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Teton Corridor Moose to North Jenny Lake

Development Concept Plan/ Environmental Assessment

April 1990



**Grand Teton National Park
Wyoming**

**U.S. DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE**

**Teton Corridor
Development Concept Plan
and
Environmental Assessment**

SUMMARY OF THE PROPOSED PLAN AND ALTERNATIVES

This development concept plan provides the National Park Service with direction for long-range management, development, and use of the Teton Corridor from Moose Junction to North Jenny Lake Junction. The plan responds to needs identified during the planning process to reorganize visitor services, facilities, park operations, circulation, and housing within the corridor and preserve as many historic structures as possible within a complete alternative. In addition to the proposal, two action alternatives and the no-action alternative were considered in detail. The National Park Service proposal would, in the view of park management, provide changes in present operations, park facilities, and uses. Changes provided in the proposal are considered necessary to separate conflicting uses, better serve the visitor, and reduce resource impacts. The first alternative would provide significant changes in park operations and uses by guiding natural and cultural resource protection, enhancing visitor experience, improving park facilities and uses through consolidation, and providing space between and separation of diverse uses. The second alternative would provide minimal changes in present operations and uses, but would provide some improvement in park facilities and uses and selected separation of conflicting uses. Under the no-action alternative, existing facilities and functions within the corridor would be retained.

The proposal would change some visitor services and would amend the 1976 Grand Teton National Park Master Plan for housing by proposing the rehabilitation and expansion of housing in the Moose and Beaver Creek areas. It would place a new visitor center near the south boundary and convert the space vacated at the existing visitor center to additional office space, an information/reception area for administration, and a post office. The proposal also calls for the modification of the Jenny Lake area to support a higher concentration of visitors and for the removal of intrusive roads and structures from the lakeshore, rehabilitation and expansion of a picnic area at String Lake, provisions for an improved raft launch and picnic area at Moose, and other improvements, which would support the visitor and help preserve park resources. Major improvements in interpretive services at Jenny Lake, Murie Ranch (after private interests are relinquished) and Menor's Ferry are also proposed. Some consolidation of concessioner operations would occur - the gas station/store at Moose would be rebuilt, improved services would be provided at Jenny Lake, the horse concessioner operation at Lupine Meadows would be phased out and removed, the horse concessioner operation at Jenny Lake Lodge would be confined to designated routes, climbing activities would be moved to the Climber's Ranch area (Exum and Climber's Ranch operations and housing would be

located within the Highlands Ranch and Climber's Ranch corridor), and moderate improvements would be made at Jenny Lake Lodge. Some provisions would also be made for essential concessioner seasonal housing (Teton Boat Company and Grand Teton Lodge Company) at Beaver Creek. Park operations would change, with the consolidation of all offices at Moose, the visitor center function moved near the south boundary, some reorganization of the maintenance area, and the provision of NPS seasonal housing at Beaver Creek. Major improvements in circulation would be accomplished by the consolidation of some similar functions and the relocation of others. Housing would be rehabilitated and upgraded at Moose and substantially expanded at Beaver Creek. All nonessential housing areas would be phased out and removed. A replica of Menor's Ferry would be constructed and the area rehabilitated. Crandall Studio and the ranger station at Jenny Lake would be situated in the Jenny Lake complex between the two parking areas. Historic structures at Bar BC Ranch would be retained, subject to the recommendations in a historic structures report now being prepared. The integrity of Beaver Creek Historic District would be maintained.

Alternative A would call for significant changes in visitor services and support facilities, including the removal of the existing visitor center at Moose, the modification of the Jenny Lake area to support a higher concentration of visitors, the rehabilitation and expansion of a picnic area at String Lake, construction of a new visitor center near the south boundary, provisions for a raft launch and picnic area in or near the Moose area, and other improvements, which would support the visitor. Major improvements in interpretive services at Jenny Lake and Menor's Ferry are called for under Alternative A. Some concessioner operations would be eliminated or reduced; the gas station/store at Moose would be removed, the horse concessioner operations at Lupine Meadows and Jenny Lake Lodge would be phased out, NPS and Exum seasonal housing would be consolidated at the area from Highlands Ranch to Climber's Ranch, and moderate improvements would be made at Jenny Lake Lodge. Changes in park operations would be significant, with the relocation of administration and research/resource management offices near the south boundary, the relocation of maintenance area and offices to the Blacktail Borrow Site, and the provision for NPS seasonal housing at the south boundary. Major improvements in circulation would be accomplished through the consolidation of some similar functions and the relocation of others. Housing for NPS seasonal and permanent employees would be drastically changed. Housing would be eliminated in Moose and substantially reduced in Beaver Creek. A new housing area would be constructed at the south boundary for NPS permanent/seasonal employees, with provisions for concessioner seasonal housing. All other housing areas would be removed. Selected historic resources would be emphasized, including the reconstruction and rehabilitation of Menor's Ferry. Bar BC Ranch would be designated as a historic district. The integrity of Beaver Creek Historic District would be maintained.

Alternative B calls for some minor changes in visitor services. These would include the expansion of the existing visitor center at Moose, the modification of the Jenny Lake area, to support a higher concentration of visitors, the rehabilitation of a picnic area at String Lake, provisions for a raft launch and picnic area at Moose, and other improvements within the corridor to support the visitor. Major improvements in interpretive services at Jenny Lake, Murie Ranch and Menor's Ferry are also proposed. Some consolidation of

existing concessioner operations would occur - the gas station/store at Moose would be rebuilt, the concessioner horse operations at Lupine Meadows would be phased out and removed, the concessioner horse operations at Jenny Lake Lodge would be confined to designated routes, climbing activities would be moved outside the park, and moderate improvements would be made at Jenny Lake Lodge. Provisions would also be made for essential concessioner seasonal housing (Teton Boat Company and Grand Teton Lodge Company) at Beaver Creek. Changes in park operations would consist of a consolidation of all offices at Moose, some reorganization of the maintenance area, and the provision for NPS seasonal housing at Beaver Creek. Major improvements in circulation would be accomplished through the consolidation of some similar functions and the relocation of others. Housing for NPS seasonal and permanent employees would be modified moderately. Housing would be rehabilitated and upgraded at Moose and substantially expanded at Beaver Creek. New housing would be constructed at Beaver Creek for NPS permanent and seasonal employees. All nonessential housing areas would be phased out and removed. Selected historic resources would be emphasized. A replica of Menor's Ferry site would be constructed and the area rehabilitated. Crandall Studio and the ranger station at Jenny Lake would be situated in the Jenny Lake complex between the two parking areas. Historic structures at Fabians, Bar BC Ranch, and Lupine Meadows would be evaluated for retention. The integrity of Beaver Creek Historic District would be maintained.

