which you are aware. These two municipalities are, of course, growing. Their water needs will increase. If they are unable to develop water themselves through projects such as the Rockwell Reservoir--which of course your recommendations, if adopted, would preclude--then what alternative do these cities have? They must, and they will, provide their citizens with an adequate supply of water. Their treatment plants are in the mountains, hence it can be anticipated that they will look to the mountains for additional raw water. Reservoirs of mutual ditch and irrigation companies, which supply water to irrigate approximately 400,000 acres of land in Larimer and Weld Counties, exist in the mountains. Under the Colorado Constitution, municipalities are given the authority to condemn such water for their own use. Should this occur, vital water will be lost to irrigated agriculture, to the detriment not only of the farmer but the entire area.

Is this scenario far-fetched? It is not. To the contrary, it is frighteningly real. Your attention is directed to the efforts of other municipalities, in the Denver metropolitan area, which have already attempted to condemn agricultural water to serve their growing needs.

You must, if you are to do a proper job, analyze the impacts of wild river designation on precluding continued development of water for municipal purposes by the communities of our area. In addition to Rockwell Reservoir, Fort Collins has planned in the future to construct a reservoir at what is known as the "Sheep Creek" site. Greeley may need to enlarge its Seaman Reservoir. In addition, a number of other potential reservoir sites which could provide water for municipal, and also irrigation and power uses, exist in the areas impacted by your recommendations. You will note that these sites were identified by the Water and Power Resource Service (formerly Bureau of Reclamation), and we urge you to contact that sister service for additional information.

I appreciate this opportunity to make additional comment, and hope that my remarks and those of others, will be of some assistance to you in making a proper and complete study of the benefits which would be foregone if your "Alternative E" is ultimately adopted by Congress.

Sincerely,



Harlan Séaworth, President
Cache La Poudre Water Users
Association

4. Area necessary to allow construction of Rockwell Reservoir has been identified in the preferred alternative.

5. The City of Thornton has actually filed for agricultural water. It is the only known case of municipal condemnation of agricultural water supplies. Other communities have developed successful relationships with farmers to avoid the condemnation procedure.

6. Information was developed, throughout the study process, with the full cooperation of the BR. They were included in the study team's solicitation for the record, the letter follows.



United States Department of the Interior

WATER AND POWER RESOURCES SERVICE
REGIONAL OFFICE, LOWER MISSOURI REGION
P.O. BOX 25247
BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

IN REPLY
REFER TO
LM-770

SEP 02 1980

Mr. Gray F. Reynolds
Forest Supervisor
Arapaho and Roosevelt National Forests
Federal Building, 301 South Howes
P.O. Box 1366
Fort Collins, CO 80522

Dear Mr. Reynolds:

By letter of July 14, 1980, you requested that we furnish additional information on the reasonable foreseeable water development potential for the Poudre River relative to your Wild and Scenic River Study.

Rivers that have potential for water resource development should have the following major characteristics. First of all, the river system above the proposed site of development must have a proven water supply. Secondly, the river system and proposed site of development must be in reasonable proximity to an area with a broad spectrum of water needs. Thirdly, the proposed development must have strong local support. The Poudre River meets all of these elements.

Of prime importance in consideration of any potential water resource development is the quantity of water that may be regulated at the proposed site. In the case of the Poudre River, the flow at the mouth of the Poudre Canyon near Fort Collins including the diversions which bypass the gage averaged nearly 300,000 acre-feet annually for the period 1948 to 1979. During the past 3 years, the unused flows leaving the Poudre River Basin have totaled nearly 400,000 acre-feet.

The available water supply on the Poudre River offers the potential for providing municipal water, irrigation, recreation, instream flows for fish and wildlife, flood control, hydropower, and water exchange. It also passes through one of the more popular and attractive regions of the State. Several cities that could benefit from this development are currently among the fastest growing in the nation. Fort Collins is, for example, the fourth fastest growing city of its size in the nation. This rapidly-growing area will need a source of supply that development on the Poudre River could provide.

Our 1963 reconnaissance study of the Poudre River identified a hydro-power potential capacity of 274 MW which was estimated to result in an average annual generation of 186,500,000 KWH. This energy source in the form of falling water could be utilized as this nation struggles with its energy problems. The hydropower potential of the Poudre River is valuable in the form of peaking power necessary to supplement the baseload power provided by thermal plants.

With its geographical location and proximity to other water supply systems, the Poudre River Basin offers the potential for storage of water by exchange. Exchange agreements would allow the agricultural and municipal water users along the front range to conserve and make maximum use of local water supplies.

At the present time, there is interest in a feasibility study of the water resource development potential of the Poudre River. The elected and appointed officials of many entities have recently submitted official resolutions in support of such a study. Enclosed for your information are copies of such resolutions from:

Northern Colorado Water Conservancy District
 Larimer County Commissioners
 Weld County Commissioners
 Larimer County Farm Bureau
 Weld County Farm Bureau
 City of Fort Collins
 City of Greeley
 City of Loveland
 Town of Wellington
 Loveland Chamber of Commerce
 Platte River Power Authority
 Cache La Poudre Water Users
 Consolidated Home Supply Ditch and Reservoir Company
 North Poudre Irrigation Company
 Thompson Water Users Association

In view of the local interest and development potential, the designation of the Poudre River in the absence of a complete study of multipurpose development may preclude important future options. We believe the river basin is sufficiently large and diverse to allow complimentary development, including the designation of both wild and recreation reaches through a coordinated multidisciplinary planning effort. Without a multipurpose study, a complete basin plan cannot be developed, analyzed, and displayed.

1. At the beginnings of this study, the BR considered preparing a new Reconnaissance Report on the Poudre River. The agency determined the cost (\$25,000 to 35,000) to be too great as support to a Wild and Scenic River study.

Through the process, the BR has discouraged the use of obsolete data contained in the 1962 study or the 1980 update by IECN. Its summary comments on use of the data appear on page 20.

The Bureau of Reclamation has been helpful, but is unable to present the kind of hard data on water and power development potentials that would enable a thorough analysis under the P&S, because such data does not exist.

We sincerely appreciate this opportunity for input and thank you for your cooperation and consideration.

Sincerely yours,

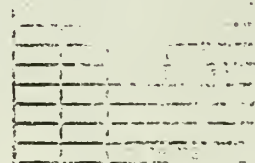
B. E. Martin

B. E. Martin
Regional Director

Enclosures

HR

2 *on*
Hank



ENDNOTES AND BIBLIOGRAPHY

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- (2) Colorado. Governor's Conference on Parks and Recreation. October 18-19, 1962. Denver, Colorado.
- (3) U.S. Congress. Senate. Committee on Interior and Insular Affairs. National Wild and Scenic Rivers System. S. Report 491, 90th Congress, 1st session, 1968.
- (4) Raymond L. Anderson. Economic Research Service. Colorado State University. Personal discussions, August 1980.
- (5) Principles and Standards for Water and Related Land Resources Planning - Level C; Final Rule. 45 FR 64385-64400, September 24, 1980. These Principles and Standards are established as rules pursuant to the Water Resources Planning Act of 1965 (P.L. 89-80).
- (6) U.S. Department of Agriculture. Forest Service. Study Plan for the Cache La Poudre Wild and Scenic River Study. Arapaho and Roosevelt National Forests, August 1977.
- (7) That area east of the Continental Divide, encompassing the populated foothills and high plains region of Colorado paralleling U.S. Interstate 25.
- (8) U.S. Department of Agriculture. Forest Service. Special Areas of Concern for the Arapaho and Roosevelt National Forests, by JoAnne Tremaine, (Draft) 1979.
- (9) Colorado. Cooperative Extension Service. County Information Service. Data Book: Larimer County. Fort Collins, Colorado: Colorado State University, 1977. "Natural Resources" section.

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- (10) N. M. Fenneman. Physiography of Western United States. New York: McGraw-Hill Book Co., Inc., 1931, p. 97, fig. 2.

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- (12) For further discussion of the soils of the study area consult: Colorado Extension Service, Data Book: Larimer County.

Also consult: Colorado. Colorado State University Experiment Station. Soils of Colorado, by R.D. Heil, et. al., Bulletin 566S. Fort Collins, Colorado, July 1977.

U.S. Department of Agriculture. Soil Conservation Service. County Soil Associations. Denver, Colorado. The Larimer County Soil Conservation Service has a detailed County Soil Survey currently being published.

- (13) Visual Quality Objectives - A set of measurable goals for the management of forest visual resources. The stated goals of this visual management system are: (1) preservation, (2) retention, (3) partial retention, (4) modification, and (5) maximum modification.

Except for "preservation," each goal describes a different degree of acceptable alteration of the natural landscape based upon the importance of aesthetics.

"Preservation" allows only natural ecological changes. "Retention" allows management activities that are not visually evident. "Partial retention" allows management activities that are visually subordinate to the characteristic visual landscape. "Modification" allows management activities that may visually dominate the original "characteristic visual landscape," but, when vegetation and landforms are altered, that must use the form, line, color, texture, and/or scale of that landscape for its visual characteristics. "Maximum modification" allows vegetation and landform-altering management activities that dominate the "characteristic visual landscape" in the foreground and middleground but which have the same visual characteristics as the surrounding area when seen as background.

Two additional short-term management goals may be required. The first, "rehabilitation," is used to upgrade landscape containing visual impacts which do not meet the quality objectives set for that particular area. The second, "enhancement," is for landscapes having a potential for greater natural-appearing variety. Once one of the short-term goals is attained, one of the five quality goals is then applied.

- (14) U.S. Department of Health, Education and Welfare. Public Health Service. Water Quality Control Study and Public Health Aspects of the Cache La Poudre Project, Colorado. Denver, Colorado, June 1965.

- (15) Presentation of Evidence Concerning Water Quality Classifications and Standards for the Cache la Poudre River, Big Thompson River, and Segments of the South Platte River. Tom Pitts & Associates, Loveland, Colorado, 1980.
- (16) The Soil Conservation Service 1979 water supply projections indicate that the Poudre's snow-water as a percent of the previous year is 122 and the 1963-1977 average was 118. Snow course measurements taken at nine locations along the Poudre show snow depths as high as 71 inches at Joe Wright. Water content averages range from less than 1 inch to 32 inches for the 1963-1977 period. Source: U.S. Department of Agriculture. Soil Conservation Service. Snow Survey Unit. Water Supply Outlook for Colorado and New Mexico, May 1, 1979. Denver, Colorado, 1979.
- (17) U.S. Geological Survey and National Oceanic and Atmospheric Administration and State of Colorado Geological Survey. Storm and Floods, July 31-August 1, 1976, in the Big Thompson and Cache La Poudre River Basins, Larimer and Weld Counties, Colorado, Professional Paper 1115. Washington, D.C., Government Printing Office, 1979.
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- (19) Jack Neutze, Poudre River Commissioner. Personal interview, September 1980.
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- (22) Missouri River Basin Interagency Committee. The Missouri River Basin Comprehensive Framework Study, Volume 5. Washington, D.C., 1971.
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- (25) U.S. Department of Interior. Bureau of Reclamation. Front Range Unit. Longs Peak Division. Status Report. October 1977.
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APPENDICES

Appendix A
COLORADO STUDY RIVERS

River	Administering Agency	Recommendation (River Miles)			Status
		Wild	Scenic	Recreational	
1. Big Thompson	NPS/CO-DNR	No designation		0	Congressional Review Working on Final Report OMB Review
2. Cache la Poudre	FS/CO-DNR	25	-	42.25	
3. Colorado - Lower Dolores 1/	NPS/CO-DNR	-	20	-	
4. Conejos	FS/CO-DNR	-	9	-	Executive Review OMB Review Executive Approval - Congressional Review Working on Final Report
5. Elk	FS/CO-DNR	25.6	-	13.2	
6. Encampment	FS/CO-DNR	17	12	6	
7. Green	FS/CO-DNR	19.5	-	-	Executive Approval - Congressional Review Working on Final Report
8. Gunnison	NPS/CO-DNR	44	47	-	
9. Los Pinos	NPS/CO-DNR	26	-	-	
10. Piedra	FS/CO-DNR	54	-	-	Congressional Review Working on Final Report Executive Review Working on Final Report
11. Yampa	FS/CO-DNR	32.5	12.9	5.5	
12. Dolores	NPS/CO-DNR	47	-	-	
	BOR/FS/CO-DNR	33	41	66	Executive Approval - Congressional Review
TOTAL		323.6	141.9	132.95	598.45

FS - Forest Service
NPS - National Park Service
CO-DNR - Colorado Department of Natural Resources
OMB - Office of Management and Budget
BOR - Bureau of Outdoor Recreation (now Heritage Conservation and Recreation Service)

1/ Only Colorado portions

Source: Colorado Water Resources Research Institute. A Review of the Cache la Poudre Wild and Scenic River Draft Environmental Impact Statement and Study Report. Michael J. Eubanks. Fort Collins, Colorado. 1980.

Appendix B
LIST OF PREPARERS

<u>Responsibility</u>	<u>Final</u>	<u>Draft</u>
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Appendix C
COLORADO WATER QUALITY CONTROL DIVISION
STUDY OF THE CACHE LA POUDRE RIVER, COLORADO
1977*

<u>Parameter</u>	<u>Average</u>	<u>Range</u>
Dissolved Oxygen (mg/l)	8.6	7.9 - 9.2
Temperature (°F)	52	44 - 61
NH ₃ - N (mg/l as N)	0	0
Ortho - PO ₄ (mg/l as P)	0	0
Turbidity (FTU)	2.3	0.8 - 3.5
Conductivity (mhos)	36	30 - 42
TDS (mg/l)	28	15 - 40

* Sampling period mid-May through June 30, 1977. Eight samples taken at six stations.

RAW WATER SOURCE
POUDRE RIVER

WATER QUALITY ANALYSIS

<u>Description</u>	<u>Standard (mg/l)(suggested)</u>	<u>Actual (mg/l)</u>
Chloride	250	4.0 - 5.0
Color	15 color units	--
Copper	1	0.006 - 0.007
Corrosivity	Non-corrosive	--
Foaming Agents	0.5	--
Hydrogen Sulfide	0.05	--
Iron	0.30	0 - 1.95
Odor	3 threshold odor number	--
pH	6.5 - 8.5	7.1 - 7.4
Sulfate	250	5 - 10
Total Dissolved Solids	500	40 - 90
Zinc	5.0	0.0

NOTE: Suggested secondary limits indicated are not mandatory as set by the National Interim Primary Drinking Water Regulations.

The following are other contaminants recognized by most health authorities as undesirable.

Sodium	115	--
Calcium	150	--
Magnesium	125	2-3
Manganese	0.05	0.00
Total Hardness CaCO_3	120	20-30
Conductivity (μmhos)	--	45-70

NOTE: Results of a number of samples taken 4 miles west of Bellvue Treatment Plant in 1977. Samples taken and analyzed by the Colorado Health Department.

Source: Water Supply/Treatment Study for the City of Greeley. ARIX. Greeley, Colorado. June 1980.

RAW WATER SOURCE
POUDRE RIVER

WATER QUALITY ANALYSIS

<u>Description</u>	<u>Standard (mg/l)(suggested)</u>	<u>Actual (mg/l)</u>
Arsenic	0.05	--
Barium	1.0	--
Cadmium	0.01	0.00
Chromium	0.05	0.00
Lead	0.05	0.00
Mercury	0.002	--
Nitrate as (N)	10.0	0.0
Selenium	0.01	--
Silver	0.05	--
Fluoride	2.4 (at 53.7°F and below) 1.4 (at 79.3°F to 90.5°F)	--
Gross Alpha Activity	15 pci/l	--
Gross Beta Activity	4 MREM/year	--
Turbidity	1.0 (monthly average)	2.9 - 54.0

NOTE: Allowable primary limits indicated are mandatory as set by the National Interim Primary Drinking Water Regulations.

Results of a number of samples taken 4 miles west of Bellvue Treatment Plant in 1977. Samples taken and analyzed by the Colorado Health Department.

Source: Water Supply/Treatment Study for the City of Greeley. ARIX. Greeley, Colorado. June 1980.

Appendix D
PEAK DISCHARGES FOR HISTORICAL FLOODS
CACHE LA POUDRE RIVER

<u>Date</u>	<u>Peak Discharge in Cubic Feet Per Second Above Fort Collins</u>
22 June 1883	7,900
20 May 1884	6,850
9 June 1891	21,000*
29 May 1900	5,000
21 May 1901	12,000
20 May 1904	over 21,000
19 June 1909	5,900
2 June 1914	5,380
23 June 1917	7,000
20 June 1918	5,200
8 June 1921	5,230
15 June 1923	8,550
14 June 1924	7,440
31 May 1930	10,200
22 June 1938	6,180
23 June 1947	Less than bankfull
5 June 1949	6,090
5 August 1951	Less than bankfull
19 June 1965	Less than bankfull

*Peak affected by an upstream dam failure at Chambers Lake.

Source: U.S. Bureau of Reclamation.

Appendix D
 AVERAGE ANNUAL SURFACE-WATER FLOW
 CACHE LA POUDRE RIVER
 WITH IMPORTS FROM OTHER DRAINAGE
 (1,000 acre-feet)

<u>Drainage Basin</u>	<u>Measured Historic 1950-1970</u>	<u>Unregulated and Undepleted 1950-1970</u>
Cache la Poudre	210.5	232.9
North Platte imports to Cache la Poudre	--	21.1
Colorado River imports to Cache la Poudre	--	17.0

Source: Bureau of Reclamation, Front Range Unit, Status Report, 1977.

Table 2. Record of Cache la Poudre River annual yields and 4-year cumulative yields.

<u>Year</u>	<u>Yield 1000 A-F</u>	<u>4-Yr. Cum. Ending in Year</u>	<u>Year</u>	<u>Yield 1000 A-F</u>	<u>4-Yr. Cum. Ending in Year</u>
1884	675		1930	222	1106
5	494		1	177	1022
6	318		2	261	981
7	312	1799	3	277	937
8	182	1306	4	135.2	850.2
9	204	1016	5	280.5	953.7
1890	244	942	6	294.4	987.1
1	278	908	7	222.4	932.5
2	216	942	8	359.4	1156.7
3	232	970	9	211.6	1087.8
4	321	1047	1940	167.7	961.1
5	372	1141	1	224	962.7
6	235	1160	2	313.7	917.0
7	357	1285	3	349.2	1054.6
8	201	1165	4	226.6	1113.5
9	400	1193	5	263.1	1152.6
1900	496	1454	6	214.3	1053.2
1	348	1445	7	315.6	1019.6
2	186	1430	8	225.3	1018.3
3	333	1363	9	336.8	1092.0
4	375	1242	1950	212.7	1090.4
5	358	1252	1	297.1	1071.9
6	296	1362	2	273.5	1120.1
7	295	1324	3	162.8	946.1
8	261	1210	4	100.1	833.5
9	468	1320	5	144.3	680.7
1910	186	1210	6	216.0	623.2
1	253	1168	7	322.5	782.9
2	321	1228	8	240.7	923.5
3	221	981	9	213.6	992.8
4	406	1201	1960	205.5	982.3
5	237	1185	1	270.3	930.1
6	281	1145	2	273.4	962.8
7	514	1438	3	110.9	860.1
8	317	1349	4	160.7	815.3
9	162	1274	5	281.1	826.1
1920	264	1357	6	98.6	651.3
1	396	1239	7	166.2	706.6
2	206	1128	8	217.1	763.0
3	446	1412	9	191.4	673.3
4	447	1495	1970	262.8	837.5
5	222	1321			

Source: City of Fort Collins, Water Utilities Department. Evaluation of Drought Effects on Municipal Water Supplies. R.L. Thaemert. Fort Collins, CO. December 1975.