The environmental consequences of the proposed action and alternatives are fully disclosed within this document. All alternatives except the no-action alternative would place structures and utilities away from fault zones; construct new facilities using methods and materials that would minimize potential damage from earthquakes; reduce impacts to resources by providing hardened surfaces on trails, roads and parking areas; cause no change in current wildlife levels; have no effect on threatened or endangered species; reduce sediment in bodies of water along roads and trails; increase water quality by upgrading dockside sewage and fueling systems and by maintaining the limit on commercial boat use; increase seasonal housing; improve the appearance of the park; cause visitor use to remain the same or increase; affect one archeological site; and decrease public access to existing archeological sites.

The proposal would maintain the existing maintenance building at Moose, which is susceptible to earthquake damage; remove approximately 19 acres of trees, shrubs, and grassland; maintain the Moose area, which is subject to flooding in the event of the failure of Jackson Lake Dam; have a positive effect on the economy of Jackson; and would affect some historic resources.

Alternative A would remove approximately 53 acres of trees, shrubs, and grassland; would not be affected by floods; would have a positive effect on the economy of Jackson; and would affect some historic resources.

Alternative B would maintain the existing maintenance building at Moose, which is susceptible to earthquake damage; remove eight acres of trees, shrubs, and grassland; maintain the Moose area, which is subject to flooding in the event of the failure of Jackson Lake Dam; have an insignificant effect on the economy of Jackson; and would affect

some historic resources.

Address Comments to:

Superintendent
Grand Teton National Park
P.O. Box 170
Moose, Wyoming 83012

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PURPOSE AND NEED FOR THE PLAN

INTRODUCTION

Grand Teton National Park consists of 310,520.94 acres in Teton County, northwestern Wyoming, and in the At-Large Congressional District. Bordered by two national forests and Yellowstone National Park, Grand Teton National Park occupies a central position in a 27,000-square-mile tract of relatively isolated upland wilderness that is almost entirely federally owned.

Geologists regard the Teton Range as one of the most impressive examples of fault-block mountains in the world. The peaks of the range, which tower 3,000 to 7,000 feet above the sagebrush flats of Jackson Hole and culminate in the Grand Teton (13,770 feet), dominate the park landscape. They are the youngest mountains of the Rocky Mountain chain and began to rise about nine million years ago. Several piedmont lakes rimmed by moraines from the last glaciation lie at the foot of the range and form part of the scenic foreground. The Snake River is an outstanding recreational resource and wildlife habitat.

This development concept plan provides the National Park Service with direction for long-range management, development, and use of the Teton Corridor from Moose Junction to North Jenny Lake Junction. Owing to the construction of an improved road through this area and the increasing impact of visitors on prime resources, existing planning documents are not adequate, and do not accurately reflect conditions.

The Vicinity and Region Maps identify the general location of the park, while the Corridor Area Map shows the specific areas of the Teton Corridor addressed by this document, including the new road alignment for the Teton Park Road, which is now under construction. The Existing Issues, Proposal, and Alternative Maps show the general relationship of existing issues to one another and the solutions suggested by the proposal and each alternative. Five major use areas in the corridor include the Moose Visitor Center and Park Headquarters, Beaver Creek, Jenny Lake, Jenny Lake Lodge, and String Lake. Between these areas of development are interpretive turnouts, trailhead parking areas, and concession and other facilities. All areas mentioned in the planning document are shown on the Proposal and Alternative Maps. Major issues addressed in the DCP are levels and types of park administrative needs, employee housing needs, levels and types of visitor services and opportunities, location of facilities with respect to natural resources, treatment of historic structures, circulation systems, and a unified architectural theme within each developed area.

This plan sets forth the management philosophy for the Teton Corridor and provides strategies for addressing issues and management objectives. This document also describes the affected environment and discloses the potential environmental consequences that may result from implementation of various alternatives. It documents the process used by the National Park Service (NPS) in preparing a development concept plan (DCP) for the park. This includes issues identification. Chapter II identifies the alternatives developed to resolve the issues and the NPS' preferred alternative and

proposed plan. Chapter III describes the affected environment and documents the environmental consequences of each alternative.

PARK PURPOSE AND PERTINENT LEGISLATION

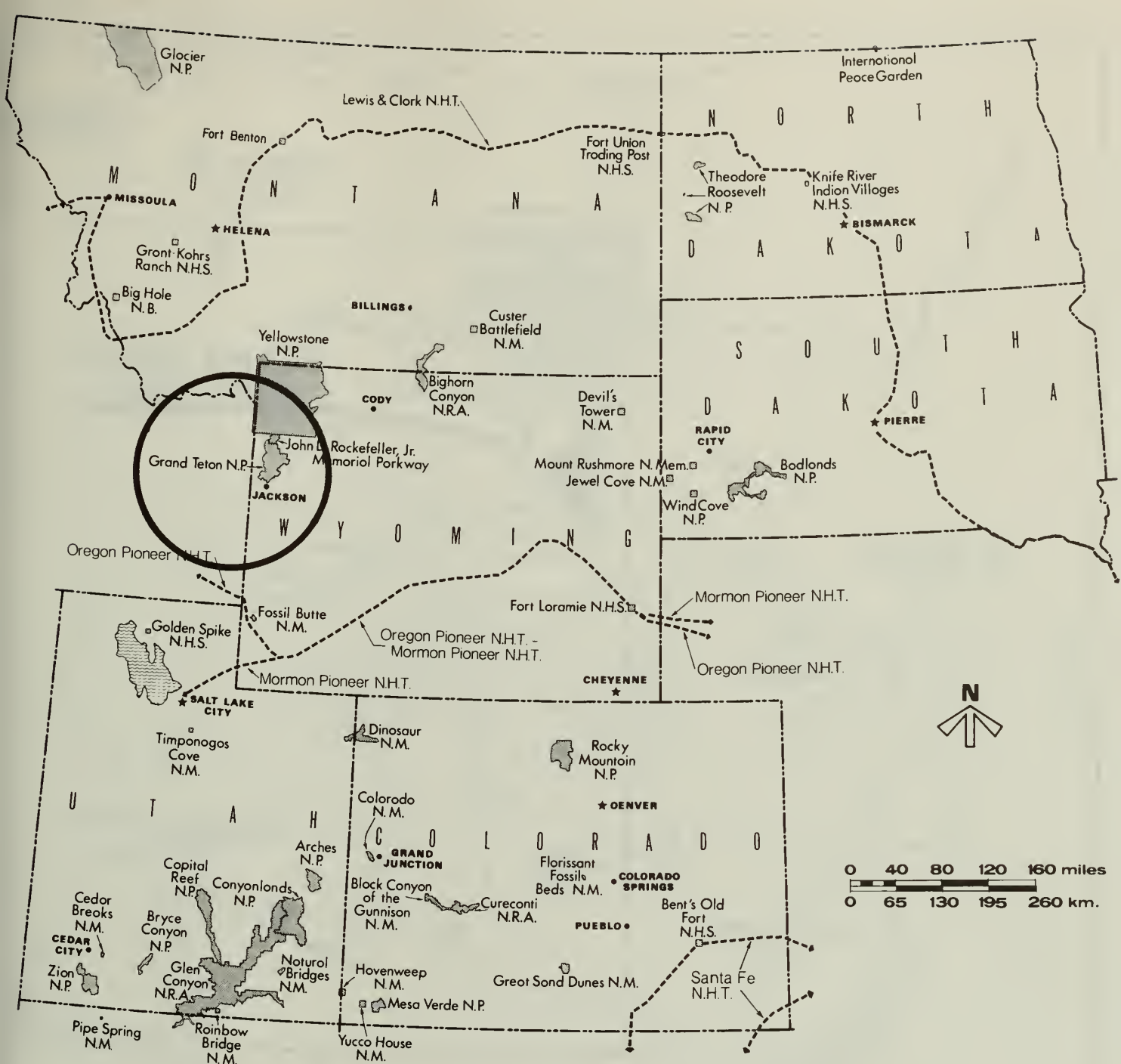
Park Purpose

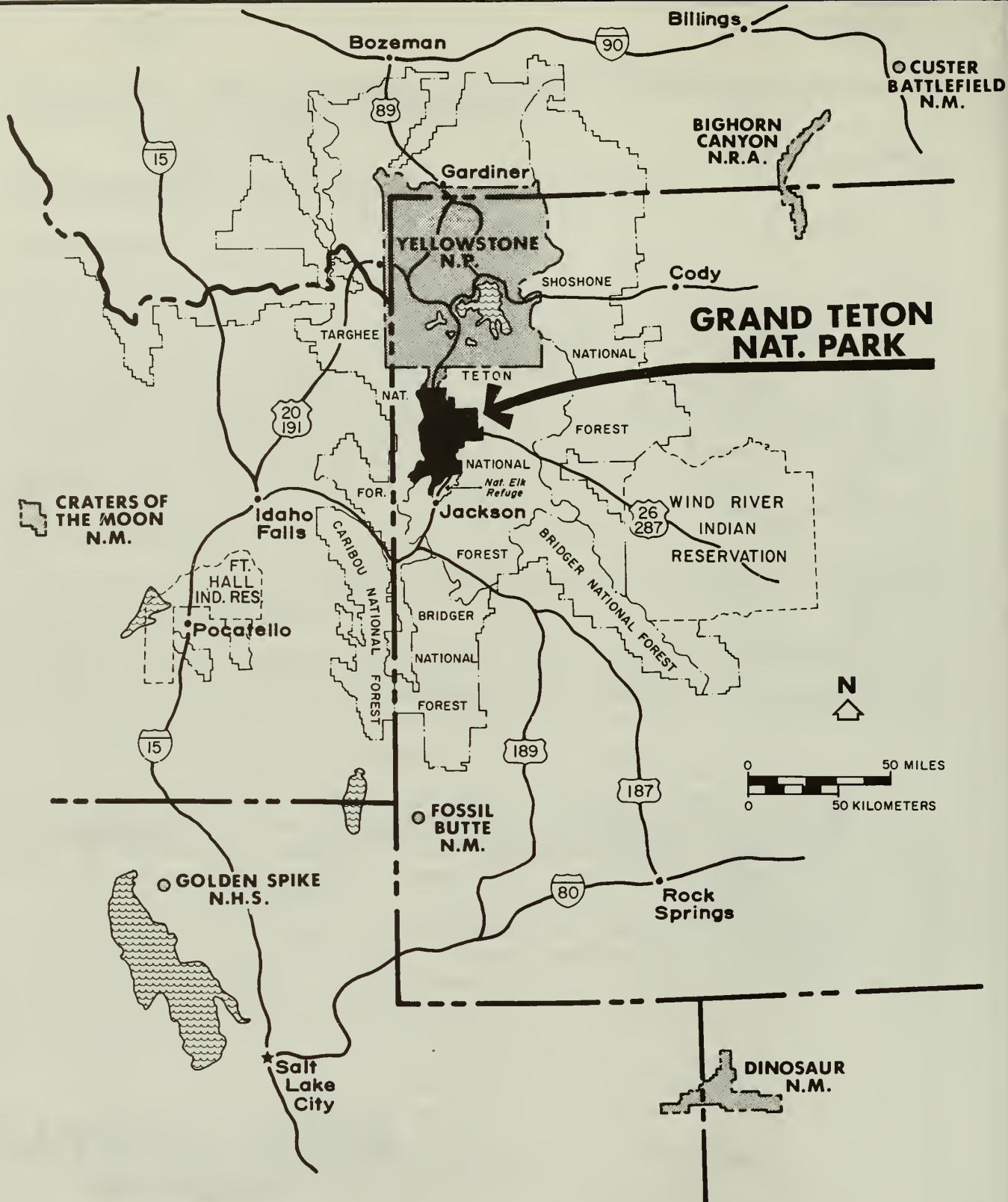
Grand Teton National Park was established to protect the area's spectacular scenic values, as characterized by the geologic features of the Teton Range and Jackson Hole, and the native plant and animal life. The original Grand Teton National Park (about 96,000 acres) was established by Congress on February 29, 1929. (*45 Stat., 1314*). The park was enlarged to its present size by Congress on September 14, 1950, (*Public Law 81-787, 64 Stat. 849*) to include a portion of the lands within Jackson Hole National Monument. The national monument had been established by Presidential Proclamation (*No. 2578, 57 Stat. 731*) on March 15, 1943.