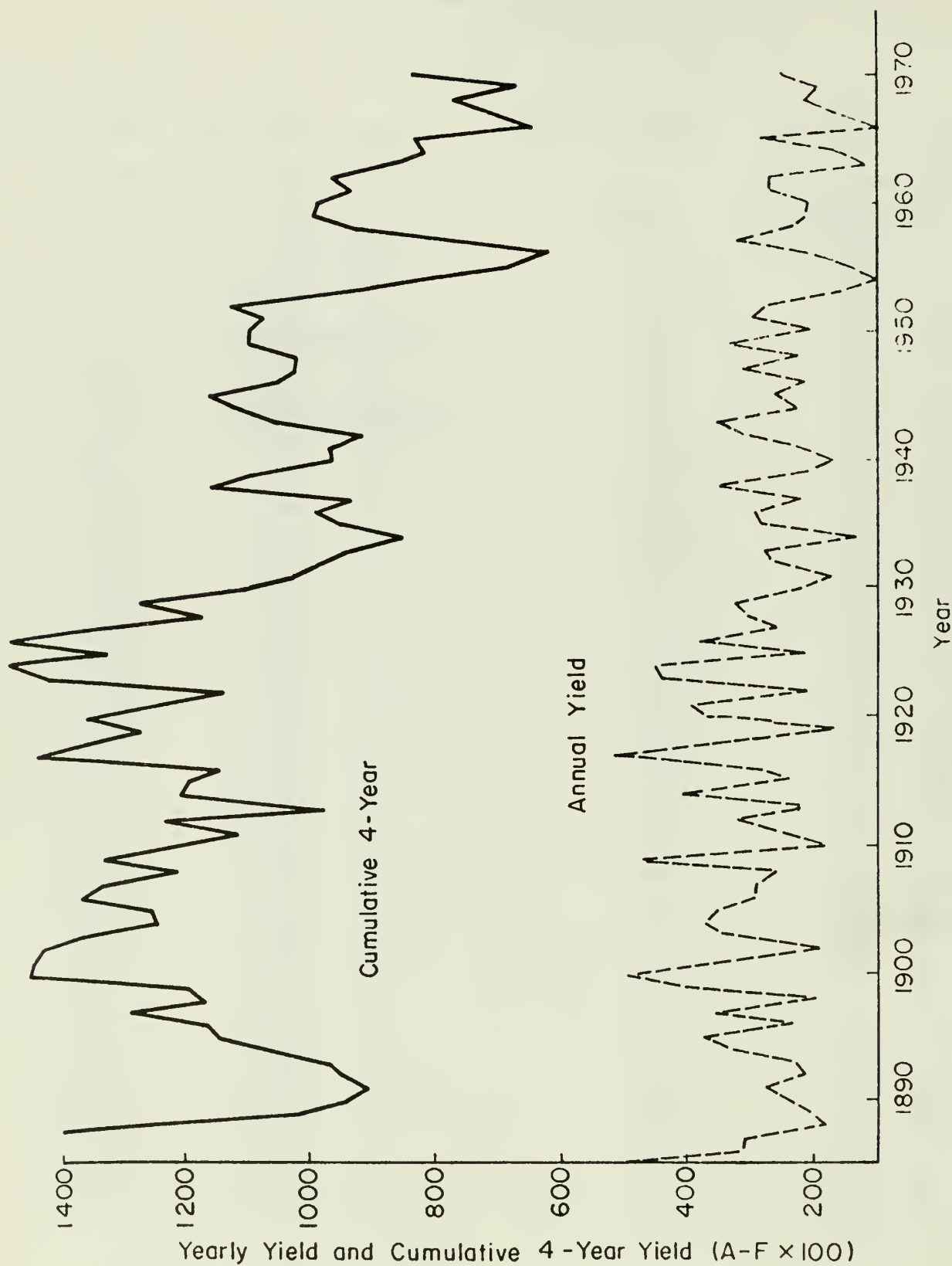


Figure 1. Cache la Poudre River annual yields and 4-year cumulative yields

POUORE RIVER GAUGED FLOWS
1951 - 1980

YEAR	PEAK FLOW (cfs)	DATE	VIRGIN RIVER (ac.ft.)	FOREIGN WATER (ac.ft.)	RESERVOIR WATER (ac.ft.)	HORSETOOTH WATER (ac.ft.)	SNOW PACK (ac.ft.)	LOST FOR LACK OF STORAGE SPACE (ac.ft.)	CARRY OV. STORAGE (ac.ft.)
1951 avg.	6,000	8-4	325,882 325,882	56,748 56,748	134,309 134,309	89 89	288,000 288,000	24,000 24,000	50,736 50,73
1952 avg.	4,160	6-8	308,434 317,158	43,304 50,026	109,395 121,852	21,827 21,916	313,000 301,000	8,000 16,000	62,233 56,48
1953 avg.	2,850	6-14	204,358 279,538	43,106 47,719	92,797 112,167	104,192 63,054	191,000 264,000	0 10,700	40,461 51,14
1954 avg.	1,320	5-21	107,212 236,472	30,478 43,409	60,514 99,254	154,916 93,674	192,500 246,000	0 8,000	18,043 42,86
1955 avg.	1,530	6-24	165,564 222,290	37,338 42,195	32,164 95,836	106,478 96,875	207,000 238,000	0 6,400	20,321 38,35
1956 avg.	3,354	6-3	238,736 225,031	43,946 42,487	70,598 83,296	79,936 93,487	320,000 252,000	5,700 6,300	24,948 36,12
1957 avg.	5,730	6-30	446,866 256,722	38,850 41,067	85,783 83,651	78,285 90,954	330,000 263,000	45,000 17,814	104,046 45,827
1958 avg.	3,910	5-29	283,584 260,079	29,932 40,463	111,327 87,111	128,560 96,326	274,000 264,000	110,000 24,000	104,966 53,21
1959 avg.	2,775	6-8	257,796 259,826	42,210 40,657	106,808 89,299	111,607 98,236	274,000 266,000	18,000 23,400	81,033 56,30
1960 avg.	2,772	6-6	238,588 257,702	46,732 41,264	219,517 102,321	99,682 98,396	297,000 269,000	0 21,100	57,823 56,461
1961 avg.	3,384	6-10	364,400 267,402	21,602 39,477	144,616 106,166	59,958 94,533	234,000 266,000	117,700 29,900	120,907 62,32
1962 avg.	2,706	6-30	300,160 270,132	45,500 39,979	224,703 116,044	115,850 96,489	232,000 263,000	86,200 34,600	95,227 65,062
1963 avg.	1,357	6-17	151,284 260,990	36,722 39,728	227,729 124,635	144,287 100,472	191,000 257,000	0 31,900	77,837 66,045
1964 avg.	2,210	5-27	190,444 255,951	39,116 39,685	83,754 121,715	133,344 103,000	228,000 255,000	0 29,600	37,905 64,035
1965 avg.	5,500	6-11	350,056 262,224	40,026 39,707	90,326 119,622	78,096 101,222	296,000 258,000	78,836 32,900	66,034 64,168
1966 avg.	2,109	5-31	142,026 254,712	34,552 39,385	89,296 117,727	140,073 100,611	124,000 250,000	12,740 31,600	43,776 62,893
1967 avg.	2,693	6-23	251,026 254,495	23,898 38,474	86,768 115,906	92,053 100,076	246,000 204,000	41,550 32,200	86,880 64,304
1968 avg.	2,090	6-21	259,708 254,785	41,216 33,626	52,216 112,368	78,995 98,836	282,000 251,000	4,700 30,700	65,490 64,370
1969 avg.	1,540	6-21	175,849 250,630	38,668 33,629	121,955 112,872	90,429 98,369	225,000 250,000	16,400 30,000	67,816 64,552
1970 avg.	3,037	6-25	361,883 256,193	32,260 38,310	108,562 112,657	77,017 97,245	361,000 255,000	50,000 39,900	92,889 65,969
1971 avg.	3,729	6-17	373,410 261,775	31,828 38,002	92,778 111,710	99,286 97,347	330,000 259,000	100,000 34,200	100,534 67,615
1972 avg.	3,254	6-4	234,528 260,536	41,300 38,151	134,317 112,738	94,877 97,229	257,000 259,000	13,300 33,300	84,943 68,402
1973 avg.	3,921	6-13	389,570 266,148	37,804 38,136	130,397 113,536	75,502 96,242	333,000 262,000	50,000 34,000	122,933 70,773
1974 avg.	2,640	6-17	333,676 268,962	40,900 38,251	126,688 114,055	107,666 96,738	303,000 264,000	23,000 34,000	124,451 73,010
1975 avg.	2,367 1,986	7-3 6-5	276,161 269,250	45,047 38,523	99,363 113,467	85,567 96,273	260,000 263,540	31,165 33,450	108,253 74,420
1976 avg.	3,852	8-1	211,795 267,040	39,701 38,568	72,545 111,333	117,153 97,076	208,000 261,404	7,010 32,433	91,816 75,089

POUDRE RIVER GAUGED FLOWS
1951 - 1980

<u>AR</u>	<u>PEAK FLOW</u> <u>(cfs)</u>	<u>DATE</u>	<u>VIRGIN</u> <u>RIVER</u> <u>(ac.ft.)</u>	<u>FOREIGN</u> <u>WATER</u> <u>(ac.ft.)</u>	<u>RESERVOIR</u> <u>WATER</u> <u>(ac.ft.)</u>	<u>HORSETOOTH</u> <u>WATER</u> <u>(ac.ft.)</u>	<u>SNOW</u> <u>PACK</u> <u>(ac.ft.)</u>	<u>LOST FOR</u> <u>LACK OF</u> <u>STORAGE SPACE</u> <u>(ac.ft.)</u>	<u>CARRY OVE</u> <u>STORAGE</u> <u>(ac.ft.)</u>
377	1,380	6-7	132,826	32,247	22,627	124,404	80,300	0	67,482
avg.			262,069	38,334		98,088	254,696	31,232	74,807
378	3,080	6-11	328,132	45,634		61,880	263,000	44,250	69,837
avg.			264,428	38,595		96,795	254,993	31,697	74,630
379	3,541	6-17	381,221	33,525	(48,623)	45,030	298,000	151,262	194,900
avg.			268,455	38,420		95,010	256,500	35,820	76,412
380	3,806	6-12	465,492	31,542	21,057	71,920	303,000	302,000	360,402
avg.			275,022						

Source: Poudre River Commissioner

Appendix E
TRANSBASIN DIVERSION AFFECTING THE CACHE LA POUFRE RIVER WILD AND SCENIC STUDY CORRIDOR

Structure	From		To		Ownership
	Stream	County	Stream	County	
NORTH PLATTE RIVER DRAINAGE BASIN TO SOUTH PLATTE RIVER DRAINAGE BASIN					
Bob Creek Ditch	Laramie River	Larimer	Cache la Poudre River	Larimer	City of Greeley
Cameron Pass Ditch	Michigan River	Jackson	Cache la Poudre River	Larimer	Water Supply & Storage Co. (WS&SC)
Columbine Ditch	Laramie River	Larimer	Cache la Poudre River	Larimer	City of Greeley
Laramie-Poudre Tunnel	Laramie River	Larimer	Cache la Poudre River	Larimer	75% WS&SC, 25% Larimer-Weld counties
Skyline Ditch	Laramie River	Larimer	Cache la Poudre River	Larimer	WS&SC
Upper Michigan Ditch	Michigan River	Jackson	Cache la Poudre River	Larimer	City of Fort Collins
Wilson Supply Ditch	Laramie River	Larimer	Cache la Poudre River	Larimer	60% Larimer-Weld counties, 40% North Poudre Irrigation Co.
UPPER COLORADO RIVER DRAINAGE BASIN TO SOUTH PLATTE RIVER DRAINAGE BASIN					
Grand River Ditch	Colorado River	Grand	Cache la Poudre River	Larimer	WS&SC

Source: Bureau of Reclamation, Front Range Unit. Status Report, 1977, p. II-7.

Appendix F
POTENTIAL POWER DEVELOPMENTS
CACHE LA POUDRE

Potential Development	Dam			Reservoir Capacity (ac-ft)	Powerplant	
	Type	Height (feet)	Crest Elev. (feet)		Head (feet)	Installed Capacity (kilowatts)
Hague Dam, Reservoir, and Powerplant (in Wilderness)	earthfill	360	9,915	90,000	726	6,900
Poudre Dam and Reservoir, Mummy Powerplant (in Wilderness)	earthfill	155	9,103	2,300	1,127	30,000
Idylwilde Dam and Reservoir	earthfill	265	7,846	148,500	--	--
Mt. Moriah Dam, Reservoir, and Powerplant	earthfill	143	6,687	5,200	688	14,000
Rustic Diversion Dam (in combination with) Cache la Poudre Forebay and Powerplant	concrete earthfill	15 150	6,930 6,810	5,400	1,170	250,000
Grey Mountain Dam and Reservoir	concrete	368	5,648	260,000	--	--
Pendergrass Dam, Reservoir, and Powerplant (in Wilderness)	concrete	300	7,531	2,000	800	27,500

Source: Bureau of Reclamation, 1962 Reconnaissance Report.

APPENDIX F
Summary of Project Data
Grey Mountain -- Idylwilde Project

Idylwilde Reservoir

Capacity -- 180,000 ac-ft
Active Capacity -- 169,000 ac-ft
Maximum Area -- 1,700 ac
Maximum Stream Inundation -- approx. 7.5 mi
Inactive Capacity -- 11,000 ac-ft
Minimum Pool Area -- 320 ac
Earth and Rock Fill Dam
Dam Height -- 290 ft
Crest Length -- 1,250 ft
Location -- 2 miles downstream from fish rearing unit near Kinnikinnik

Idylwilde Power Plant

Installed Capacity -- 24,000 kW
Average Head on Plant -- 278 ft
Maximum Discharge -- 1,250 cfs
Annual Generation -- 39,700,000 kWh
Plant Factor -- 20.4% on annual basis
26.0% on 5½-day weekly basis

Kinnikinnik Afterbay

Capacity -- 1,000 ac-ft
Dam Height -- 55 ft
Crest Length -- 300 ft
Concrete -- Ogee Crest Overflow Dam
Inactive Capacity -- 150 ac-ft
Surface Area -- 12 ac
Depth -- 20 ft
Active Capacity -- 850 ac-ft
Location -- immediately below Idylwilde Dam

Releases from Afterbay

Average Full-Time Releases -- 250-350 cfs
to 8.5 miles of free-flowing river

Rustic Diversion Dam

Concrete Dam Height -- 15 ft
Sluice Gates for Minimum Flow Releases to River
Summer Releases -- approx. 70 cfs
Winter Releases -- approx. 25 cfs
Location -- lower end of Indian Meadows

Elkhorn Conduit

Total Length -- 11.6 mi
2 Tunnels @ 4.5 mi
Siphon @ Elkhorn Creek -- 1 mi
Low Pressure Conduit -- 1.6 mi
Capacity -- 300 cfs

Cache la Poudre Forebay

Capacity -- 5,400 ac-ft
Active Capacity -- 4,600 ac-ft
Normal Pool Area -- 95 ac
Inactive capacity -- 800 ac-ft
Minimum Pool Area -- 28 ac
Earth and Rock Fill Dam
Height -- 150 ft
Crest Length -- 750 ft
Earth and Rock Fill Dike
Height -- 70 ft
Crest Length -- 450 ft
Location -- 2 miles north of Poudre Park

Cache la Poudre Power Conduit

Pressure Tunnel
Diameter -- 20 ft
Length -- 5,000 ft
Capacity -- 3,000 cfs

Surge Tank

Diameter -- 48 ft
Height -- 160 ft
Location -- Brink of canyon approx. 2 miles downstream of Poudre Park

Penstocks

Number -- 4
Diameter -- 88 in
Length -- 1,500 ft
Total Capacity -- 3,000 cfs

Cache la Poudre Power Plant

Installed Capacity -- 250,000 kW
Design Head -- 1,180 ft
Plant Factor -- 7.2% annual basis
9.2% 5½-day weekly basis
Annual Generation -- 146,800,000 KWH

Grey Mountain Reservoir

Capacity -- 220,000 ac-ft
Active Capacity -- 200,000 ac-ft
Maximum Area -- 1,800 ac
Maximum Stream Inundation
Main River -- 7.5 mi
North Fork -- 6.5 mi
Inactive Capacity -- 20,000 ac-ft
Minimum Area -- 380 ac
Earth and Rock Fill Dam
Dam Height -- 375 ft
Crest Length -- 1,550 ft
Spillway Capacity -- 90,000 cfs
Outlet Capacity -- 4,000 cfs
Minimum Releases
Summer -- 110 cfs
Winter -- 80 cfs
Location -- 2 miles above mouth of canyon