Pertinent Legislation

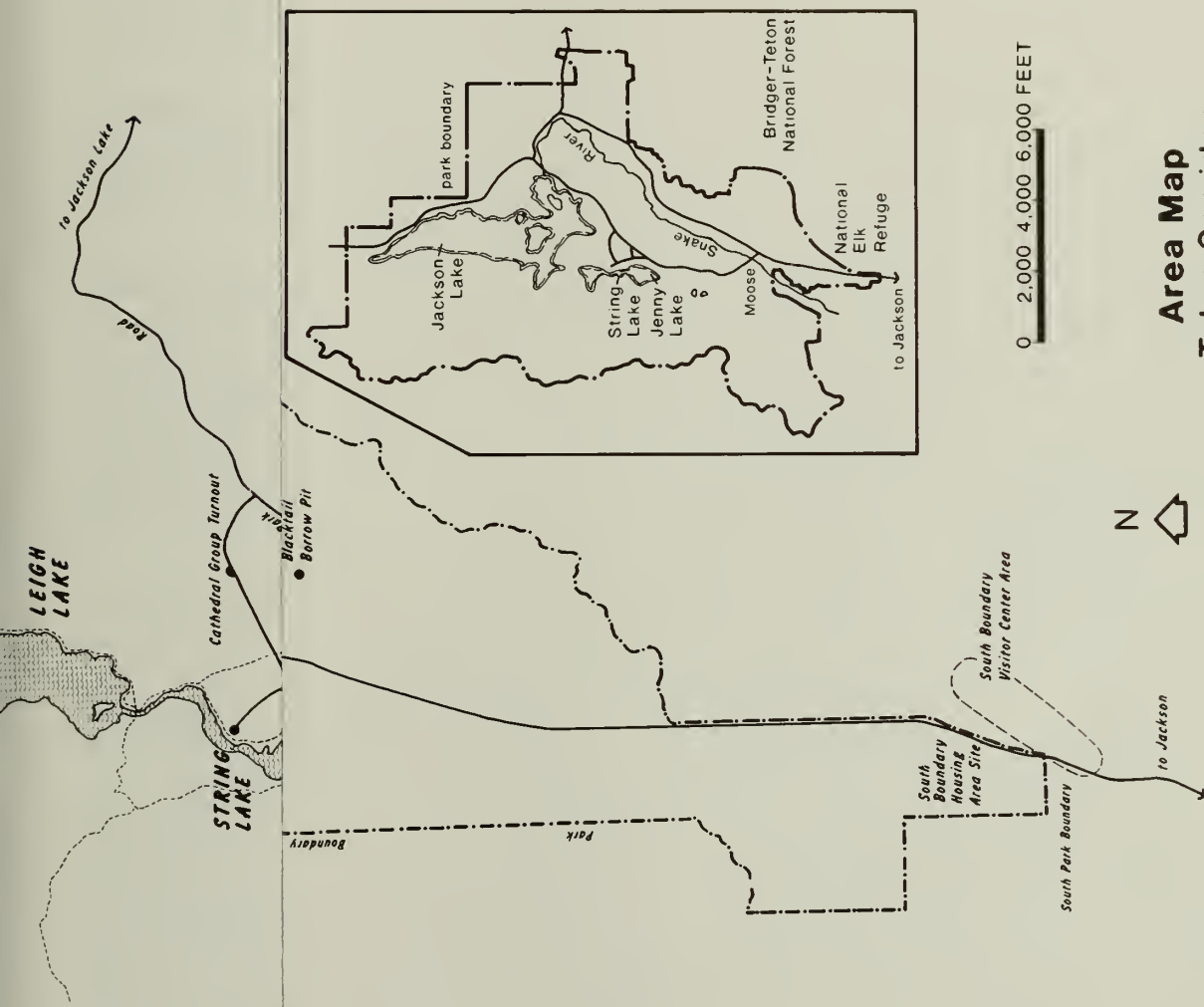
The following agreements, permits, executive orders, laws and other commitments influence management of the park.