Project Water

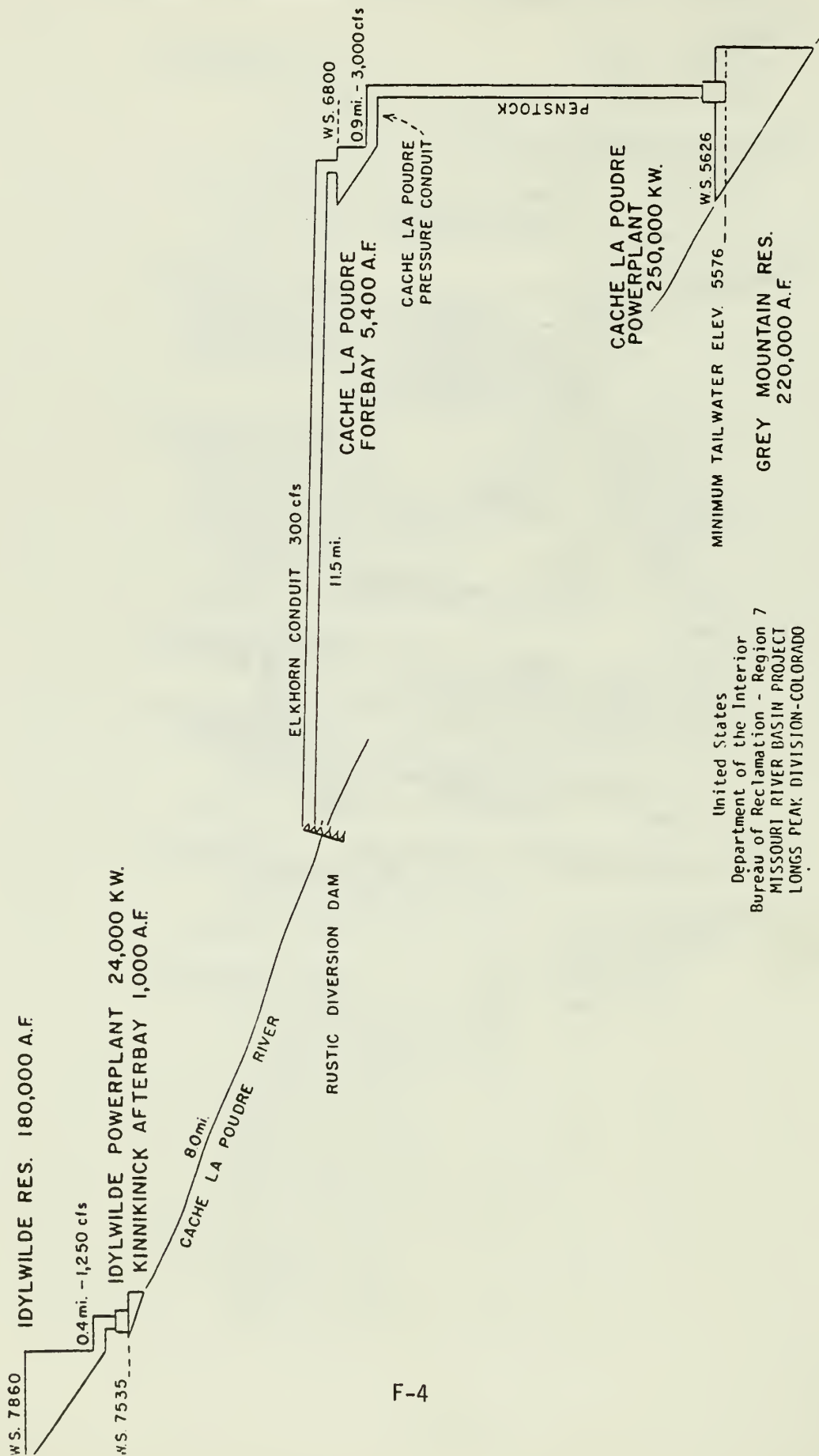
Storage of Surplus Flows --	24,500 ac-ft
Future Increases in Flood Flows --	3,300
Storage Transfer -- Reduced Filling Losses --	4,500
Increase Storage Existing Decreases --	2,400
Total Project	40,800 ac-ft

Possible Allocation to Municipal Use --	16,000 ac-ft
Possible Salable @ Farm Headgates --	12,000
Total	28,000

Estimated Project Cost (1963) -- \$111,108,000
Greeley Report (Dec. 1979 Index) -- \$337,070,000

Benefit/Cost Ratio

1963 USBR -- 1.45
1979 IEEO Report (27)
6.24% Interest -- 1.33
7.125% Interest -- 1.22
9.25% Interest -- 0.98



United States
Department of the Interior
Bureau of Reclamation - Region 7
MISSOURI RIVER BASIN PROJECT
LONGS PEAK DIVISION-COLORADO

CACHE LA POUDRE UNIT POWER SYSTEM PROFILE

AUGUST 1962

206 - 730 - 3

Appendix G

TABLE 5-1

SUMMARY OF BENEFIT/COST ANALYSIS FROM TABLE 27, USBR REPORT

GREY MOUNTAIN-IDYLVILDE PROJECT

ITEM	ESTIMATED COST
<u>Investment</u>	
Project Cost	\$ 111,108,000
Interest During Construction	<u>5,517,000</u>
Total Investment	\$ 116,625,000
<u>Annual Costs</u>	
Equivalent of Investment	\$ 3,562,300
OM&R	<u>655,600</u>
Total Annual Costs	\$ 4,217,900
<u>Annual Benefits</u>	
Municipal and Industrial Water	\$ 417,500
Irrigation	248,600
Power	4,913,000
Flood Control	9,000
Fish and Wildlife	246,000
Recreation	<u>268,000</u>
Total Annual Benefits	\$ 6,102,100
Benefit/Cost Ratio	1.45

Appendix G

TABLE 5-2

REPRODUCTION OF USBR TABLE 31
ALLOCATED COSTS FOR REPAYMENT ANALYSIS

Table 31. -- A Summary of Allocated Costs

Item	Amount
Project Cost	\$ 111,108,000
Repayable Interest During Construction	<u>4,697,000</u>
	\$ 115,805,000
Less Nonreimbursable Allocations:	
Flood Control	\$ 192,000
Fish and Wildlife	5,466,000
Recreation	<u>5,667,000</u>
	11,325,000
Balance Reimbursable	\$ 104,480,000
Interest Bearing Allocations - 2.936%	
Municipal and Industrial Water:	
Project Costs	\$6,244,000
Interest During Construction	<u>310,000</u>
	\$ 6,554,000
Power:	
Project Costs	88,342,000
Interest During Construction	<u>4,387,000</u>
	\$ 92,729,000
Interest-free Allocation - Irrigation	\$ <u>5,197,000</u>
Total	\$ 104,480,000

Appendix G

TABLE 5-3

ECONOMIC EVALUATION
SUMMARY OF BENEFIT/COST ANALYSIS
UPDATED TO DECEMBER 1979

<u>ITEM</u>	<u>A M O U N T \$1000</u>		
	6.25%	7.125%	9.25%
<u>Investment</u>			
Project Cost	337,070	337,070	337,070
Interest During Construction	<u>29,201</u>	<u>33,289</u>	<u>43,217</u>
Total Investment	366,271	370,359	380,287
<u>Annual Cost</u>			
Amortization and Interest	24,050	27,259	35,603
Operation and Maintenance	3,663	3,704	3,803
Replacement Reserve	<u>916</u>	<u>926</u>	<u>951</u>
Total Annual Costs	28,629	31,889	40,357
<u>Annual Benefits</u>			
Municipal & Industrial Water	2,216	2,436	2,974
Irrigation	700	700	700
Power	33,534	33,534	33,534
Flood Control	400	400	400
Fish & Wildlife	790	790	790
Recreation	<u>1,000</u>	<u>1,000</u>	<u>1,000</u>
Total Annual Benefits	38,640	38,860	39,398
Benefit/Cost Ratios	1.33	1.22	0.98

Appendix G

TABLE 5-4

FINANCIAL ANALYSIS
SUMMARY OF INVESTMENT AND ANNUAL COSTS
UPDATED TO DECEMBER 1979
USBR METHOD

<u>ITEM</u>	<u>A M O U N T \$1000</u>		
	6.25%	7.125%	9.25%
Project Cost	\$ 337,070	\$ 337,070	\$ 337,070
Interest During Construction	<u>26,317</u>	<u>30,001</u>	<u>38,949</u>
Total Investment	363,387	367,071	376,019
Less Nonreimbursable Allocations			
Flood Control \$ 583			
Fish and Wildlife 16,583			
Recreation 17,193	<u>34,359</u>	<u>34,359</u>	<u>34,359</u>
Balance Reimbursable	329,028	332,712	341,660
Interest Bearing Allocations			
Municipal and Industrial Water	20,474	20,688	21,208
Power	291,513	294,805	302,799
Irrigation	<u>17,041</u>	<u>17,219</u>	<u>17,653</u>
Total	329,028	332,712	341,660
Annual Costs			
Amortization and Interest	21,604	24,448	31,986
Operation and Maintenance	3,290	3,327	3,417
Replacement Reserve	<u>823</u>	<u>832</u>	<u>854</u>
Total Annual Costs	25,717	28,647	36,527
Annual Power Revenue	33,534	33,534	33,534

APPENDIX H

TABLE 6
PROJECTED SUPPLY REQUIREMENTS

<u>Service Population</u>	<u>Average Demand⁽¹⁾ (Ac-ft/yr)</u>	<u>Average Supply Requirement⁽²⁾ (Ac-ft/yr)</u>
80,000	18,730	28,100
100,000	23,410	35,120
120,000	28,090	42,140
140,000	32,780	49,160
160,000	37,460	56,190
180,000	42,140	63,210
200,000	46,820	70,233

(1) Based on 190 gpcd plus 10% for raw water use on parks, golf courses, etc.

(2) Average Demand x 1.5

Source: Water Supply Alternatives to Meet Future Demands.
Water Utilities Department, City of Fort Collins.
Fort Collins, CO. June, 1980.

TABLE 1
CITY OF FORT COLLINS
HISTORIC TREATED WATER USE FOR 1966-79

YEAR	Service Area Population (1) (1,000)	Total Water Use (Ac-Ft)	Avg. Use Per Person (gpcd)	Annual Precipitation (in.)
1966	37.7	10,491	248	7.34
1967	40.0	8,623	192	21.29
1968	42.2	10,207	216	13.31
1969	45.5	10,330	203	17.71
1970	49.3	11,257	204	14.29
1971	52.9	12,048	203	13.98
1972	58.2	14,007	215	9.91
1973	61.9	14,358	207	14.07
1974	64.3	16,810	233	11.62
1975	67.3	15,186	201	17.07
1976	70.8	15,160	191	10.56
1977	74.5	15,216	182	12.15
1978	78.1	16,426	188	14.91
1979	82.1	14,168	154	22.14

(1) Estimated to be 1.11 x City population.

Source: Water Supply Alternatives to Meet Future Demands. Water Utilities Department, City of Fort Collins. Fort Collins, CO.: June, 1980.

TABLE 2

RAW WATER OWNED BY CITY OF FORT COLLINS

SOURCE	Conversion Factor (Ac-ft/sh)	As of March 1, 1970		As of January 1, 1980	
		Shares	Ac-Ft	Shares	Ac-Ft
<u>AVAILABLE FOR TREATMENT</u>					
Poudre River Direct Flow	--	--	11,300	--	11,300
Joe Wright-Michigan Ditch System	--	--	0	--	4,800
NCWCD (CBT)	.76 (1)	9238	7,000	10,477	8,000
North Poudre Irrigation Co.	5.98 (1)	505.7	3,000	839.75	5,000
Water Supply and Storage Co.	107 x .8	0	0	16.9	1,400
SUBTOTAL			21,300		30,500
<u>OTHER RAW WATER SOURCES</u>					
Arthur Irrigation Co.	3.442	125.2	430	108.2	370
Larimer Co. Canal No. 2	42.687	8.6	370	37.3	1,590
New Mercer Ditch Co.	30.236	8.9	270	18.0	540
Pleasant Valley & Lake Canal Co.	39.74	45.2	1,800	112.0	4,450
Warren Lake Reservoir Co.	10.00 (1)	10.1	100	36.4	360
Mountain & Plains Irrigation Co.	1.72 (1)	31.0	50	0	0
Lake Canal Co.	30.0	0	0	6.0	180
SUBTOTAL			3,020		7,490
TOTAL			24,300		38,000

(1) Approximate Average Yield

Source: Water Supply Alternatives to Meet Future Demands. Water Utilities Department, City of Fort Collins.
Fort Collins, CO. June, 1980.

TABLE 3

WATER STOCK OWNED BY CITY OF FORT COLLINS AS OF JANUARY 1, 1980

DITCH COMPANY	Shares Owned by Fort Collins	No. of Company Shares	Percent Owned by Fort Collins	Conversion Factor (Ac-ft/sh)	Fort Collins Yield (Ac-ft)
Arthur Irrigation Co.	108.20	1493	7.2	3.442 ⁽²⁾	370
Dixon Lateral Ditch Co.	4.8	--	--	--	--
Harmony Lateral Ditch Co.	1.75	--	--	--	--
Horsetooth (NCWCD)	10,477	310,000	3.4	.76 ⁽¹⁾	7,960
Lake Canal Co.	6.0	260	2.3	30.0 ⁽¹⁾	180
Larimer County Canal No.2	37.3312	147	25.4	42.687 ⁽²⁾	1,590
New Mercer Ditch Co.	18.01706	142.47226	12.6	30.236 ⁽²⁾	540
North Poudre Irrigation Co.	839.75	10,000	8.4	5.98 ⁽¹⁾	5,020
Pleasant Valley & Lake Canal	112.01512	262.9088	43.4	39.74 ⁽²⁾	4,450
Sherwood Irrigation Co.	.4375	--	--	--	--
Taylor & Gill Ditch Co.	.0625	--	--	--	--
Warren Lake Reservoir Co.	36.3832	224.6661	16.2	10.0 ⁽²⁾	360
Water Supply & Storage Co.	16.917	600	2.8	107 x .8 ⁽²⁾	1,450

(1) Approximate Average Yield

(2) City Conversion Factor

Source: Water Supply Alternatives to Meet Future Demands. Water Utilities Department, City of Fort Collins.
Fort Collins, CO. June, 1980.

CITY OF GREELEY

ESTIMATED POPULATION AND DEMAND PROJECTIONS

WATER SUPPLY/TREATMENT
FEASIBILITY STUDY

JUNE 1980

Year	Greeley Service Area (People)	Greeley Service Area W/Outside Services (People)	Total System Water Demand		
			Average Day Demand (MGD)	Maximum Day Demand (MGD)	Peak Hour Demand (MGD)
1980	66,162	74,763	20.2	42.8	65.4
1985	80,189	90,614	24.1	51.7	78.9
1990	97,188	109,822	28.8	62.3	95.2
1995	117,790	133,103	34.5	75.1	115.0
2000	142,758	161,317	41.4	90.6	139.0
2005	173,020	195,513	49.8	109.4	168.1
2010	209,697	236,958	59.9	132.3	203.3

NOTE: - MGD = Million Gallons per Day

- Consumption Projections are Based on:
 - Average Day = 245 GPCD
 - Maximum Day = 550 GPCD
 - Peak Hour = 850 GPCD
- Kodak Projected Consumption 1.85 MGD (Million Gallons per Day) is included in above total system water demand.

Source: Water Supply/Treatment Feasibility Study for the City of Greeley.
Arix, Greeley, CO. June, 1980

APPENDIX I.

ECOSYSTEMS CHART

HABITAT	PLAINS		FOOTHILLS		ROCKY MOUNTAIN	
	Sandlands	Claylands			Subalpine	Alpine Tundra
DOMINANT VEGETATION	Sand Blue grass Sand Dropseed Little Bluestem Needleandthread	Blue Grama Buffalo Grass Western Wheatgrass Dryland Sedge	Western Wheatgrass Little Bluestem Needleandthread	Sedges Cinquefoil	June Grass King Fescue Sagebrush Pyrola Loco Weed Lupine Lodgepole Pine Limber Pine	Thurber Fescue Bearded Wheatgrass Kinnikinnik Red Raspberry Canada Buffalo- berry Vaccinium Engelmann Spruce Subalpine Fir
	Prickly Pear Cactus		Blue Grama Mountain Mahogany Ponderosa Pine	Spike Fescue Chokecherry Serviceberry Douglas-Fir Aspen		Tufted Hairgrass Snowball Saxi- frage Alpine Clover Alpine Forget- Me-Not
MAMMALS	Coyote Desert Cottontail Rock Mouse		Badger Coyote Ground squirrels Northern Pocket Gopher White-Tailed Jackrabbit	Albert's Squirrel Black Bear Colorado Chipmunk Mule Deer Porcupine Red Squirrel	Golden Banner	Sedge
				Beaver Elk Black Bear Porcupine Red Squirrel	Marten Red Squirrel Snowshoe Hare	Northern Pocket Gopher Pika Yellow-Bellied Marmot Elk
BIRDS	Cliff Swallow Golden Eagle Magpie Mourning Dove Rufous-Sided Towhee Virginia's Warbler		Buteo hawks Great Horned Owl Horned Lark Meadowlark Nighthawk Rock Wren Say's Phoebe Sparrow Hawk Vesper Sparrow	Merriam's Turkey Pygmy Nuthatch Western Bluebird Downy Woodpecker Hairy Woodpecker Mountain Chickadee Red-Breasted Sapsucker Red-Shafted Flicker Steller's Jay	Blue Grouse Tree Swallow Broad-Tailed Hummingbird Goshawk Gray Jay Hairy Woodpecker Steller's Jay Western Wood Pewee Yellow-Bellied Sapsucker	Blue Grouse Clark's Nutcracker Gray-Headed Junco Pine Grosbeak Steller's Jay White-Crowned Sparrow
						Brown-Capped Rosy Finch Raven Water Pipit White-Tailed Ptarmigan

Source: Bureau of Reclamation. Front Range Unit, Status Report, 1977.