- The original Grand Teton National Park (about 96,000 acres) was established by an act of Congress on February 29, 1929, and provides for the administration of Grand Teton "...as a public park or pleasure ground for the public benefit and enjoyment."
- Public Law 81-787, dated September 14, 1950, expanded the boundaries and established the present Grand Teton National Park, incorporating the original park and Jackson Hole National Monument. This law also designates and opens rights-of-way across Federal lands within the park. Leases, permits, and licenses issued with respect to Federal lands within the park and in effect on September 14, 1950, shall continue, subject to their compliance with designated regulations. Grazing and residential privileges on Federal lands within the park, in effect on September 14, 1950, may be renewed for 25 years from that date and thereafter for the lifetime of the permittee and heirs of the immediate family. Grand Teton's prime resource can be considered the area between Teton park road and the Teton mountain range. Visitors to the park have the opportunity to appreciate the park's resource, primarily as viewed from the road and the many visitor stops along the road. Many structures exist within this corridor. Some are in good shape and enhance the scene, while others, because of either their condition or location, do not. Properties such as Murie Ranch, the 4 Lazy F Dude Ranch, Bar BC Ranch, Fabians, and others lie within the planning area.
- The Wilderness Preservation Act was enacted in 1964 (*Public Law 85-577*). In 1984, the park recommended increasing wilderness and potential wilderness to 128,490 and 27,510 acres, respectively.



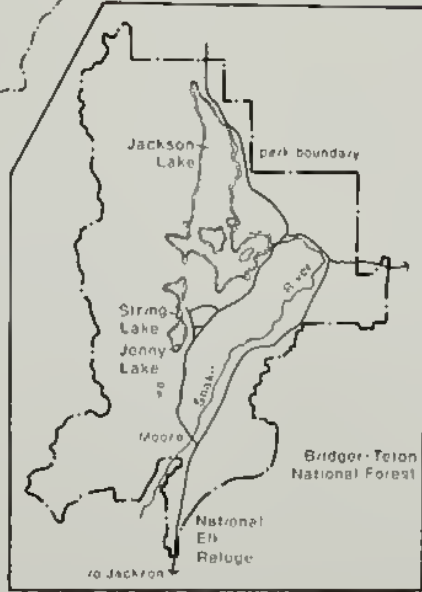
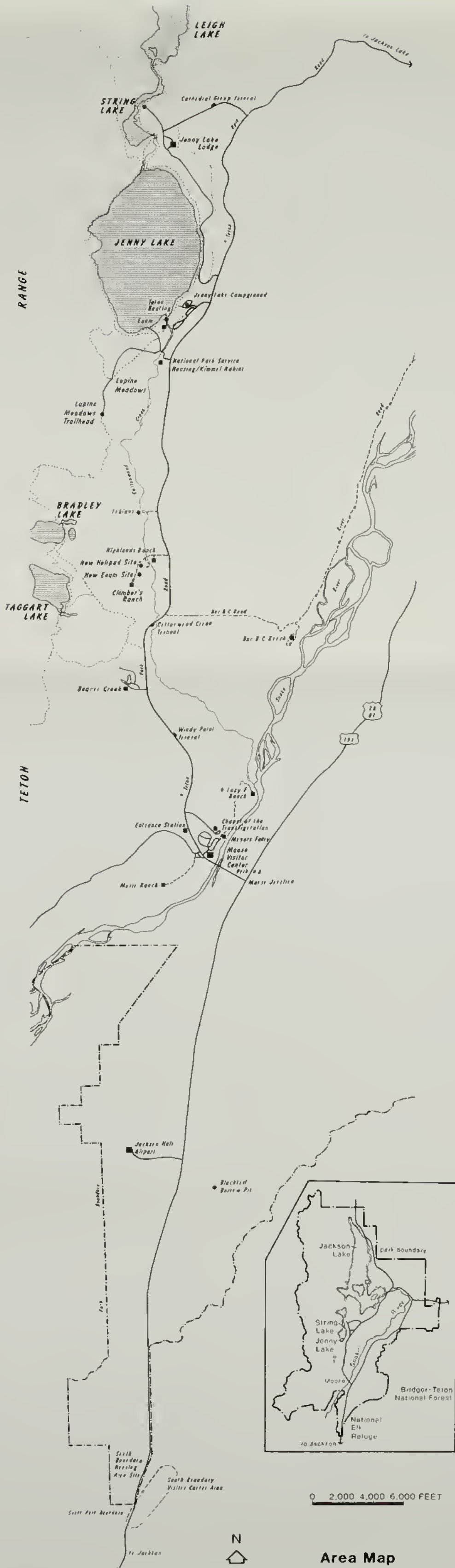


Vicinity Map
Grand Teton National Park - Wyoming
 United States Department of the Interior - National Park Service



Area Map **Teton Corridor** **Grand Teton National Park** United States Department of the Interior - National Park Service

* Note: Alignment shown for Teton Park Road is new alignment.



0 2,000 4,000 6,000 FEET



Area Map
Teton Corridor
 Grand Teton National Park
 United States Department of the Interior -
 National Park Service

* Note Alignment shown for Teton Park Road is new alignment

Administrative And Legislative Constraints

Air Quality. "Grand Teton National Park is designated as a mandatory Class I clean air area under the 1977 Amendments to the Clean Air Act (42 U.S.C. 7401 *et seq.*). The Federal Land Manager (the Secretary of the Interior) and the Federal official directly responsible for managing the park (the Superintendent) have an affirmative responsibility to protect the air quality related values (AQRV's - visibility, plants, animals, and cultural and historic resources) of the park from adverse impacts of air pollution."

Cultural Resources. A memorandum prepared by the Director of the National Park Service, March 17, 1945, and approved by the Secretary of the Interior, March 22, 1945, established policy for the preservation and interpretation of the "Old West" aspect of sites in the former Jackson Hole National Monument including the fur-trade and exploration periods, homesteading, dude ranching, and cattle ranching. The memorandum calls for the restoration and protection of pioneer structures such as Menor's Ferry.