APPENDIX J

List of Common and Scientific Names of Species Usually Found in the Cache la Poudre River Study Corridor

MOLLUSKS

Snails and Slugs (univalves)

CRUSTACEANS

Fairy Shrimp (Order Anostraca)
Water Fleas (Order Cladocera)
Copepods (Order Eucopepoda)
Aquatic Sow Bugs (Order Isopoda: Asellus et al.)
Scuds (Order Amphipoda: Fresh-water shrimp)
Crayfish (Order Decapoda)

FISH

Sockeye Salmon/Kokanee (O. nerka)
Mountain Whitefish (Prosopium williamsoni)
Cutthroat Trout (Salmo clarki)
*Greenback Cutthroat Trout (S. c. stomias)
Rainbow Trout (S. gairdneri)
Brown Trout (S. trutta)
Brook Trout (Salvelinus fontinalis)
Fathead Minnow (Pimephales promelas)
Longnose Dace (Rhinichthys cataractae)
Creek Chub, Northern (Semotilus atromaculatus atromaculatus)
Longnose Sucker, Western (Catostomus catostomus griseus)
White Sucker (Catostomus commersoni)
Mountain Sucker (Pantosteus platyrhynchus)
Arctic Grayling (Thymallus arcticus)

AMPHIBIANS

Barred Tiger Salamander (Ambystoma tigrinum mavortium)
Plains Spadefoot Toad (Spea bombifrons)
Western Toad (Bufo boreas)
Woodhouse Toad, Rocky Mountain (B. woodhousei woodhousei)
Striped Chorus Frog (Pseudacris nigrita maculata)
Mountain Wood Frog (Rana sylvatica cantabrigensis)
Leopard Frog, Western (R. pipiens brachycephala)

*Endangered species

REPTILES

Lesser Earless Lizard (Holbrookia maculata maculata)
Red-Lipped Rock Lizard (Sceloporus undulatus erythrocheilus)
Eastern Short-horned Lizard (Phrynosoma douglassi brevirostre)
Six-lined Racerunner (Cnemidophorus sexlineatus)
Many-lined Skink (Eumeces multivirgatus multivirgatus)
Northern Water Snake (Natrix sipedon sipedon)
Wandering Garter Snake (Thamnophis elegans vagrans)
Western Plains Garter Snake (T. radix haydeni)
Red-sided Garter Snake (T. sirtalis parietalis)
Bull Snake (Pituophis catenifer sayi)
Prairie Rattlesnake (Crotalus viridis viridis)

BIRDS

Common Loon (Gavia immer)
Arctic Loon (Gavia arctica)
Western Grebe (Aechmophorus occidentalis)
Red-necked Grebe (Podiceps grisegena)
Horned Grebe (Podiceps auritus)
Eared Grebe (Podiceps nigricollis)
Pied-billed Grebe (Podilymbus podiceps)
Great Blue Heron (Ardea herodias)
Black-crowned Night Heron (Nycticorax nycticorax)
Yellow-crowned Night Heron (Nyctanassa violacea)
Snowy Egret (Leucophoyx thula)
American Bittern (Botaurus lentiginosus)
Whistling Swan (Olor columbianus)
Ross' Goose (Chen rossii)
Snow Goose/Blue Goose (Chen caerulescens)
White-fronted Goose (Anser albifrons)
Canada Goose (Branta canadensis)
Brant (Branta bernicla)
Black Brant (Branta nigricans)
Mallard (Anas platyrhynchos)
Gadwall (Anas strepera)
European Wigeon (Mareca penelope)
American Wigeon (Mareca americana)
Green-winged Teal (Anas carolinensis)
Blue-winged Teal (Anas discors)
Cinnamon Teal (Anas cyanoptera)
Northern Shoveler/Shoveler (Spatula clypeata)
Pintail (Anas acuta)

BIRDS (continued)

Redhead (Aythya americana)
Canvasback (Aythya valisineria)
Lesser Scaup (Aythya affinis)
Ring-necked Duck (Aythya collaris)
Common Goldeneye (Bucephala clangula)
Barrow's Goldeneye (Bucephala islandica)
Bufflehead (Bucephala albeola)
Ruddy Duck (Oxyura jamaicensis)
Common Merganser (Mergus merganser)
Red-breasted Merganser (Mergus serrator)
Hooded Merganser (Lophodytes cucullatus)
Turkey Vulture (Cathartes aura)
Marsh Hawk (Circus cyaneus)
Sharp-shinned Hawk (Accipiter striatus)
Cooper's Hawk (Accipiter cooperii)
Goshawk (Accipiter gentilis)
Red-tailed Hawk (Buteo jamaicensis)
Swainson's Hawk (Buteo swainsoni)
Broad-winged Hawk (Buteo platypterus)
Rough-legged Hawk (Buteo lagopus)
Ferruginous Hawk (Buteo regalis)
Golden Eagle (Aquila chrysaetos)
Bald Eagle (Haliaeetus leucocephalus)
Gyr Falcon (Falco rusticolus)
Prairie Falcon (Falco mexicanus)
*Peregrine Falcon (Falco peregrinus)
Merlin/Pigeon Hawk (Falco columbarius)
American Kestrel/Sparrow Hawk (Falco sparverius sparverius)
Blue Grouse (Dendragapus obscurus)
White-tailed Ptarmigan (Lagopus leucurus)
Merriam's Turkey (Meleagris gallopavo merriami)
Virginia Rail (Rallus limicola)
Sora (Porzana carolina)
American Coot (Fulica americana)
Black-bellied Plover (Squatarola squatarola)
American Golden Plover (Pluvialis dominica)
Killdeer (Charadrius vociferus)
Semipalmated Plover (Charadrius semipalmatus)
Common Snipe (Capella gallinago)
Stilt Sandpiper (Micropalama himantopus)
Pectoral Sandpiper (Erolia melanotos)
White-rumped Sandpiper (Erolia fuscicollis)
Baird's Sandpiper (Erolia bairdii)
Least Sandpiper (Erolia minutilla)
Semipalmated Sandpiper (Ereunetes pusillus)
Western Sandpiper (Calidris mauri)
Solitary Sandpiper (Tringa solitaria)

*Endangered species

Upland Sandpiper/Upland Plover (Bartramia longicauda)
 Buff-breasted Sandpiper (Tryngites subruficollis)
 Spotted Sandpiper (Actitis macularia)
 Franklin's Gull (Larus pipixcan)
 Forester's Tern (Sterna forsteri)
 Black Tern (Chlidonias niger)
 Band-tailed Pigeon (Columba fasciata)
 Rock Dove (Columba livia)
 Mourning Dove (Zenaidura macroura)
 Long-eared Owl (Asio otus)
 Short-eared Owl (Asio flammeus)
 Screech Owl (Otus asio)
 Great Horned Owl (Bubo virginianus)
 Common Nighthawk (Chordeiles minor)
 Chimney Swift (Chaetura pelagica)
 White-throated Swift (Aeronautes saxatalis)
 Broad-tailed Hummingbird (Selasphorus platycercus)
 Rufous Hummingbird (Selasphorus rufus)
 Calliope Hummingbird (Stellula calliope)
 Belted Kingfisher (Megaceryle alcyon)
 Hairy Woodpecker (Picoides villosus)
 Downy Woodpecker (Picoides pubescens)
 Northern Three-toed Woodpecker (Picoides tridactylus)
 Yellow-bellied Sapsucker (Sphyrapicus varius)
 Williamson's Sapsucker (Sphyrapicus thyroideus)
 Red-headed Woodpecker (Melanerpes erythrocephalus)
 Lewis' Woodpecker (Melanerpes lewis)
 Red-bellied Woodpecker (Centurus carolinus)
 Common Flicker/Red Shafted/Yellow Shafted Flicker (Colaptes auratus)
 Eastern Kingbird (Tyrannus tyrannus)
 Western Kingbird (Tyrannus verticalis)
 Cassin's Kingbird (Tyrannus vociferans)
 Scissor-tailed Flycatcher (Muscivora forficata)
 Olive-sided Flycatcher (Nuttallornis borealis)
 Western Flycatcher (Empidonax difficilis)
 Traill's Flycatcher (Empidonax traillii)
 Least Flycatcher (Empidonax minimus)
 Hammond's Flycatcher (Empidonax hammondi)
 Horned Lark (Eremophila alpestris)
 Cliff Swallow (Petrochelidon pyrrhonota)
 Barn Swallow (Hirundo rustica)
 Bank Swallow (Riparia riparia)
 Rough-winged Swallow (Stelgidopteryx ruficollis)
 Blue Jay (Cyanocitta cristata)
 Steller's Jay (Cyanocitta stelleri)
 Scrub Jay (Aphelocoma coerulescens)
 Gray Jay (Perisoreus canadensis)
 Black-billed Magpie (Pica pica hudsonia)
 Common Raven (Corvus corax)
 Common Crow (Corvus brachyrhynchos)
 Clark's Nutcracker (Nucifraga columbiana)

Pinyon Jay (Gymnorhinus cyanocephalus)
 Black-capped Chickadee (Parus atricapillus)
 Mountain Chickadee (Parus gambeli)
 Bushtit (Psaltiriparus minimus)
 White-breasted Nuthatch (Sitta carolinensis)
 Red-breasted Nuthatch (Sitta canadensis)
 Pygmy Nuthatch (Sitta pygmaea)
 Brown Creeper (Certhia familiaris)
 Dipper (Cinclus mexicanus)
 Rock Wren (Salpinctes obsoletus)
 Canyon Wren (Salpinctes mexicanus)
 House Wren (Troglodytes aedon)
 Winter Wren (Troglodytes troglodytes)
 Long-billed Marsh Wren (Telmatodytes palustris)
 Gray Catbird/Catbird (Dumetella carolinensis)
 Brown Thrasher (Toxostoma rufum)
 Robin (Turdus migratorius)
 Gray-cheeked Thrush (Hylocichla minima)
 Swainson's Thrush (Hylocichla ustulata)
 Hermit Thrush (Hylocichla guttata)
 Varied Thrush (Ixoreus naevius)
 Eastern Bluebird (Sialia sialis)
 Western Bluebird (Sialia mexicana)
 Mountain Bluebird (Sialia currucoides)
 Townsend's Solitaire (Myadestes townsendi)
 Blue-gray Gnatcatcher (Polioptila caerulea)
 Golden-crowned Kinglet (Regulus satrapa)
 Ruby-crowned Kinglet (Regulus calendula)
 Bohemian Waxwing (Bombycilla garrulus)
 Cedar Waxwing (Bombycilla cedrorum)
 Loggerhead Shrike (Lanius ludovicianus)
 Starling (Sturnus vulgaris)
 Red-eyed Vireo (Vireo olivaceus)
 Philadelphia Vireo (Vireo philadelphicus)
 Warbling Vireo (Vireo gilvus)
 Solitary Vireo (Vireo solitarius)
 Bell's Vireo (Vireo bellii)
 Yellow Warbler (Dendroica petechia)
 Black-throated Blue Warbler (Dendroica caerulescens)
 Yellow-breasted Chat (Icteria virens)
 Wilson's Warbler (Wilsonia pusilla)
 America Redstart (Setophaga ruticilla)
 House Sparrow (Passer domesticus)
 Western Meadowlark (Sturnella neglecta)
 Yellow-headed Blackbird (Xanthocephalus xanthocephalus)
 Red-winged Blackbird (Agelaius phoeniceus)
 Evening Grosbeak (Hesperiphona vespertina)
 Pine Grosbeak (Pinicola enucleator)
 Blue Grosbeak (Guiraca caerulea)
 Cassin's Finch (Carpodacus cassinii)
 Brown-capped Rosy Finch (Leucosticte australis)
 Common Redpoll (Acanthis flammea)
 Pine Siskin (Spinus pinus)
 Golden-crowned Sparrow (Zonotrichia atricapilla)
 Dark-eyed Junco/Slate-colored/Oregon (Junco nyemalis)

BIRDS (continued)

Gray-headed Junco (Junco caniceps)
Fox Sparrow (Passerella iliaca)

MAMMALS

Masked Shrew (Sorex cinereus)
Wandering Shrew (S. vagrans obscurus)
Dwarf Shrew (S. nanus)
Water Shrew (S. palustris navigator)
Merriam's Shrew (S. merriami leucogenys)
Pygmy Shrew (Microsorex hoyi montanus)
Least Shrew (Cryptotis parva parva)
Little Brown Bat (Myotis lucifugus carissima)
Long-eared Myotis (M. evotis evotis)
Long-legged Myotis (M. volans interior)
Small-footed Myotis (M. leibii)
Silver-haired Bat (Lasionycteris noctivagans)
Big Brown Bat (Eptesicus fuscus pallidus)
Hoary Bat (Lasiurus cinereus cinereus)
Townsend's Big-eared Bat (Plecotus townsendii pallescens)
Pika (Ochotona princeps)
Eastern Cottontail (Sylvilagus floridanus)
Nuttall's Cottontail (S. nuttallii)
Snowshoe Hare (Lepus americanus bairdii)
Least Chipmunk (Eutamias minimus)
Colorado Chipmunk (E. quadrivittatus)
Uinta Chipmunk (E. umbrinus montanus)
Yellow-bellied Marmot (Marmota flaviventris)
Richardson's Ground Squirrel (Spermophilus richardsonii elegans)
Thirteen-lined Ground Squirrel (S. tridecemlineatus)
Rock Squirrel (S. variegatus grammurus)
Golden-mantled Ground Squirrel (S. lateralis)
Abert's Squirrel (Sciurus aberti)
Chickaree/Red or Pine Squirrel (Tamiasciurus hudsonicus fremonti)
Northern Pocket Gopher (Thomomys talpoides)
Beaver (Castor canadensis concisor)
Deer Mouse (Peromyscus maniculatus)
Rock Mouse (P. difficilis nasutus)
Mexican Woodrat (Neotoma mexicana)
Heather Vole (Phenacomys intermedius intermedius)
Meadow Vole (Microtus pennsylvanicus)
Montane Vole (M. montanus)
Long-tailed Vole (M. longicaudus longicaudus)

MAMMALS (continued)

Muskrat (Ondatra zibethicus)
Meadow Jumping Mouse (Zapus hudsonius prebleii)
Porcupine (Erethizon dorsatum)
Coyote (Canis latrans)
Red Fox (Vulpes vulpes macroura)
Swift Fox (V. velox velox)
Gray Fox (Urocyon cinereoargenteus scottii)
Raccoon (Procyon lotor)
Black Bear (Ursus americanus amblyceps)
Marten (Martes american origenes)
Ermine/Short-tailed Weasel (Mustela erminea muricus)
Long-tailed Weasel (M. frenata)
Mink (M. vison)
Badger (Taxidea taxus)
Spotted Skunk (Spilogale putorius)
Striped Skunk (Mephitis mephitis)
Mountain Lion (Felis concolor hippolestes)
Lynx (Lynx canadensis canadensis)
Bobcat (L. rufus)
Wapiti, Elk (Cervus canadensis nelsoni)
Mule Deer (Odocoileus hemionus hemionus)
White-tailed Deer (O. virginianus)
Bighorn Sheep (Ovis canadensis canadensis)

APPENDIX K

Colorado State University-Pingree Park Campus Proposed Land Exchange with the Roosevelt National Forest

Listed below is only a partial inventory of the lands involved in the Colorado State University-Pingree Park and Roosevelt National Forest Land Exchange. These areas are the ones which are mainly located within or near the boundaries of the Poudre River Wild and Scenic River Study, January 1980. See Map No. 8 on page K-2

OFFERED LAND OWNED BY COLORADO STATE UNIVERSITY

Township 7 North, Range 73 West, 6th P.M.

Section 30

Lot 2 (SW $\frac{1}{4}$ NW $\frac{1}{4}$)	-	43.08 Acres
NE $\frac{1}{4}$ SE $\frac{1}{4}$	-	40.00 Acres
S $\frac{1}{2}$ SE $\frac{1}{4}$	-	80.00 Acres
TOTAL		163.08 Acres

SELECTED LAND OF THE NATIONAL FOREST

Township 7 North, Range 73 West, 6th P.M.

Section 16

NE $\frac{1}{4}$ SW $\frac{1}{4}$	-	40.00 Acres
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Section 17

S $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$	-	20.00 Acres
E $\frac{1}{2}$ SW $\frac{1}{4}$	-	80.00 Acres
W $\frac{1}{2}$ SE $\frac{1}{4}$	-	80.00 Acres
NE $\frac{1}{4}$ SE $\frac{1}{4}$	-	40.00 Acres

Section 20

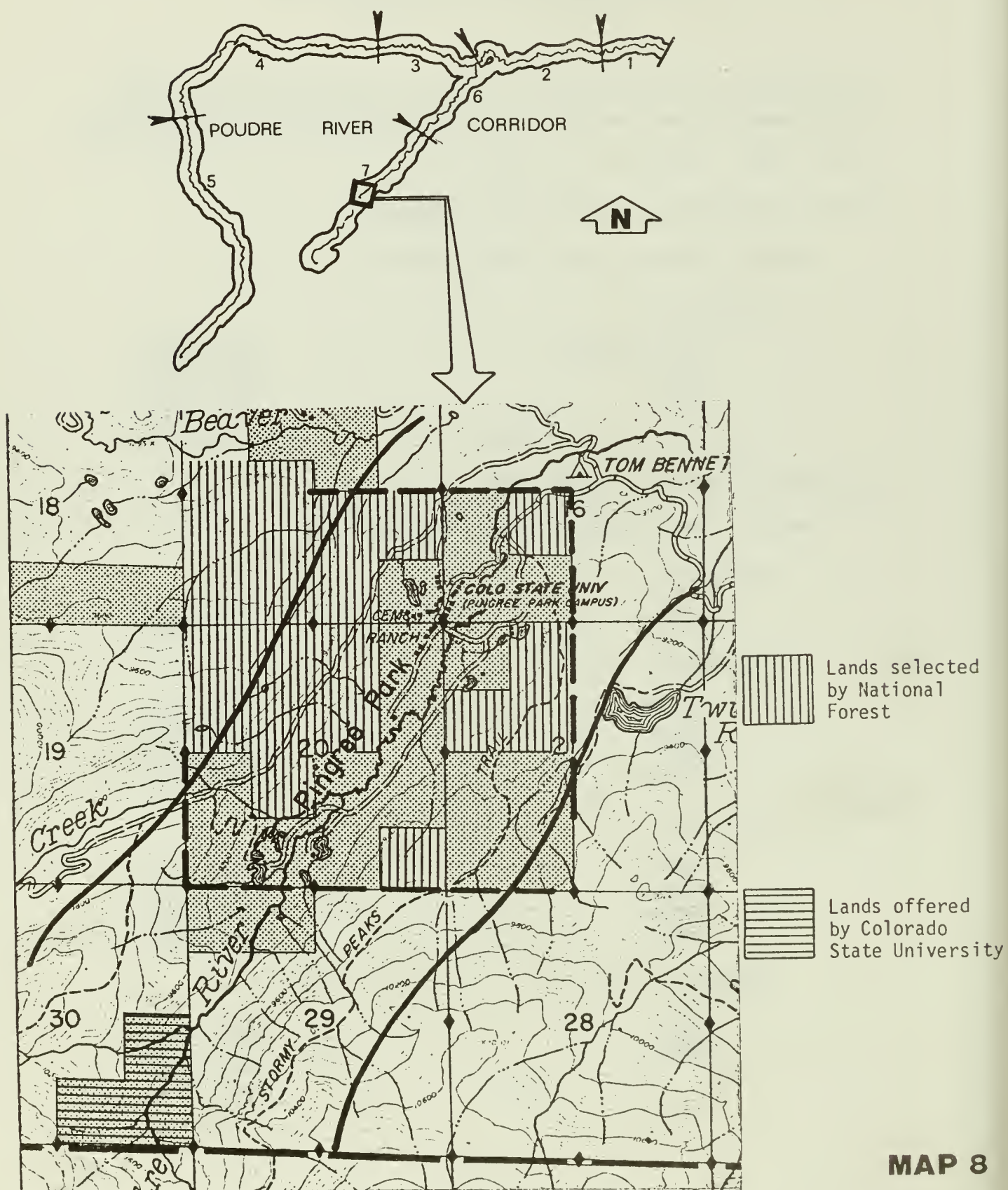
E $\frac{1}{2}$ NW $\frac{1}{4}$	-	80.00 Acres
W $\frac{1}{2}$ NE $\frac{1}{4}$	-	80.00 Acres
NE $\frac{1}{4}$ SW $\frac{1}{4}$	-	40.00 Acres
SE $\frac{1}{4}$ SE $\frac{1}{4}$	-	40.00 Acres

Section 21

E $\frac{1}{2}$ NW $\frac{1}{4}$	-	80.00 Acres
SW $\frac{1}{4}$ NW $\frac{1}{4}$	-	40.00 Acres

TOTAL 620.00 Acres

PROPOSED LAND EXCHANGE OF COLORADO STATE UNIVERSITY AND
THE ROOSEVELT NATIONAL FOREST WITHIN CACHE LA POUDE WILD & SCENIC
RIVER STUDY, 1980



APPENDIX L

Excerpted from: U.S. Department of the Interior. Bureau of Reclamation. Report on Assessment of Small Hydroelectric Development at Existing Facilities. Washington, D. C. July, 1980.

Hydroelectric power is a convenient, efficient, clean, and low-cost source of power and energy which uses a readily available, renewable resource, water.

Hydroelectric powerplants have long been recognized as having a distinct value from the standpoint of power system operation. Hydroelectric units have the ability to start quickly and make rapid changes in power output. Therefore, they are able to accept or reject large blocks of load quickly and also adapt to accept frequent fluctuations in system demand. This ability permits the use of coal- and nuclear-fired units for more uniform parts of the load, which results in all units being used more efficiently. This efficiency allows a more economical system operation by displacing costly petroleum fuels which are needed for thermal powerplants.

There is a large amount of undeveloped hydroelectric power potential in the United States and a large proportion of this potential is in the 17 Western States. The Federal Energy Regulatory Commission reports an estimated 109 million kilowatts of national undeveloped potential. About half of this total is in the 17 Western States.

In view of present environmental and social concerns, further development of major, new, high-head hydroelectric sites which economically may be very attractive is generally considered to be limited. The major role of hydroelectric generation will probably be in the development of pumped-storage plants. These plants are attractive because they could effectively shift thermal generation in a power system from costly on-peak generation using limited oil and natural gas fuel to a low-cost, off-peak generation (for pumping) using abundant coal or nuclear fuel.

As a role for small hydroelectric development has reemerged in recent years, it has received a great deal of consideration. Thermal-electric generation costs have skyrocketed due to escalating fuel costs and higher construction costs that have resulted from environmental controls and safety concerns. Also, small hydroelectric development is generally considered to be less environmentally objectionable than most alternatives and, therefore, more acceptable. This is especially true of small hydroelectric development at existing water resource development facilities.

This report contains the results of an assessment by the Bureau of Reclamation of opportunities to respond to urgent needs for additional electrical power and energy in the west through development of small hydroelectric powerplants at existing Bureau of Reclamation water resource development projects.

A total of 159 potential small hydroelectric developments at existing Bureau projects were evaluated during the study using an iterative

process of analysis and screening. A basic assumption made in the study was that existing reservoir operations and existing flow regimes would remain unchanged with the development. This limits the flexibility of operation of the proposed powerplants in meeting system power and energy needs; however, such development is considered more acceptable from the environmental and social concerns standpoint.

Forty-six sites were identified as economically attractive and economically feasible. These 46 selected sites show a potential capability of 189 megawatts which could produce over 839 million kilowatt hours of energy annually. The estimated cost for developing these sites is \$237,917,000.

A final screening of the 46 sites was based on economic, environmental, social, and acceptability factors. Based on the data available, it was concluded that development of 37 of the 46 sites would result in no significant environmental and social impacts and would be acceptable to and supported by the affected publics.

The results are summarized in Table II and Table III.

Table II. - Economically feasible sites with no significant environmental and social impacts and with high acceptability

ID	Facility	Evaluation factors and conclusions			
		B/C ratio	Environmental rating	Social rating	Acceptability rating
PN 1	Black Canyon Dam	1.16	10	9	9
PN 7	Arthur R. Bowman Dam	1.96	10	9	8
PN 11	Wickiup Dam	1.73	10	9	9
PN 17	Ringold Wasteway	1.77	10	10	9
PN 28	Deschutes Main Canal, Mile 45	1.67	10	9	9
PN 30	Deschutes Main Canal, Mile 46	1.72	10	9	9
PN 36	Cascade Dam	1.88	10	7	5
PN 38	Owyhee Dam	1.55	10	8	9
PN 39	Owyhee Dam, Diversion Tunnel No. 1	1.28	10	8	9
PN 40	Tieton Dam	1.71	8	9	7
PN 41	Cle Elum Dam	1.04	9	9	7
MP 1	Lahontan Dam	1.17	10	10	8
MP 4	Rye Patch Dam	1.23	10	10	8
LC 1	Bartlett Dam	2.25	8	9	7
LC 2	Yuma Main Canal Siphon Drop	2.40	9	10	9
LC 3	Palo Verde Diversion Dam	2.13	9	8	9
LC 4	All American Canal Drop No. 1	1.36	10	10	9
UC 4	Echo Dam	1.95	10	9	9
UC 5	Grand Valley Diversion Dam	1.29	8	10	5
UC 11	Crystal Dam	1.31	9	10	5
UC 15	Starvation Dam	1.18	9	9	8
UC 17	Taylor Park Dam	1.89	10	9	5
UC 25	Collbran Southside Canal, Sta. 171+90	1.43	10	9	8
UC 28	Uncompahgre South Canal, Sta. 19+50	1.28	10	10	6
UC 31	Uncompahgre South Canal, Sta. 106+65	1.15	10	10	7
UC 32	Uncompahgre South Canal, Sta. 181+10	1.13	10	10	7
SW 3	Caballo Dam	1.22	9	10	8
SW 5	El Vado Dam	1.52	9	9	5
UM 5	Clark Canyon Dam	1.84	10	7	9
UM 8	Fresno Dam	1.20	10	9	9
UM 14	Wyoming Canal, Pilot Butte Reservoir	2.10	10	9	9
UM 31	Spring Valley Canal, Sta. 581	1.82	10	8	9
UM 32	Spring Valley Canal, Sta. 677	2.00	10	8	9
LM 1	Merritt Dam	1.33	9	8	10
LM 7	Granby Dam	1.13	8	8	10
LM 9	Pueblo Dam	1.86	8	8	10
LM 11	Guernsey Dam	1.53	10	8	10

Table III. - Economically feasible sites with possible significant environmental or social impacts or low acceptability

ID	Facility	Evaluation factors and conclusions		
		B/C ratio	Environmental rating	Social Acceptability rating
PN 9	Savage Rapids Diversion Dam	2.63	7	8
PN 13	Easton Diversion Dam	1.64	6	9
PN 15	Roza Diversion Dam	2.04	6	9
PN 22	Island Park Dam	1.25	8	9
PN 26	Eltopia Branch Canal, Sta. 241+40	1.53	10	10
UC 18	Vallecito Dam	1.40	7	6
UM 24	Sun River Diversion Dam	1.69	8	5
LM 12	Sugarloaf Dam	2.17	7	8
LM 17	Ruedi Dam	2.32	8	8

APPENDIX M

Scenic Easements

Easements on designated rivers are controversial and often misunderstood. A scenic easement is a purchase of development rights from private landowners in order to retain the scenic qualities of an area. A scenic easement gives the right to regulate some of the uses of land, including the air space above the land, within the authorized boundaries of a component of the Wild and Scenic Rivers System. This regulation is for the specific purpose of protecting the natural qualities of a designated river. The regulation does not affect, however, any regular use exercised prior to the acquisition of the easement, without the owner's consent. The terms of the scenic easement would be negotiated with each landowner so that allowances for proposed compatible developments by landowners would be built into the easements.

The Wild and Scenic Rivers Act contains the authority to condemn, if necessary, to obtain scenic easements. This is permitted to allow full protection of the scenic values of the river that were in existence at the time of designation. Generally, existing land uses and ownership are recognized in managing designated rivers, allowing for a continuity in land use. In the example of the Poudre, developed enclaves within a designated segment would probably continue to develop, consistent with existing values. Development would probably be discouraged outside existing enclaves, using the acquisition of scenic easements, through condemnation if necessary, to achieve the purposes of the Act.

A sample scenic easement deed is included in this appendix.

TITLE 5400 - LANDOWNERSHIP

*-Exhibit 1

Tract No. _____

NATIONAL WILD AND SCENIC RIVERS SYSTEM
EASEMENT DEED

THIS EASEMENT, dated this _____ day of _____, 19____, by and between _____, of _____ (Address) hereinafter called the GRANTOR(S), and the UNITED STATES OF AMERICA, hereinafter called GRANTEE;

WHEREAS, Public Law 90-542 (82 Stat. 906), as amended, provided for the establishment of a Wild and Scenic Rivers System, and designated portions of the _____ River in _____ (State) as a component of the National Wild and Scenic Rivers System to be administered by the Secretary of Agriculture as part of the National Forest System, and

WHEREAS, the Grantor(s) is(are) the owner(s) of certain land in the established boundaries of the _____ River component of the National Wild and Scenic Rivers System, located in _____ County, State of _____, said land being appurtenant to other lands of the Grantee and affecting the public benefits provided by this Federal land, and

WHEREAS, the Grantee, by the United States Department of Agriculture through the Forest Service, or its successors, desires to administer such land pursuant to the Wild and Scenic Rivers Act and the general statutory authorities relating to the National Forest System and to provide for and protect the natural, scenic, recreational and other values for which this river was designated, and to prevent any developments that will tend to mar or detract from these values, and to that end exercise such reasonable controls over the land within the areas described herein as may be necessary to accomplish such objectives.

NOW THEREFORE, the Grantor(s) for and in consideration of the sum of \$_____, the receipt of which is hereby acknowledged, and in further consideration of the covenants herein contained, does hereby grant and convey unto the Grantee and its successors or assigns a perpetual estate and easement in the following described lands:

(Insert description)

- *

TITLE 5400 - LANDOWNERSHIP

*- The acquiring agency is the Forest Service, United States Department of Agriculture.

Grantor and Grantee do hereby covenant and agree for themselves, their heirs, successors, or assigns, that they shall use and restrict the use of the easement area as set forth hereinafter, it being mutually agreed that such use, or restriction thereof, shall run with the land, and be to the benefit of the entire river area and such other lands of the Grantee which are situated within said area by fostering and enhancing the Grantee's goal of preserving the scenic, recreational, and other natural qualities of the _____ Wild and Scenic River area in accordance with Public Law(s) _____.

Section 15(c) of the Wild and Scenic Rivers Act, Public Law 90-542, defines a scenic easement, the interest being acquired herein, as the right to control the use of land (including the air space above such land) within the authorized boundaries of a component of the Wild and Scenic Rivers System for the purpose of protecting the natural qualities of the river area, but such control shall not affect, without the owner's consent, any regular use exercised prior to the acquisition of the easement; accordingly, the regular use(s) of the above described land exercised prior to the acquisition of this easement and not relinquished is(are):

(List specifically, not generally.
It may be appropriate to use a
plat to illustrate existing uses.)

I. USE BY GRANTEE. The Grantee, its authorized representatives and/or assigns, is hereby granted the right to go upon the land described in this easement for the following purposes:

A. To inspect for violations and to administer this easement, including the establishment and maintenance of corners delineating the easement area.

B. At the expense of the grantee, remove or eliminate any advertising displays, signs and billboards, stored or accumulated junk automobiles, and other salvage materials, junk, or debris, which is not permitted by the terms of this easement, and is placed on the above--described land after the date of this easement.

- *

TITLE 5400 - LANDOWNERSHIP

*- C. To mark, cut, and remove any trees and shrubs which in the judgment of the Grantee endanger public safety or detract from the aesthetics of the above-described area, and to plant and selectively cut or prune trees and shrubs to restore or maintain the scenic view and to implement disease prevention measures. The property owner shall be consulted prior to initiation of such operations. Merchantable timber cut by the grantee or its assigns shall be disposed of or sold at the discretion of the grantee.

D. To perform such other scenic, aesthetic, historical, fish and wildlife, sanitation, restoration or other work as, in the opinion of the authorized representative of the Grantee, may be deemed necessary or desirable to protect and promote the natural and recreational qualities of the area. The Grantor shall be consulted prior to initiation of such projects.

E. To post regulatory notices on selected portions of the easement area for purposes of promoting the provisions of this easement and the intent of the Wild and Scenic Rivers Act, and at its discretion to utilize with respect to the public the general statutory authorities relating to the National Forests and Wild and Scenic Rivers in such a manner as it deems appropriate to carry out the purposes of said Act. Nothing in this clause is intended to abrogate the Grantor's right to legally protect his property rights under State law.

Except as noted, activities conducted by the Grantee under the above section shall be at no expense to the Grantor. Nothing herein shall be construed as creating any duty on the part of the Grantee to undertake any of the acts described above.

II. USE BY GRANTORS. In return for the stated consideration, the Grantor assumes the following covenants and restrictions. These covenants and restrictions are imposed upon the occupancy and use of the easement area by the Grantor, his successors or assigns, except that none of these covenants and restrictions shall be deemed or construed as controlling or eliminating any regular use of the land exercised prior to the acquisition of this easement unless such use is acquired by the Grantee. Except as otherwise provided by this easement, the costs of conformance with the terms of part II of this easement shall be borne by the Grantor.

A. The lands within the easement area shall not be used for any professional or commercial activities except such as can be and are in fact conducted from a residential dwelling without exterior alteration of the dwelling.

B. No mining or industrial activity shall be conducted on the lands within the easement area.

TITLE 5400 - LANDOWNERSHIP

*-! C. The Grantors, their heirs and assigns, retain the right to use the easement area for general crop and livestock farming and for limited residential development. Such right shall be subject to the following limitations:

1. Said land shall not be subdivided and sold as smaller tracts.
2. One (1) single-family residence with appropriate accessory structures is the total maximum number authorized for the easement area.
3. No commercial buildings, multifamily residential buildings, or other industrial or commercial structures shall be erected on said land.
4. No trailers, portable structures, or any other nonpermanent low quality, unattractive structures will be constructed or moved into the easement area.
5. No structures allowed herein shall be placed within _____ feet of the river.
6. Adequate provisions for disposal of waste and sewage shall be made to fully comply with applicable State and local regulations for sanitation and water pollution control. In no case shall untreated waste or sewage be discharged into any water or waterway.
7. Structures shall not exceed a height of _____ feet measured the natural grade at the middle of the front of the structure to the highest point of the roof or parapet.
8. Roofs, exterior siding, vent pipes, chimneys and other exterior material and fixtures (except windows) shall be constructed of nonreflective material or painted and maintained with earth-tone colors.

E. There is specifically retained by the Grantor, the right to perform ordinary maintenance on all permitted roads, and structures together with the right to replace, rebuild, or substitute any road, or structure now existing with similar roads, or structures in substantially the same location.

G. No dump of trash, ashes, garbage, sewage, sawdust, or any similar unsightly or offensive material is permitted within the easement area.

- *

TITLE 5400 - LANDOWNERSHIP

*- H. Except as otherwise provided, no signs, billboards, outdoor advertising structures, or advertisement of any kind or nature shall hereafter be erected or maintained within the easement area. One (1) on-premise sign not greater in size than 36 inches by 24 inches may be erected and maintained to advertise the sale, hire, or lease of the property, or to advertise the sale or availability of any goods, products, or services on the land, and one additional sign of the same size may be erected and maintained to designate the owner or the name of the property.

I. No permanent changes in the general topography of the landscape or land surface will be permitted except for those authorized herein or caused by the forces of nature. The Grantor may drill wells, lay, operate, maintain, repair, or remove water and sewer pipelines, conduits, or drains below the surface of the easement area insofar as such activities do not permanently impair or adversely affect the natural beauty of said easement area, and the area is restored to its former natural condition.

J. No trees or shrubs shall be pruned, removed, or destroyed on the land in the easement area except for dead or hazardous trees for reasons of safety. Likewise, seedling trees or seedling shrubbery may be grubbed up or cut down in accordance with good farm practice on lands presently being cultivated or for residential maintenance purposes. Cultivated crops, including orchard fruit and nut trees, may be pruned, sprayed, harvested, and otherwise maintained in accordance with good agricultural practices.

K. Subject to valid existing appropriated water rights, the Grantor may not pump or remove water from the river. Diversion works and ditches will be constructed and maintained in a manner compatible with the preservation of the scenic values of the river. The Grantor may obtain water from wells and ponds in the easement area, consistent with the other provisions of this easement.

L. Archaeological or paleontological explorations may be conducted only by the Grantee or as authorized by a permit from the Secretary of Agriculture or his duly authorized representative. All specimens or materials of archaeological or paleontological interest shall be the property of the United States.

III. PUBLIC ENTRY. The granting of this easement is not intended to permit or in any way give the public the right to enter upon said land for any purpose.

TO HAVE AND TO HOLD the herein described scenic easement and rights unto the Grantee, its successors and assigns, forever. The

-*

TITLE 5400 - LANDOWNERSHIP

*- I said Grantor hereby covenants that he, his heirs, executors, administrators, and assigns, shall warrant and forever defend unto the Grantee, its successors and assigns the quiet and peaceable use and enjoyment of the herein granted easement against the lawful claims and demands of all persons whomsoever. This grant shall be binding upon the Grantor, his heirs, administrators, executors, and assigns, and shall run with and constitute a servitude upon the above--described land.

IN WITNESS WHEREOF, the Grantors have hereunto set their hands on the day and year first above written.

(Signature)
(Typewritten name)

(Signature)
(Typewritten name)

ACKNOWLEDGEMENT

5444 - DISPOSAL. The Federal Land Policy and Management Act of 1976 (P. L. 94-579; 90 Stat. 2743) amended Forest Service exchange authorities by permitting the exchange of partial interests.

Policy concerning the exchange of partial interests can be found in FSM 5430.

- *

APPENDIX N. RESOLUTIONS

RESOLUTION NO. 56-80

WHEREAS, the Board of Directors of Platte River Power Authority ("Platte River"), a political subdivision of Colorado, has heretofore supported the undertaking of necessary studies to determine the feasibility of raw water development projects in the northern Colorado area; and

WHEREAS, adoption of the recommendation of the United States Forest Service that the Cache La Poudre River should be, in major part, designated as wild or recreational under the Wild and Scenic Rivers Act would effectively preclude such studies and hence seems premature; and

WHEREAS, the study supporting the recommendation of the Forest Service appears insufficient in that it did not consider in any meaningful manner the reasonable foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the national wild and scenic river system, as required by statute.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of Platte River that:

(1) The United States Forest Service be requested to withdraw all recommendations as to whether all or any portion of the Cache La Poudre River should be designated under the Wild and Scenic Rivers Act until it completes a full and proper study as required by statute.