Electric and Telephone Lines. Special use permits allow Lower Valley Power and Light, U.S. West Communications and AT&T to have motorized access to and on designated rights-of-way for the purposes of construction or maintenance. Public uses (except vehicular use) of the rights-of-way are permitted.

Snake River Management. There are 16 operators authorized to provide commercial scenic float trips and/or guided fishing trips on the Snake River. There are no limits on numbers of guided fishing trips and existing limits on commercial float trips would permit a 40 to 50 percent increase above current use. The lack of limits on noncommercial use will permit private float trips to increase indefinitely. Definitive carrying capacities and means for enforcing them need to be established for both commercial and private floaters and fishermen. Conditions at Moose landing continue to deteriorate. Of particular concern is bank erosion at the disembarking site and boat loading areas.

Greater Yellowstone Area (GYA). As part of a cooperative effort between many land management agencies within and immediately adjacent to the planning area, the Greater Yellowstone Area and a coordinating committee was formed to provide coordination for cooperative efforts within the Greater Yellowstone Ecosystem. A Memorandum of Understanding was signed in 1986 by the National Park Service, Rocky Mountain Region and three Forest Service Regions - Northern, Rocky Mountain, and Intermountain, affirming mutual cooperation and coordination. The GYA is comprised of 11.7 million contiguous acres of federally owned and managed lands including and surrounding Yellowstone and Grand Teton National Parks. National Forests wholly or partially contained in the GYA include the Targhee, Bridger-Teton, Shoshone, Custer, Gallatin and Beaverhead. Within the context of this MOA, the Departments of Agriculture and the Interior, through the U.S. Forest Service and National Park Service, are developing a coordination process that will result in a management document called "The Vision - A Management Framework for the Greater Yellowstone Area (GYA)".

The Vision Document will serve as a framework within which the management of the

Greater Yellowstone Area can be conducted relative to the following topics: visual quality, forest/land/water/air, health, roadless areas, biological diversity, economic future of commodity users, and business community, the balance of multiple uses, management of riparian areas, wildlife migration, species management, fire management, fire protection at the urban/wildlands interface, recreational use of the area, utility corridors, public access, development of the area, wilderness, noxious weed control, geothermal and ground water aquifer areas, visitor information and services, and endangered species. The Teton Corridor DCP will coordinate pertinent issues with the GYA.

Other Administrative Requirements. The park is administered under concurrent jurisdiction with the State of Wyoming. The U.S. Postal Service has two special-use permits authorizing the operation of the Moose Post Offices until December 31, 1991.

PLANNING BACKGROUND

Grand Teton was established as a unit of the National Park System to protect the scenic and geological values of the Teton Range and Jackson Hole, and to perpetuate the park's indigenous plant and animal life. The park will interpret these natural and scenic values, in association with the historical significance of the region, in a manner that preserves these resources for the benefit and pleasure of present and future generations.

Grand Teton National Park's Master Plan, approved in 1976, provides general direction for management of the park. This master plan introduces a number of management initiatives, which directly influence the DCP. These are as follows:

- Hold overnight accommodations, visitor convenience facilities, and wilderness trail development at levels not exceeding those established in 1971.

- Strictly control the pollutants produced as a result of park use.

- Reduce the impact of intrusive structures on the park, including residential and operational facilities.

- Provide new modes of visitor access to park experiences, no less convenient than those provided in the past, but resulting in reduced impact upon park resources.

- Provide an interpretive program that gives park visitors and neighbors the opportunity to understand park resources and opportunities.

- Participate in bringing Federal, State, local entities, and individuals together for the development and implementation of a regional plan in which each unit is put to its best use.

This DCP supplements the master plan and addresses uses within the Teton Corridor from Moose Junction to North Jenny Lake Junction. Some uses within the corridor conflict with each other, causing problems with efficient management of park resources and visitor services. Park management has begun to alleviate these conflicts by initiating

a comprehensive planning effort within the corridor.

Completion of the Teton Park Road project will help alleviate circulation, safety, and visitor access problems, but will change existing use patterns. With the realignment of the road between Timbered Island and North Jenny Lake Junction, including new circulation in the Jenny Lake and String Lake areas, plans developed in the original Jenny Lake DCP are no longer relevant or desirable.

The corridor encompasses five major areas tied together by a scenic road with intermittent turnouts and parking areas for interpretation, picnicking, and hiking. There is major development at Moose, Beaver Creek, Jenny Lake, Jenny Lake Lodge, and String Lake. Numerous problems arise within this corridor because of the lack of space to adequately separate conflicting uses or to accommodate future expansion.

A comprehensive design to ensure a quality visitor experience is needed to consolidate similar activities and to separate conflicting uses, to provide for concession facilities, while protecting natural site resources, and to provide safe and enjoyable circulation for vehicles, pedestrians, hikers, bicyclists, and horseback riders. This plan will address the quality, location, type, and level of facilities needed to efficiently accommodate visitor use and administrative services within the corridor area.

The DCP will evaluate strategies to protect natural and cultural resources as well as strategies to enhance the quality of visitor experience. The plan will also evaluate alternatives to consolidate park operations and reduce conflicting uses by providing adequate space and separation between diverse park users.

ISSUES

The following issues constitute the significant items identified thus far. These issues will provide the preliminary focus for this planning effort.

Visitor Services

The quality, location, type, and level of visitor services and facilities necessary to efficiently accommodate use in the corridor needs to be determined.

The park provides many visitor services in the corridor, including visitor reception, information (park history, literature), orientation (maps and guides), interpretation, scenic turnouts, and areas to accommodate numerous activities such as hiking, backpacking, climbing, camping, swimming, horseback riding, bicycling, snowmobiling, cross-country skiing, fishing, and rafting. Each visitor service should be assessed regarding its appearance and its impact on existing resources. Each service needs appropriate space to accommodate visitor use and enjoyment, without harming the resources that characterize the Teton Corridor. Each service should be assessed to determine its optimum location. For instance, visitor information and orientation may be provided at the

point the visitor enters the park, or it may be more effectively provided at another location, such as Jenny Lake.