(2) That the United States Congress be requested to avoid designation of all or any portion of the Cache La Poudre River for inclusion in the Wild and Scenic Rivers

Act until such full and complete study is completed, comments obtained thereon, and a proper recommendation made.

(3) That the General Manager be authorized and directed to communicate this resolution to the United States Forest Service and to Colorado's congressional delegation.

Adopted: July 3, 1980

Vote: 8-0

RESOLUTION 80-34
OF THE COUNCIL OF THE CITY OF FORT COLLINS
TO ENDORSE THE DESIRABILITY OF AN AREA WATER
RESOURCE FEASIBILITY STUDY

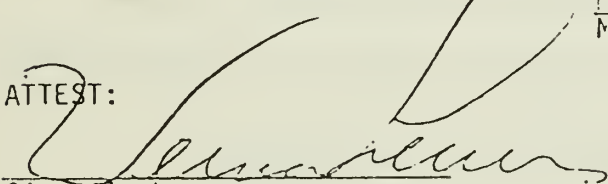
WHEREAS, the Council of the City of Fort Collins has the responsibility to provide an adequate water supply for the benefit of its citizens, recognizes the necessity of maintaining adequate water supplies for the continued prosperity of the area's agricultural community, and is therefore committed to the conservation and preservation of water and to the full and efficient use of the limited supply of water available to this region; and

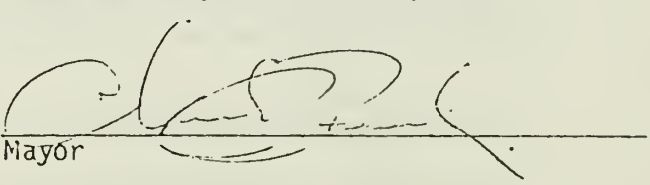
WHEREAS, the City believes that development of adequate and reliable supplies of water for municipal, industrial and agricultural purposes can and should be accomplished in ways that adequately protect the natural environment; and

WHEREAS, the choice between alternative methods of developing water supplies and the reasonable protection of the environment can be accomplished only as a result of careful studies on a regional basis.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF FORT COLLINS to endorse the desirability of an area water resource feasibility study.

Passed and adopted at an adjourned meeting of the City Council held this 25th day of March, A.D. 1980.

ATTEST: 
City Clerk


Mayor

APR 18 1980

April 16, 1980

Mr. Earl Phipps
Northern Colorado Water Conservancy District
1250 N. Wilson
Loveland, Co. 80537

Dear Mr. Phipps:

Northern Colorado is faced with meeting the challenges of continued growth throughout the next few decades and beyond. In order to meet the challenges, we must develop methods of preserving and managing the resources necessary to maintain and sustain our area. Since the resources are limited, management becomes the key ingredient. With that thought in mind, the Loveland Chamber of Commerce supports the implementation of the study to determine the feasibility of the proposed Grey Mountain-Idylwilde Reservoir project.

In our view, this project is vital if we are to provide water and power to meet the needs of individuals, agriculture business and industries in the future. In addition to the necessities, it seems that conservation and recreational opportunities would also be greatly enhanced by the proposed reservoir. We feel that this project would compliment those now in existence and as a result, multiply our resource service capability.

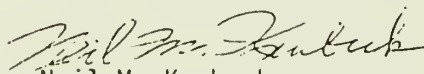
It should further be noted that similar projects, now in existence, are not only serving current needs; but they are paying their own way.

In our view, we must now be as farsighted as were those people who made the decisions on existing projects decades ago that now serve us so well.

We encourage immediate implementation of the feasibility study.

Sincerely,

LOVELAND CHAMBER OF COMMERCE


Neil M. Kruback
President

NMK/hc



R E S O L U T I O N

The Larimer County Water Resources Development Steering Committee of the Larimer County Farm Bureau has sought, and is seeking, the initiation and completion of a feasibility study of the Grey Mountain -- Idylwilde Project on the Cache la Poudre River. This effort is directed towards meeting the perceived needs for additional flood control, water supply, recreational opportunities, and hydroelectric energy production in the Cache la Poudre Valley and adjacent areas in the years ahead. The potential for the water resources of the Cache la Poudre River to meet these needs appears promising. However, that potential cannot be determined with certainty without completing detailed hydrologic, engineering, and environmental studies of the proposed project and its alternatives.

On April 8, 1980, the United States Forest Service released a draft Environmental Impact Statement and Study Report recommending that certain segments of the Cache la Poudre River and its tributaries be designated either wild, scenic, or recreational under the provisions of the Wild and Scenic Rivers Act of 1968 (P. L. 90-542). If the preferred alternative recommended in the report is approved by the United States Congress and the river is so designated, the developments contemplated with the Grey Mountain -- Idylwilde Project would be precluded and the proposed feasibility study would be a waste of money, time, and effort.

BE IT, THEREFORE, RESOLVED, that the responsible officials of the U. S. Forest Service, who must submit the Cache la Poudre Wild and Scenic River Study recommendations to Congress following a 90-day review period from the date of issuance of the report, be requested to delete from its recommendations for designation all of the mainstem of the Cache la Poudre River from Chambers Lake to the eastern boundary of Roosevelt National Forest until the proposed feasibility study for the Grey Mountain Project is completed and a determination has been made as to the feasibility of developing all or a part of the Project.

BE IT FURTHER RESOLVED, that the United States Congress be requested to withhold any designations on the mainstem of the Cache la Poudre River until such determination has been made.

Adopted by unanimous vote of the Larimer County Water Resources Steering Committee of the Larimer County Farm Bureau at a meeting in Fort Collins, Colorado, on April 14, 1980.

Dale F. Peterson, Secretary

Francis A. Bee, Chairman

THE CITY OF GREELEY, COLORADO

RESOLUTION NO. 17, 1980

WHEREAS, the Grey Mountain Project on the Cache la Poudre River was investigated in the early 1960's on a reconnaissance level by the Bureau of Reclamation (Water and Power Resources Service) as a multi-purpose water and hydro-electric power development and a preliminary report thereon was issued, which report concluded that the project should not be pursued further at that time due to the lack of marketability for the hydro-electric production of the proposed project; and

WHEREAS, there is now a growing, near critical, need for additional hydro-electric energy production, water conservation, flood control, river regulation, and development of recreational opportunities in the Northeastern Colorado area; and

WHEREAS, the City of Greeley is faced with the prospect of spending large sums of money to rehabilitate or rebuild Seeman Reservoir on the North fork of the Cache la Poudre River and such expenditures would be unnecessary if the Grey Mountain Project is built; and

WHEREAS, it is the opinion of the City of Greeley that the potential benefits of the Grey Mountain Project to the City of Greeley and other interests in the Northeastern Colorado area are highly desirable; and

WHEREAS, the full extent of the benefits and costs of the Grey Mountain Project cannot be determined with certainty without a full feasibility study of the proposed project.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Greeley that it hereby declares its support of the proposed feasibility study of the Grey Mountain Project on the Cache la Poudre River and urges similar expressions of support by other interests in the Northeastern Colorado area.

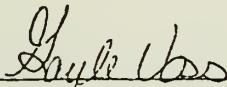
BE IT FURTHER RESOLVED that the funding and accomplishment of such feasibility study be pursued through the auspices of the State of Colorado, the Water and Power Resources Service of the Federal Government, or, if necessary, by a coalition of local interests including the City of Greeley.

BE IT FURTHER RESOLVED that Colorado's Congressional delegation in the United States Congress be urged to amend or delete as necessary any Wilderness or Wild and Scenic River designations for areas of National Forest lands or Bureau of Land Management lands which have been or may be proposed for such designation within or immediately adjacent to any potential site of the proposed Grey Mountain Project facilities.

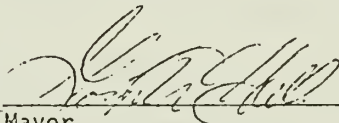
Dated this 4th day of March, 1980.

ATTEST:

THE CITY OF GREELEY, COLORADO

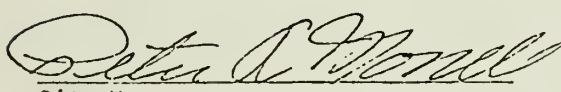


City Clerk

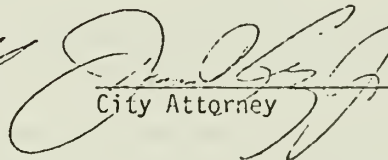
By 

Mayor

APPROVED:



City Manager



City Attorney

RESOLUTION

WHEREAS: It is well known that each year thousands of acre feet of water is lost to the State of Colorado, particularly at the time of spring and early summer run-off of snow melt, and during periods of flooding due to heavy rains in the mountainous areas. This fact is well documented along the eastern front range and is a fact of life within the South Platte drainage basin. From the South Platte River Basin great quantities of water are known to cross the Colorado state line and flow into Nebraska and beyond, and

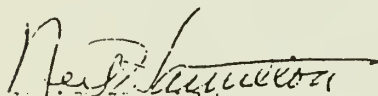
WHEREAS: The eastern plains of Colorado are classified as being semi-arid and, many years are in need of additional sources of water to fulfill requirements for water for agriculture, and cities and its industrial segment of East Slope economy, and

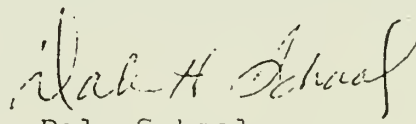
WHEREAS: There are now feasibility studies under way to determine whether or not a project known as Gray Mountain will or will not capture and retain up to 400,000 acre feet of waters, which might have been lost to Colorado water users, should or should not be considered as a viable project. Said project is to be located within the Poudre River drainage, and

WHEREAS: It is also known that studies have been underway for quite some time by the U.S. Forest Service, U.S.D.A., which are designed to designate and classify the Poudre River as a Wild and Scenic area. Such classification will prevent and halt any and all water and power resource study and/or development within the designated areas. Projected studies show growth and resultant need for water and power resources within the foreseeable future, to be far in excess of any presently planned power and water projects presently under consideration, and

WHEREAS: Said Gray Mountain Reservoir will be of great value to vast numbers of people as a place for sports and recreation and as a source of hydro-electric power and energy production.

BE IT THEREFORE: Be is resolved at this annual meeting of The Thompson Water Users Association annual meeting held the 10th day of April 1980, in Loveland, Colorado that The Thompson Water Users Association is wholly in favor of such a study and hereby submits its support and urges that said feasibility study proceed without unnecessary delay, and urges that the Wild and Scenic Rivers classification for the Poudre River be held in abeyance until such time as Gray Mountain studies are finalized and intelligent decisions can be made.


Neil Hamilton
Chairman


Dale Schaal
Vice-Chairman

Elmer Stroh
Sec'y-Treas.



410 E. 5th Street
LOVELAND • COLORADO

80537 • (303) 667-6130

March 13, 1980

Mr. Earl Phipps, Sec./Treas.
Northern Colorado Water Conservancy District
P. O. Box 679
Loveland, CO 80537

Dear Earl:

The City of Loveland has recently been contacted by the Larimer County Farm Bureau in connection with the performance of a study upon a project to be known as the Grey Mountain-Idlewild dams and hydro-electric power plants, to be located on the Cache La Poudre River.

By action of the City Council taken at the March 4, 1980 meeting, I am authorized to inform you that the City Council believes that there may be a need for multi-purpose water and hydro-electric power plant development to supply energy and water resources in the north-eastern Colorado area. The City Council further expressed its desire to provide, by this letter, an expression of their belief that a feasibility study and environmental impact analysis of the above mentioned project should be undertaken to determine its desirability for the northwestern Colorado area.

Sincerely,

Harold O. Kester
Mayor

HOK/sm

APR 7 1980

CACHE LA POUFRE WATER USERS ASSOCIATION
Box 206
Eaton, Colorado 80615

March 21, 1980

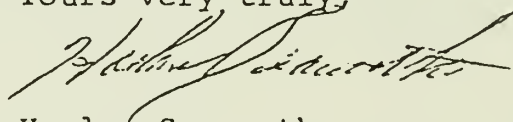
Re: Resolution of the Cache-La Poudre Water
Users Association Supporting the Gray
Mountain-Idylwilde Feasibility Study

We thought you would be interested in receiving a copy of a resolution recently adopted by the Cache La Poudre Water Users Association, acting through its Board of Directors, again fully supporting the necessary feasibility studies for the proposed Gray Mountain-Idylwilde project.

It is rapidly dawning on all of us who are concerned with the future of Colorado that waters in excess of our state's compact requirements are annually flowing out of this state without being used, and this is, from the standpoint of Coloradans and in its classic sense, a waste of water.

It is abundantly evident that we must increase our capability to capture and store water and to use water more efficiently. The Cache La Poudre Water Users Association, a large and active organization that has been involved with water matters over a great many years, fully recognizes this, and has again renewed its support for funding of necessary feasibility studies of the proposed Gray Mountain-Idylwilde project on the Cache La Poudre River. A complete text of the resolution is attached.

Yours very truly,



Harlan Seaworth
President, Cache La Poudre
Water Users Association

HS:sh

WHEREAS the Cache La Poudre Water Users Association is a voluntary organization whose membership includes all mutual ditch and irrigation companies diverting from the Cache La Poudre River, as well as other entities concerned with water matters in the Cache La Poudre watershed, including the cities of Fort Collins and Greeley, various water districts, Kodak-Colorado, the State Board of Agriculture, and underground water users associations; and

WHEREAS the Association and its members are vitally concerned with all aspects of water, including maximizing to the greatest extent possible the ability of water users to make full and efficient use of the limited supply of water which nature provides; and

WHEREAS the members of this Association are fully aware that the continued prosperity of this region is inseparably tied to a continuing adequate and reliable supply of water, which can be achieved only through the development of an increased capability for the storage of water; and

WHEREAS this Association further recognizes that the increasing electrical energy demand of this area can be met in part through hydroelectric power generated when stored water is released; and

WHEREAS this Association is convinced that the proposed "Gray Mountain - Idylwilde" project would provide much-needed water storage capability, would produce hydroelectric power, and would permit greater flexibility in the use of stored water within the Cache La Poudre basin, all in a manner compatible with reasonable concerns for the environment.

NOW, THEREFORE, BE IT RESOLVED that this Association renews its endorsement for the funding of all necessary studies to determine the feasibility of said Gray Mountain - Idylwilde project, that such studies be completed as quickly as time permits, and

BE IT FURTHER RESOLVED that pending completion of required feasibility studies, no portion of the Cache La Poudre River be designated as a wild, scenic or recreational river under the "Wild and Scenic Rivers Act" (P.L. 92-542), if such designation would in any manner preclude or hinder the ultimate development of the Gray Mountain - Idylwilde project.

CACHE LA POUDRE WATER USERS ASSOCIATION

By *Ray C. Jensen*
Vice President

ATTEST:

By *Donna E. Engel*
Secretary

RESOLUTION

Be it unanimously resolved by the Board of Trustees of The Town of Wellington at a regular meeting in Wellington, Colorado on March 11, 1980 as follows:

1. That the Town of Wellington recommends that money be spent on a feasibility study for water and power development on Cache La Poudre River specifically including the possible Grey Mountain Reservoir site.

2. That this study should be promptly completed before any action is taken on any request to designate the Cache La Poudre River as a wild and scenic river.

3. That a copy of this resolution shall be forwarded to United States Senators Gary Hart and William Armstrong; Congressman James Johnson and the United States Water and Power Resources Service, formerly Bureau of Reclamation, Lower Missouri Region.

Dated: March 11, 1980.

ATTEST:

Janice Janice

TOWN OF WELLINGTON

Phil H. Cyert
By: President

FISCHER, BROWN, HUDDLESON AND GUNN

ATTORNEYS AT LAW

ELEVENTH FLOOR, FIRST NATIONAL TOWER POST OFFICE DRAWER J

FORT COLLINS, COLORADO 80522

AREA CODE 303/482 1056

REC'D
MAY 23 1980
MAY 23 1980

WARD H. FISCHER
WILLIAM H. BROWN
CHAS. R. HUDDLESON
WILLIAM C. GUNN
STEVEN B. RAY

W. PAUL ECKMAN

May 20, 1980

TO SELECTED INTERESTED PARTIES:

SUBJECT: Resolutions of the Cache La Poudre Water Users Association.

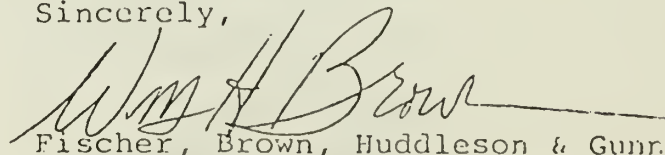
The Cache La Poudre Water Users Association is a voluntary non-profit organization. All major water users on the Cache La Poudre River are members. The membership make-up includes municipalities, industries, mutual irrigation companies and underground water users associations.

Earlier, the Cache La Poudre Water Users Association has gone on record in support of the proposed feasibility study for the "Grey Mountain-Idlywilde" water development project, as well as for other potential projects in the Cache La Poudre watershed.

By recent action of the Board of Directors of the Association, it has adopted two follow-up resolutions. The first addresses the recent recommendation that the Cache La Poudre River be designated in great part as a "wild" or a "recreational" river and urges that such designation not be made at least until completion of necessary feasibility studies.

The second resolution calls upon the Northern Colorado Water Conservancy District to assume the lead role in implementation of feasibility studies. Both resolutions are fully set forth as attachments to this letter.

Sincerely,



Fischer, Brown, Huddleson & Gunn.
BY: William H. Brown
Attorneys for the Cache La Poudre
Water Users Association

WHB:ad
Attachment

RESOLUTION

RE: FEASIBILITY STUDY OF WATER RESOURCE DEVELOPMENT POTENTIAL
ON THE POUDBRE RIVER.

WHEREAS, the Board of County Commissioners of Weld County, Colorado, pursuant to Colorado statute and the Weld County Home Rule Charter, is vested with the authority of administering the affairs of Weld County, Colorado, and

WHEREAS, the Board of County Commissioners recognizes that the State of Colorado loses water each year to other states due to the lack of adequate water storage facilities, and

WHEREAS, a 1963 study determined that development and hydro-power generation on the Poudre River was not feasible because of the lack of a market for the power, and

WHEREAS, it appears that circumstances have changed and a demand now exists for electrical power which could be generated, and

WHEREAS, the Water and Power Resource Service has the capability of providing for a study of the feasibility of a Poudre River development and hydro-power complex study.

NOW, THEREFORE, BE IT RESOLVED that the Board of County Commissioners of Weld County, Colorado supports a study being undertaken on the feasibility of development and hydro-power generation on the Poudre River and encourages the Regional Director of Water and Power Resource Service to consider such a study.

The above and foregoing Resolution was, on motion duly made and seconded, adopted by the following vote on the 5th day of March, A.D., 1980.

ATTEST:

May Ann Frederick
Weld County Clerk and Recorder
and-Clerk to the Board

By:

James H. Carlson
Deputy County Clerk

APPROVED AS TO FORM:

Norm O. Dale
County Attorney

BOARD OF COUNTY COMMISSIONERS
WELD COUNTY, COLORADO

C. W. Kirby
C. W. Kirby, Chairman

Leonard L. Roe
Leonard L. Roe, Pro-Tem

Norman Carlson
Norman Carlson

Lydia Dunbar
Lydia Dunbar

June K. Steinmark
June K. Steinmark

DATE PRESENTED: MARCH 5, 1980

RESOLUTION

Be it unanimously resolved by the Board of Directors of The North Poudre Irrigation company at a regular meeting in Wellington, Colorado on Wednesday, March 5, 1980 as follows:

1. That The North Poudre Irrigation Company recommends that money be spent on a feasibility study for water and power development on Cache La Poudre River specifically including the possible Grey Mountain Reservoir site.

2. That this study should be promptly completed before any action is taken on any request to designate the Cache La Poudre River as a wild and scenic river.

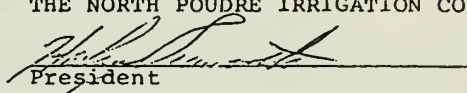
3. That a copy of this resolution shall be forwarded to United States Senators Gary Hart and William Armstrong; Congressman James Johnson and the United States Water and Power Resources Service, formerly Bureau of Reclamation, Lower Missouri Region.

Dated: March 5, 1980.

ATTEST:


Secretary/Manager

THE NORTH POUDRE IRRIGATION CO.


President

NORTHERN COLORADO WATER CONSERVANCY DISTRICT

D-745-3-80

R E S O L U T I O N

WHEREAS, the dynamic growth and urbanization which has and is occurring along the Northern Front-Range area within the boundaries of Northern Colorado Water Conservancy District has created near critical needs for additional water supplies, electric energy, and recreational opportunities; and,

WHEREAS, a Feasibility Study has been proposed for the Grey Mountain Project on the Cache la Poudre River and said project is a multi-purpose water and power project that potentially can provide substantial public benefits in water conservation, flood control, hydroelectric energy production, river regulation, and development of recreational opportunities for the area affected; and,

WHEREAS, the benefits and costs of the Grey Mountain Project cannot be determined to their full extent without a full Feasibility Study of the proposed project.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Directors of Northern Colorado Water Conservancy District, that it fully supports the proposed Feasibility Study of the Grey Mountain Project and recommends that the funding and completion of the Feasibility Study be pursued by the State of Colorado, the Water and Power Resources Service of the United States Department of the Interior, or by such other local or regional interests as may have that capability.

BE IT FURTHER RESOLVED, that this Board urge the Federal Departments of Government charged with analyzing and recommending to Congress Wilderness or Wild and Scenic River designations exclude from any such designations any lands within or immediately adjacent to any portion of the potential facilities of the Grey Mountain Project.

C E R T I F I C A T E

I, E. F. Phipps do hereby certify that the above is a true and correct copy of a Resolution unanimously adopted by the Board of Directors of the Northern Colorado Water Conservancy District at a regular meeting of said Board held in Loveland, Colorado, on March 14, 1980.



Secretary

March 26, 1980

Larimer County Farm Bureau
335 E. Mountain Ave.
Fort Collins, CO 80524

Re: Grey Mountain Committee - Francis Bee, Chairman

Directors of The Consolidated Home Supply Ditch & Reservoir Co. enthusiastically support the proposed feasibility study of the Grey Mountain Project on the Poudre River. The desirability of creating more high altitude water storage facilities becomes increasingly apparent with each passing year.

As regional cities, rural water districts, industries and power companies find it necessary to acquire more and more CBF project water, added to their respective increasing ownership of irrigation company water rights, the more our upstream water flows will be depleted. Return flows as they occur will effect the streams ever further down stream.

It has long been known that the further up stream the surplus waters can be stored, the greater the benefits from return flow re-use. The best possible way to minimize the effects of periodic drouths and occasional flooding is to capture the water during surplus years for use during years of water shortage.

Significant power revenues from the proposed Grey Mountain project is a feature almost as important as is the assured water supply and flood protection which the new Poudre reservoirs will provide. Hydro-electric power is the only major energy source that actually improves the environment. Water released from hydro plants contain less sediment and more oxygen than does river water above such plants.

It may be true that selective recreation afforded a few people might be effected. The proposed new reservoirs will provide recreation possibilities for thousands who could not previously enjoy such privileges.

The potential new water supply for this portion of the Front Range, coupled with flood protection, critically needed future

Larimer County Farm Bureau
page 2

electric power and a new recreation area all combine to make of the Grey Mountain project an undertaking which is needed and which will prove to be an intelligent investment in the future of Larimer and Weld counties and the folks who live here.

Sincerely,

W. R. Keirnes

W. R. Keirnes, Secretary
THE CONSOLIDATED IRRIGATION SUPPLY DITCH
AND RESERVOIR COMPANY

WRK/gk

c.c. Earl Phipps

HILL AND HILL
ATTORNEYS AT LAW
A PROFESSIONAL CORPORATION
FORT COLLINS, COLORADO 80522

ALDEN T. HILL
ALDEN V. HILL
STEPHEN J. LAUER
CHARLES S. UNFUG

P. O. BOX 421
160 WEST MOUNTAIN AVE.
TELEPHONE 482-3683

June 6, 1980

Honorable Gary Hart
United States Senator
Senate Office Bldg.
Washington, D.C. 20013

Honorable William Armstrong
United States Senator
Senate Office Bldg.
Washington, D.C. 20013

Honorable James Johnson
United States Representative
Room 514
Cannon House Bldg.
Washington, D.C. 20515

Honorable Richard Lamm
Governor, State of Colorado
State Capital Bldg.
Denver, CO. 80203

Colorado Water Conservation Eoard
1250 N. Wilson Avenue
Loveland, CO 80537

Gentlemen:

On behlaf of The North Poudre Irrigation Company,
we enclose a Resolution dated June 4, 1980, pertaining to a
study on the Cache La Poudre River.

We would appreciate your favorable consideration.

Very truly yours,

Alden V. Hill

Alden V. Hill

AVH:ns
Enclosure

RESOLUTION

The Larimer County Farm Bureau, through its water resources development steering committee, has sought and is seeking, initiation and completion of the feasibility of the Grey Mountain-Idylwild Project on the Cache La Poudre River. The project is being studied as a means of meeting the needs of this growing area of the front range for additional flood control, water supply, hydro-electric energy production, and recreational opportunities. Although the potential of the water resources of the Cache La Poudre River to meet these needs appears promising, detailed hydraulic, engineering, and environmental studies of the proposed project and its alternative are necessary to determine with certainty, the extent of that potential.

The United States Forest Service released on April 8, 1980, a draft Environmental Impact Statement and study report which recommended that certain segments of the Cache La Poudre River and its tributaries be designated either wild, scenic, or recreational under the provisions of the Wild and Scenic Rivers Act of 1968. (PL90-542) The Grey Mountain-Idylwild Project would be totally precluded if the preferred alternative recommended in the report is approved by the U. S. Congress and the river is so designated; in such a case, the feasibility study sought would be a waste of money, time, and effort.

THEREFORE, BE IT RESOLVED: That the officials of the U. S. Forest Service who must submit the Cache La Poudre Wild and Scenic River recommendations to Congress, following a ninety (90) day review period from the date of issuance of the report, be requested to delete from recommendations of

such report the designation of all of the main stream of the Cache La Poudre River from Chambers Lake to the eastern boundary of Roosevelt National Forest until the proposed feasibility study for the Grey Mountain Project is completed and the feasibility of developing all or part of the project is fully determined.

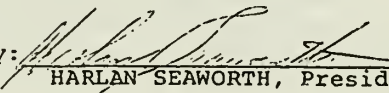
BE IT FURTHER RESOLVED: That the same request be made of the United States Congress, through delivering to the following United States Senators and Congressman a copy of this Resolution: (Copies are also sent to Governor and Conservation Board).

SENATOR GARY HART
SENATOR WILLIAM ARMSTRONG
CONGRESSMAN JAMES JOHNSON
GOVERNOR RICHARD LAMM
COLORADO WATER CONSERVATION BOARD

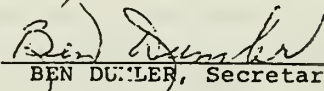
Adopted by unanimous vote of The North Poudre Irrigation Company, Board of Directors, at a meeting in Fort Collins, Colorado on June 4, 1980.

THE NORTH POUDRE IRRIGATION COMPANY

By:


HARLAN SEAWORTH, President

By:


BEN DOOLER, Secretary

RESOLUTION

WHEREAS the Cache La Poudre Water Users Association is a non-profit corporation whose members include all of the major water users on the Cache La Poudre River, including major mutual irrigation companies, industries, municipalities, water districts, and underground water users associations; and

WHEREAS the Association is convinced that it is essential, in order to preserve the viability of our region's agricultural economy and to provide for the needs of future generations who will live in the Cache La Poudre Basin, that an adequate supply of water be insured and

WHEREAS this Association believes that such assurance can only be achieved if we identify and plan for our future needs now, and

WHEREAS this Association, in keeping with its beliefs, has heretofore endorsed the funding of necessary feasibility studies for the "Gray Mountain-Idylwilde" project, and

WHEREAS this Association further supports and endorses a feasibility study of the entire water development potential of the Cache La Poudre River and its tributaries, believing that such a study is an essential first step in developing the necessary storage capabilities so vital to our continued well-being, and

WHEREAS the United States Department of Agriculture, Forest Service, has recently released a Draft Environmental Impact Statement and Study Report pertaining to the upper 74 miles of the Cache La Poudre River, under the "Wild and Scenic Rivers Act" (P.L. 92-542); and

WHEREAS the recommendations in said study would, if adopted by Congress, preclude the construction of any projects for the purposes of water storage, flood control, and the generation of hydroelectricity in all but a 5-mile segment near the mouth of the river's canyon; and

WHEREAS the existence of this report jeopardizes the ultimate beneficial development of the river, and approval of the recommendations contained in the report by the United States Congress would render feasibility studies an exercise in futility.

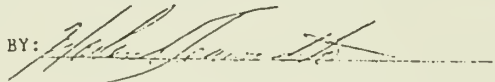
NOW, THEREFORE, BE IT RESOLVED that the Forest Service reconsider its recommendations in light of the devastating repercussions they would have if adopted, and further urges the Forest Service to recommend to Congress that no part of the Cache La Poudre River be designated as wild, scenic or recreational under the Wild and Scenic Rivers Act until such time as proposed feasibility studies have been completed and determinations regarding the most appropriate development of storage, flood control and hydroelectric facilities have been made.

BE IT FURTHER RESOLVED that the Congress of the United States not designate any portion of the Cache La Poudre River as a wild, scenic or recreational river until these steps have been accomplished.

BE IT FURTHER RESOLVED that a copy of this resolution be made available to the United States Department of Agriculture, Forest Service; to the Colorado Department of Natural Resources, Colorado Water Conservation Board; to the Colorado Water Congress, and to Colorado's Congressional delegation.

ADOPTED by the Cache La Poudre Water Users Association, by and through its Board of Directors, on May 19, 1980.

CACHE LA POUDRE WATER USERS ASSOCIATION

BY: 

ATTEST:

BY: 
Secretary

RESOLUTION

WHEREAS the Cache La Poudre Water Users Association endorses and supports the undertaking and completion of an appropriate study to determine the feasibility of the proposed "Gray Mountain-Idylwilde" water storage-flood control-hydroelectric project, as well as necessary studies to determine other appropriate and viable projects which would result in increasing the availability of water in the Cache La Poudre Basin; and

WHEREAS the Northern Colorado Water Conservancy District is presently in existence and has the expertise and capability to take the lead role in sponsoring and bringing about such studies;

NOW, THEREFORE, BE IT RESOLVED that the Cache La Poudre Water Users Association hereby urges the Northern Colorado Water Conservancy District to accept the responsibility of coordinating, managing and taking all other steps to bring about such studies as may be necessary to determine the feasibility of the Gray Mountain-Idylwilde project as well as other water storage-flood control-hydroelectric projects in the Cache La Poudre River Basin, and

BE IT FURTHER RESOLVED that this Association and its constituent members assist in all appropriate ways said District in the development and completion of such studies.

ADOPTED by the Cache La Poudre Water Users Association, by and through its Board of Directors, on May 19, 1980.

CACHE LA POUDRE WATER USERS ASSOCIATION

BY: 

ATTEST:

BY: 
Secretary

WELD COUNTY FARM BUREAU

1962 2 2 1962



Member of Colorado Farm Bureau

2205 First Avenue, ~~Denver, Colorado~~

GREELEY, COLORADO 80631

Weld County Farm Bureau has become increasingly aware of the possibility of inadequate recreation and flood control facilities on the Cache La Poudre River, as well as insufficient water and energy supplies, in the years ahead.

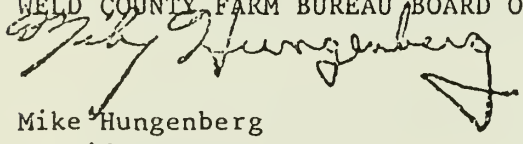
Since the vital functions of the nation depend on an adequate supply of energy, we are also greatly concerned about the cost and availability of clean, renewable, hydro-electric power in the future as well as at the present time.

Be it resolved: Since Farm Bureau is not in a position to fully implement and supervise a feasibility study of the Grey Mountain-Idylwild dams and hydro-electric projects and a comprehensive study of the alternatives to water storage facilities on the Poudre River,

We do hereby respectfully request the Northern Colorado Water Conservancy District to be the agent to implement such a feasibility study and the environmental assessment of any proposed action necessary to support the study.

Weld County Farm Bureau is eager to assist and cooperate with the District as well as other agencies, organizations and individuals to bring this study to completion.

WELD COUNTY FARM BUREAU BOARD OF DIRECTORS


Mike Hungenberg
President, WCFB

POLICY RESOLUTION

The steady growth of the population of Larimer County in the past few years has brought to the attention of The North Poudre Irrigation Company the probability that existing recreation and flood control facilities on the Cache La Poudre River as well as supplies of water and energy will prove totally insufficient for the needs of the area in the years to come.

Further, since our nation at this time is seeking to improve the utilization of domestic energy resources, we are concerned that the use of low cost, clean, renewable hydro-electric power be promoted, both now and in the future.

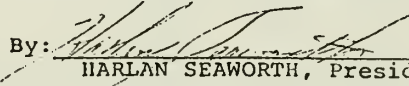
Therefore, be it resolved: The North Poudre Irrigation Company, because it is not in a position itself to fund, implement, or supervise a feasibility study of the Grey Mountain-Idylwild Dams and hydro-electric projects together with a comprehensive study of the alternatives to water storage facilities on the Poudre River hereby requests The Northern Colorado Water Conservancy District to implement such a feasibility study and to undertake the necessary environmental assessment of any proposed action.

The North Poudre Irrigation Company desires to assist in this effort and intends to provide its cooperation to the District and any other individual, organization, or agency working to complete this study.

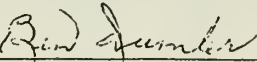
THE NORTH POUDE IRRIGATION COMPANY

Signed June 4, 1980

By:


HARLAN SEAWORTH, President

By:


BEN DUMLER, Secretary

RESOLUTION

Resolution 7-22 1680
4-9-80
30-151

WHEREAS, THE BOARD OF COUNTY COMMISSIONERS RECOGNIZES THE NEED FOR ADEQUATE WATER SUPPLIES FOR MUNICIPAL, INDUSTRIAL AND AGRICULTURAL PURPOSES; AND

WHEREAS, THE STATE OF COLORADO AND LARIMER COUNTY MAY LOSE MANY ACRE-FEET OF WATER EACH YEAR TO OTHER STATES DUE TO A LACK OF ADEQUATE WATER STORAGE FACILITIES; AND

WHEREAS, NATION-WIDE CONCERN HAS BEEN EXPRESSED ABOUT THE CONTINUED VIABILITY OF AGRICULTURE; AND

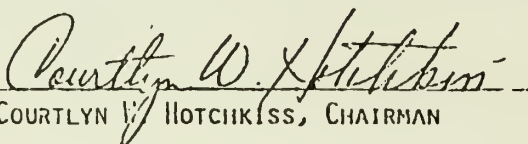
WHEREAS, DITCH COMPANIES, INTERESTED MUNICIPALITIES, WATER CONSERVANCY DISTRICTS, PRIVATE ORGANIZATIONS AND WELD COUNTY HAVE EXPRESSED INTEREST IN A FEASIBILITY STUDY OF A POUDE RIVER WATER STORAGE STUDY; AND

WHEREAS, MANY QUESTIONS HAVE BEEN RAISED AS TO THE FISCAL, SOCIAL AND ENVIRONMENTAL IMPACTS, WHICH MAY BE ANSWERED BY A FEASIBILITY STUDY.

NOW, THEREFORE, BE IT RESOLVED BY THE LARIMER COUNTY BOARD OF COMMISSIONERS THAT A OBJECTIVE FEASIBILITY STUDY OF ALL REASONABLE ALTERNATIVES FOR ADDITIONAL WATER STORAGE IN THE POUDE BASIN BE UNDERTAKEN BY THE APPROPRIATE STATE AND/OR FEDERAL AGENCIES.