The type of facility required for each service should be determined, as should the extent of each service provided. For example, the need for picnicking should be assessed. Once the need is determined, the number and location of units, and the type of facilities necessary to effectively accommodate picnicking (restrooms, tables, reinforced surfaces) should be determined. Each visitor service should be analyzed to assure that visitor needs are met, while impacts to resources are eliminated or mitigated.

Park Operations

Park administrative, operational, and maintenance requirements necessary to support visitor and resource management of the corridor should be determined.

The types of facilities necessary to effectively and efficiently carry out park administration must be determined as well as their location, spatial requirements, and appearance. Maintenance needs should also be assessed to determine what facilities are required, whether their location should be consolidated or dispersed, and what impacts the facilities will have on visual and natural resources.

Circulation

Circulation should be planned to efficiently and sensitively accommodate a variety of users and uses and to accommodate visitor and administrative parking needs.

Several conflicting circulation patterns are evident throughout the corridor. Conflicts result from inadequate separation of diverse uses, all of which require different design standards. Use of vehicles, including cars, bicycles, buses, rafts, trailers, campers and snowmobiles, as well as use by pedestrians, horseback riders, hikers, and cross-country skiers, all must be taken into consideration when planning circulation patterns.

Inadequate separation between different and sometimes competing functions also creates circulation congestion. An assessment is needed to determine circulation and parking requirements for each function throughout the corridor. Safety is another concern. Clearly visible intersections are needed with adequate space to facilitate continuous traffic flow. Visual quality should be a consideration in determining circulation patterns in order to provide an enjoyable visual sequence as users move through the corridor, as well as to avoid impairment of scenic resources.

The situation at Moose is an example of circulation conflicts resulting from inadequate separation of diverse users. Numerous and diverse facilities are provided at Moose, in an area limited in space by Menor's Ferry historic area, Teton Park Road, the Chapel of the Transfiguration, and the Snake River. Within this area, facilities include the visitor center, park administration and maintenance buildings, park housing, and rafting services. In addition, the store, post office, and gas station are located across Teton Park Road. Each facility requires different parking needs and provides services for many different

users. Other areas that should be assessed as to circulation and parking requirements are Beaver Creek, Highlands Ranch, Lupine Meadows, Jenny Lake, Jenny Lake Lodge, and String Lake.

Housing

The amount, location, quality, and type of housing necessary to serve concessioners and National Park Service employees should be determined. Also, conflicts caused by existing housing located in prime resource and visitor use areas must be resolved.

The Master Plan recommends that housing be phased out of the Moose, Beaver Creek, Highlands Ranch, and Jenny Lake areas, where it may conflict with prime resources, and that it be relocated near the south or east boundary within the park, or outside the park, near Jackson. This plan may supplement or change the present Master Plan. Right now, housing is scattered throughout the corridor with major developments at Moose, Beaver Creek, Highlands Ranch, and Lupine Meadows. Visual quality is poor because of a lack of unified architectural theme, poor structural integrity, dispersed utilities, and encroachment on visitor use and prime natural resource areas. Increased maintenance costs also result from scattered development.

The location and need for dispersed or consolidated employee housing should be determined. Housing should be situated in such a way that it efficiently accommodates visitor and park services, while protecting visual and natural resources. Adaptive use of existing structures should be considered. Sensitive location of utilities, including water, electricity, telephone, and sewer, must also be accomplished. Historic significance of structures used for park housing should be assessed.

Concessioners

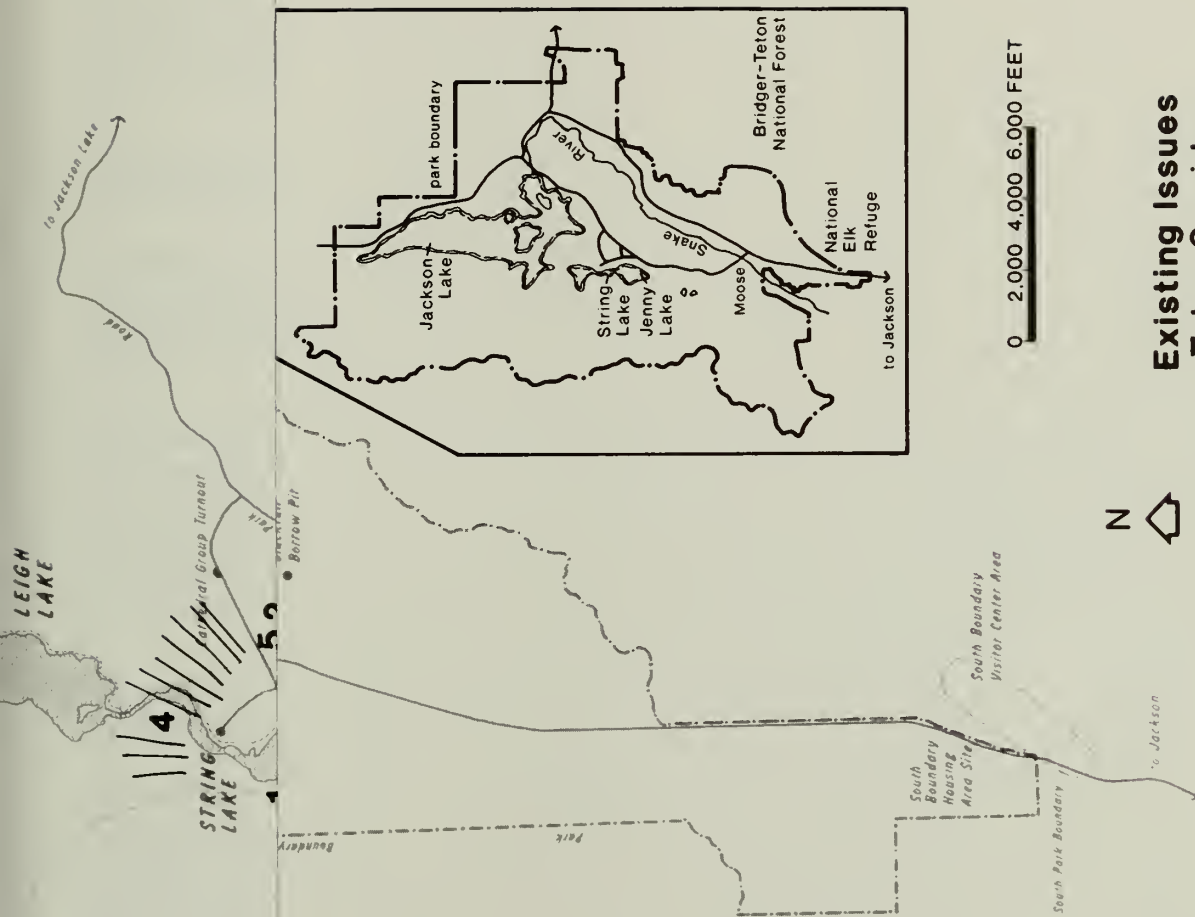
The appropriate level, type, and location of concessioner-provided visitor services should be determined. Impact of existing and proposed concessioner facilities on natural and historic resources, visitor experience, and safety must be a consideration in developing alternatives.