DONE THIS 9th DAY OF APRIL, 1980

LARIMER COUNTY BOARD OF COMMISSIONERS


COURTLYN W. HOTCHKISS, CHAIRMAN

(SEAL)

ATTEST:

RESOURCE	EQ FORECAST: <u>A</u>	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 1 (recreational)	Beneficial, effect would preserve and protect natural riverine system and riparian habitat				use of less-than-free techniques provides maintenance of existing condition
	Beneficial, effect would maintain key deer and elk winter range				secondary effect
	Beneficial, effect would reduce potential for adverse impacts to air/water quality			Beneficial, effect would preserve scenic quality	six miles of quality trout water
				Beneficial, effect would protect freeflowing quality	
Segment 2 (recreational)	Beneficial, effect would preserve and protect natural riverine system and riparian habitat			Beneficial, effect would maintain river access	
	Beneficial, effect would maintain key deer, elk, bighorn sheep winter range				secondary effect
	Beneficial, effect would reduce potential for adverse impacts to air/water quality			Beneficial, effect would protect freeflowing quality	two miles of quality trout water
				Adverse, effect would limit developed recreation experience by eliminating new campground	
				Beneficial, effect would enhance dispersed recreation experience	

RESOURCE	EQ FORECAST: <u>A</u>			NOTES
Segment 3 (recreational)	Ecological Att.	Cultural Att.	Aesthetic Att.	
Beneficial, effect would pre-serve and protect natural riverine system and riparian habitat	Beneficial, effect would pre-serve and protect natural riverine system and riparian habitat			
Beneficial, effect would main-tain key big game winter range	Beneficial, effect would main-tain key big game winter range			secondary effect, especially important to less-adaptable bighorn sheep
Beneficial, effect would reduce potential for adverse impacts to air/water quality	Beneficial, effect would reduce potential for adverse impacts to air/water quality		Beneficial, effect would protect freeflowing quality	five miles quality trout water
			Adverse, effect would limit developed recreation experience by eliminating new campground	
			Beneficial, effect would enhance dispersed recreation experience	
Segment 4 (recreational)	Beneficial, effect would pre-serve and protect natural riverine system and riparian habitat			
Beneficial, effect would main-tain key big game winter range	Beneficial, effect would main-tain key big game winter range			secondary effect, especially important to less-adaptable bighorn sheep
Beneficial, effect would reduce potential for adverse impacts to air/water quality	Beneficial, effect would reduce potential for adverse impacts to air/water quality		Beneficial, effect would pre-serve scenic quality	ten miles of quality fishing water
			Beneficial, effect would protect freeflowing quality	
			Beneficial, effect would main-tain river access	

EQ FORECAST: A

RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 5 (wild)	Beneficial, effect offers an additional increment of protection where simultaneous with Wilderness designation			the Act provides that when an area is included in both the National Wilderness Preservation System and the National Wild and Scenic Rivers System, the more restrictive provisions will apply
Segment 6 (wild)	Beneficial, effect would preserve and protect natural riverine system and riparian habitat			18 miles quality trout water
Segment 7 (recreational)	Beneficial, effect offers an additional increment of protection where simultaneous with Wilderness designation		Beneficial, effect would protect freeflowing quality	eight miles quality trout water
	Beneficial, effect would preserve and protect natural riverine system and riparian habitat			designation would preclude construction of Rockwell
	Beneficial, effect would maintain key winter range			secondary effect
	Beneficial, effect would reduce potential for adverse impacts to air/water quality		Beneficial, effect would preserve scenic quality	
			Beneficial, effect would protect freeflowing quality	two miles of quality fishing water
			Adverse, effect would eliminate lake fishing experience	
Segment 8 (wild)			Adverse, effect would locate planned developed site outside corridor	no significant effects; four miles of quality water

EQ FORECAST: B

RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 1				no significant effects
Segment 2				no significant effects
Segment 3				no significant effects
Segment 4				no significant effects
Segment 5 (wild)	Beneficial, effect offers an additional increment of protection where simultaneous with Wilderness designation			the Act provides that when an area is included in both the National Wilderness Preservation System and the National Wild and Scenic Rivers System, the more restrictive provisions will apply
Segment 6 (wild)	Beneficial, effect would preserve and protect natural riverine system and habitat Beneficial, effect offers an additional increment of protection where simultaneous with Wilderness designation		Beneficial, effect would minimize negative impacts to freeflowing condition of upstream regulation	Rockwell releases designed to protect and be in harmony with values

RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 7 (recreational)	Beneficial, effect would pre-serve and protect reaches upstream of Rockwell Beneficial, effect would allow some control of Rockwell releases			use of less-than-free techniques provides maintenance of existing condition consistent with provisions of Act
Segment 8 (wild)	Beneficial, effect would reduce potential for adverse impacts to air/water quality			no significant effects

EQ FORECAST: B

RESOURCE	EQ FORECAST: <u>C</u>			NOTES
	Ecological Att.	Cultural Att.	Aesthetic Att.	
Segment 1 6 miles 1920 T acres 400 Federal	natural riverine system and riparian habitat in nearly existing condition deer/alk key winter range suit. reduced by 80% air quality declines slightly water quality declines slightly	2 identified sites: pre-historic	scenic quality; loss of 10% of retention VQO freeflowing river quality developed recreation experience dispersed recreation experience river boating experience river fishing experience river access by public reduced	96 acres aquatic, 1824 terrest., 360 riparian 400 acres remain suit. as wildlife habitat; 1520 acres of wildlife habitat less suitable through development and disturbance; irreversible loss some impacts related to development; auto emissions and wood smoke: current standards to be met potential for adverse impacts from additional development, habitation, and sewage: current standards to be met sites will remain 25% in distinctive variety class; 85% remains in retention VQO full sensory experience maintained, but potential for modification of waterway exists 1 site/150 PAOT 5 miles in heavy use during season: AWA rating 2-4; 6 miles of quality trout area; statewide trend to fence and restrict access presumed; loss of 3 miles, irretrievable loss

EQ FORECAST: <u>C</u>				
RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 2 12 miles 3840 T acres 3620 Federal	natural riverine system and riparian habitat in nearly existing condition deer/elk/bighorn sheep key winter range suit. reduced by 10% air quality declines slightly water quality declines slightly	no identified sites		117 acres aquatic, 3723 terrest., 1220 riparian 3620 acres remain suit. as wildlife habitat; 200 acres lost through development and disturbance; irreversible loss minor impacts from increased auto emissions: current standards to be met potential for adverse impacts from additional development, habitation, and sewage: current standards to be met 35% in distinctive variety class; 95% remains in retention VQO full sensory experience maintained, but potential for modification of waterway exists 11 sites/185 units/925 PAOT; impacts of additional 100 unit campground to be mitigated 12 miles in moderate to heavy use during season: AWA rating 4-6; 0 miles of quality trout area; statewide trend to fence and restrict access presumed; loss of ½ mile, irretrievable loss

EQ FORECAST: <u>C</u>				
RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 3 9 miles 2880 T acres 2680 Federal	natural riverine system and habitat in nearly existing condition deer/elk/bighorn sheep key winter range suit. reduced by 20% air quality declines slightly water quality declines slightly	no identified sites	scenic quality; slight loss of retention VQ0 freeflowing river quality developed recreation experience expanded dispersed recreation experience expanded river boating experience river fishing experience enhanced	90 acres aquatic, 2790 terrest., 1150 riparian: some minor losses of terrest. due to increased private development 3620 acres remain suit. wildlife habitat; 200 acres lost through development and disturbance; irreversible loss minor impacts from increased auto emissions: current standards to be met potential for adverse impacts from additional development, habitation, and sewage: current standards to be met 25% in distinctive variety class; 95% in retention VQ0 full sensory experience maintained, but potential for modification of waterway exists 6 sites/228 units/1180 PAOT; impacts of additional 100 unit campground to be mitigated 9 miles in heavy use during season: AWA rating 4 5 miles of quality trout area;

RESOURCE	EQ FORECAST: <u>C</u>			NOTES
	Ecological Att.	Cultural Att.	Aesthetic Att.	
Segment 4 17 miles 5440 T acres 1660 Federal	natural riverine system and habitat in nearly existing condition deer/elk/bighorn sheep key winter range suit. reduced by 30% air quality declines slightly water quality declines slightly	5 identified sites: 3 pre-historic, 2 historic	scenic quality: loss of 15% of retention VQO freeflowing river quality developed recreation experience maintained dispersed recreation opportunity reduced river boating experience river fishing experience river access by public reduced	205 acres aquatic, 5235 terrest., 3100 riparian: some losses of terrest. due to increased private development, but most occurs in enclaves 1600 acres remain suit. as wildlife habitat; 3840 acres of habitat less suitable through development and disturbance; irreversible loss some impacts related to development; auto emissions and wood smoke: current standards to be met potential for adverse impacts from additional development, habitation, and sewage: current standards to be met sites will remain 60% in distinctive variety class; 60% remains in retention VQO; irrevers. loss full sensory experience maintained, but potential for modification of waterway exists 5 sites/19 units/196 PAOT; includes Home Moraine Geologic site 17 miles in moderate to heavy use during season: AWA rating 2-3; 10 miles of quality trout area; statewide trend to fence and restrict access is presumed; loss of 8 miles, irretrievable loss

EQ FORECAST: C

RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 5 18 miles 5760 acres 5760 Federal	natural riverine system and habitat in existing condition air quality protected water quality protected			89 acres aquatic, 5671 terrest., 1840 riparian; 9 miles protected and man- aged as Wilderness, 9 miles protected and managed as National Park high quality assured high quality assured
		no identified sites	scenic quality protected; 100% in preservation VQO freeflowing river quality pro- tected dispersed recreation experience enhanced river fishing experience en- hanced	50% in distinctive variety class; 100% in preservation VQO full sensory experience maintained; modifications to waterway prohibited
				18 miles of quality trout area;

RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 6 8 miles 2560 T acres 2420 Federal	natural riverine system and habitat is modified by flows from Rockwell deer/elk key winter range is preserved air quality protected water quality declines slightly	no identified sites	scenic quality protected; 85% in preservation VQ0 freeflowing river quality is modified river fishing experience is impacted dispersed recreation experience enhanced	19 acres aquatic, 2541 terrest., 128 riparian; 8 miles protected and managed as a wilderness; potential for lower quality aquatic habitat 2451 acres suitable; includes range allotments high quality assured potential for adverse impacts from up-stream releases from Rockwell 85% in distinctive variety class; 85% remains in retention VQ0 flow will be dependent upon Rockwell releases; actual flows unknown, but will be less than existing natural volumes; most sensory exper. maintained potential for reduced quality and quantity of experience due to reduced flows; 8 miles of quality trout area;

RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 7 9 miles 2880 T acres 1600 Federal	natural riverine system and habitat; modified or lost in area of Rockwell Reserv.	no identified sites	scenic quality; loss of 10% of retention VQO	30 acres aquatic (river), 140 acres aquatic (lake), 2695 terrestrial (150 acre loss to inundation and road reloc.), 943 remain in riparian (loss of 167 acres); losses are irreversible
	deer/elk key winter range is reduced by 45%		freeflowing river quality modified by reservoir	300 acres remain suit. after construction and impoundment; 160 acres irreversible loss
	air quality declines slightly		developed recreation experience	some impacts related to development; auto emissions and wood smoke: current standards to be met
	water quality declines slightly		dispersed recreation experience	potential for adverse impacts from addi- tional development, habitation, and sewage: current standards to be met
			river fishing experience re- duced	100% in common variety class; 75% remains in retention VQO; impacts of dam and new road balanced by reservoir, but only at full pool
			river access by public reduced	above reservoir site full sensory exper., at and below site characteristic is modified
				4 sites/29 units/655 PAOT; additional 100 units of camping to be mitigated
				expand opportunity - diversity of experi- ence increased
				loss of more than 1 mile of river exper.; new flatwater fishing experience
				statewide trend to fence and restrict access presumed; loss of 2 miles, irret.

EQ FORECAST: C

RESOURCE	EQ FORECAST: <u>C</u>			NOTES
	Ecological Att.	Cultural Att.	Aesthetic Att.	
Segment 8 8 miles 1280 T acres 1220 Federal	natural riverine system and habitat in existing conditions protection of T&E habitat for greenback cutthroat trout air quality protected water quality protected	 no identified sites		15 acres aquatic, 1265 terrest., 346 riparian; 1/4 mile protected and man- aged as Wilderness and 3/4 miles protected and managed as National Park high quality assured
			scenic quality protected; 100% in preservation VQO freeflowing river quality pro- tected dispersed recreation experience enhanced river fishing experience pre- served	80% in distinctive variety class; 100% in preservation VQO full sensory experience preserved 8 miles quality trout area

RESOURCE	EQ FORECAST: <u>D</u>			NOTES
	Ecological Att.	Cultural Att.	Aesthetic Att.	
Segment 1	Adverse, effect would cause near total loss of natural riverine system and riparian habitat			inundation of more than 7 miles of river within corridor; loss of natural fishery, riparian, and small-non-game habitat irreversible losses
	Adverse, effect would cause near total loss of key deer and elk winter range			irreversible loss
	Beneficial, effect would increase aquatic habitat in reservoir			
		Adverse, effect would inundate 2 prehistoric sites		
			Adverse, effect would reduce scenic quality; negative impacts from road relocation	loss of 45% from retention VQ0, irrevers.; positive impacts when reservoir is at full pool
			Adverse, effect would eliminate freeflowing quality	loss is nearly total in segment, irrevers.
			Adverse, effect would eliminate quality trout river fishing experience	loss is nearly total, irreversible
			Beneficial, effect would modify developed recreation experience and add flatwater experience opportunities	developed recreation experience diversity
			Beneficial, effect would add new opportunities for boating experience	powerboating, sailing, other flatwater opportunities
			Beneficial, effect would add reservoir fishing experience, with opportunity for new var.	fishing experience diversity

RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 2	Adverse, effect would modify natural riverine system and riparian habitat through regulation of river flow; spawning beds, food supply, aquatic habitat impacted Adverse, effect of conduit reduces access to key deer, elk, bighorn sheep winter range, disturbance, and potential for mortality in ditch		Adverse, effect would reduce scenic quality as water flow is a sensitive component of visual experience Adverse, effect would modify freeflowing quality Adverse, effect would reduce flows to make river boating experience unavailable for most of year Adverse, effect of reduced water flows on fisheries	loss of riparian, potential loss of productivity of river; significant amounts of water are removed from channel and diverted to conduit; portions of conduit will be tunneled, but lined surface reaches cause significant effects; irreversible during winter season, flows likely to be in excess of unregulated normals; during summer season, flows likely to be reduced from unregulated normals irretrievable loss, dependent upon flow below Rockwell contributing to channel irreversible loss

EQ FORECAST: D

RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 3	Adverse, effect would modify natural riverine system and riparian habitat through regulation of river flow at Rustic Diversion for about 6 miles, spawning beds, food supply, habitat impacted below Diversion Adverse, effect of conduit reduces access to key deer, elk, and bighorn sheep winter range, disturbance, and potential for mortality in ditch		Adverse, effect would reduce scenic quality as water flow is a sensitive component of visual experience Adverse, effect would reduce developed recreation experience at riverside campgrounds Adverse, effect would modify freeflowing quality Adverse, effect would reduce flows to make river boating experience unavailable for most of year Adverse, effect would probably reduce fishing experience to put-and-take	loss of riparian, potential loss of productivity of river; significant amounts of water are removed from channel and diverted to conduit portions of conduit will be tunneled, but lined surface reaches cause significant effects; irreversible experience sensitive to five-sensing appreciation; period of reduced flows corresponds with period of greatest use during winter season, flows likely to be in excess of unregulated normals; during summer season, flows likely to be reduced from unregulated normals irreversible loss irreversible loss

RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 4	Adverse, effect would cause loss of 1/2 of natural riverine system and riparian habitat Adverse, effect would cause loss of key deer, elk, and bighorn sheep winter range Beneficial, effect would increase aquatic habitat in reservoir	Adverse, effect would reduce scenic quality; negative impacts from road relocation Adverse, effect would eliminate freeflowing quality Adverse. effect would eliminate developed recreation experience at Sleeping Elephant Adverse, effect would eliminate quality trout fishing experience Beneficial, effect would modify developed recreation experience and add flatwater experience opportunities Beneficial, effect would add new opportunities for boating experience Beneficial, effect would add reservoir fishing experience, with opportunity for new var. Adverse, effect would inundate 3 prehistoric and 2 historic sites	inundation of nearly 8 miles of river; loss of natural fishery, riparian, and small-non-game habitat; irreversible losses irreversible loss, especially critical to less-tolerant bighorn sheep new species introduction possible loss of 50% from retention F00; irrevers.; positive impacts when reservoir is at full pool loss is nearly total, irreversible campground inundated loss is nearly total, irreversible developed recreation experience diversity powerboating, sailing, other flatwater opportunities fishing experience diversity sites must be dug and curated	

EQ FORECAST: D

RESOURCE	EQ FORECAST: <u>D</u>			NOTES
	Ecological Att.	Cultural Att.	Aesthetic Att.	
Segment 5				no significant effects
Segment 6				no significant effects
Segment 7				no significant effects
Segment 8				no significant effects

RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 1	Adverse, effect would reduce big game use.			About 1520 acres of land is less suitable wildlife habitat through development.
Segment 2 (recreational)	Beneficial, effect would preserve and protect natural riverine system and habitat Beneficial, effect would maintain key winter range Beneficial, effect would reduce potential for adverse impacts to air/water quality		Beneficial, effect would protect freeflowing quality Adverse, effect would limit developed recreation experience by eliminating new campground Beneficial, effect would enhance dispersed recreation experience	This primarily is deer and elk winter range. Secondary effect.
Segment 3	Beneficial, effect would preserve and protect natural riverine system and habitat Beneficial, effect would maintain key winter range Beneficial, effect would reduce potential for adverse impacts to air/water quality			secondary effect, especially important to less-tolerant bighorn sheep
			Beneficial, effect would protect freeflowing quality Adverse, effect would limit developed recreation experience by eliminating new campgrounds	

RESOURCE	Ecological Att.	Cultural Att.	Aesthetic Att.	NOTES
Segment 3 (cont)	Beneficial, effect would preserve and protect natural riverine system and habitat Beneficial, effect would maintain key winter range Beneficial, effect would reduce potential for adverse impacts to air/water quality		Beneficial, effect would enhance dispersed recreation experience	secondary effect, especially important to less-tolerant bighorn sheep
Segment 4 (recreational)				
Segment 5 (wild)				
Beneficial, effect offers an additional increment of protection where simultaneous with Wilderness designation			Beneficial, effect would preserve scenic quality Beneficial, effect would protect freeflowing quality Beneficial, effect would maintain river access Beneficial, effect would enhance dispersed recreation experience	the Act provides that when an area is included in both the National Wilderness Preservation System and the National Wild and Scenic Rivers System, the more restrictive provisions will apply

EQ FORECAST: F

RESOURCE	EQ FORECAST: <u>E</u>			NOTES
	Ecological Att.	Cultural Att.	Aesthetic Att.	
Segment 6 (wild)	Beneficial, effect would pre-serve and protect natural riverine system and habitat			
	Beneficial, effect offers an additional increment of pro-tecton where simultaneous with Wilderness designation		Beneficial, effect would protect freeflowing quality	
Segment 7 (recreational)	Beneficial, effect would pre-serve and protect natural riverine system and habitat			designation would preclude construction of Rockwell
	Beneficial, effect would main-tain key winter range			secondary effect
Segment 8 (wild)	Beneficial, effect would reduce potential for adverse impacts to air/water quality		Beneficial, effect would pro-tect freeflowing quality	
			Adverse, effect would eliminate lake fishing experience	
			Adverse, effect would locate planned developed site out-side corridor	no significant effects