The Master Plan states that visitor convenience facilities and overnight accommodations should not exceed levels established in 1971. It also recommends that horse use be relocated to the eastern boundary of the park. Many of the concessioner services are in prime resource areas and their impacts on water quality, trails, vegetation, wildlife, and view should be determined. Some concessioner facilities are scattered and poorly maintained, contributing to a condition of visual clutter. Location of concession facilities should facilitate visitor access and provide an enjoyable visitor experience.

Historic Structures

Management policies addressing maintenance costs, appearance, interpretive needs, visitor access, and resource impact are needed to determine future treatment of structures that are historically significant.

There are many structures scattered throughout the corridor, some of which have been determined to be historically significant. They will be assessed for interpretive needs, visual quality, structural integrity, and maintenance requirements. Access to these structures should be looked at and assessments made as to desirability of maintaining lengthy gravel entrance roads and rehabilitating structurally unsafe bridges. The impacts of bringing visitors into remote areas of the park, possibly disturbing wildlife habitats and piedmont lakes, or crossing the floodplains, for the purposes of historic interpretation should be weighed against the potential value gained. Facilities required for visitor use (restrooms, utilities) should be determined. Protection of historic districts from conflicting uses must be addressed.



Existing Issues **Teton Corridor** **Grand Teton National Park** United States Department of the Interior - National Park Service

THE PROPOSAL AND ALTERNATIVES

INTRODUCTION

The proposal presented in this chapter constitutes the National Park Service's proposed development concept plan for the Teton Corridor, Moose to Jenny Lake Junction, in Grand Teton National Park. The two alternatives also presented in this chapter address the issues in different ways. The current management/no-action alternative reflects no change in existing conditions for the area.

Alternatives considered in this plan are a complete set of management options to solve the issues identified in the purpose and need section of this plan. Actions proposed for each area are interdependent with actions proposed for other areas. Thus a management action proposed at Moose may also affect a proposed action at Beaver Creek. Each alternative is packaged with a general emphasis statement and presents one level of proposed solutions.

ALTERNATIVES CONSIDERED, BUT NOT IN DETAIL

Several alternatives were considered by the interdisciplinary team during the alternative formulation process. These were slight modifications of the ones presented. The following represents a brief description of those considered and brief explanation as to why they were not included in the final set for selection.

Alternate locations were considered for housing. Kelly area was considered, but dropped as infeasible because it was too far from existing operations and partially in a floodplain. Proposals to find housing on private land were dropped because of expense, constricted private land base, and location. Proposals for more primitive, less attractive seasonal housing were considered, but dropped because decent housing is an important element in attracting good seasonal employees to the park.

An alternate location near the airport was considered for the maintenance yard and storage. This was rejected because of operational considerations.

Several alternatives were considered for historic structures. Most are already outlined in the park's cultural resource management plan and were rejected due to expense or conflicts with protection of natural resources. Appendix A lists actions on historic structures contained in the proposal and includes a list of contributing properties, their National Register of Historic Places (NRHP) status, the impact the proposal would have on them, protective measures outlined in the DCP, and the rationale for the actions presented in the proposal.

OVERALL MANAGEMENT

The following management guidelines apply to all alternatives:

- When historic structures are removed, they will be relocated and adaptively used at another location, when feasible.
- A self-guiding trail, accessible to persons with disabilities, will be provided in the Jenny Lake area. Whenever feasible, new facilities will be accessible to persons with disabilities and existing facilities will be brought up to handicapped-accessible standards, where possible.
- A hazard fuel reduction plan will be implemented to reduce danger from wildfires around developments and facilities.
- Opportunities for recycling will be provided.
- Winter use within the corridor will be coordinated in the Joint Winter Use Plan for Grand Teton and Yellowstone National Parks and the J. D. Rockefeller, Jr. Memorial Parkway.
- All food handling and garbage collection will be accomplished using "bear-resistant" procedures and equipment. Recycling garbage and other litter will be encouraged through programs within the park.
- The integrity of the viewshed and vistas of the prime resource, which can be described as those lands between the Moose to North Jenny Lake Road and the Teton Range, will be maintained. In addition, viewsheds and vistas toward the east, on lands controlled by the Bridger-Teton National Forest, need to be protected from adverse visual intrusions from oil field and timber harvest activities.
- All facilities will be constructed with materials and techniques that will minimize earthquake damage.
- The park will apply an opportunity purchase/easement program for all private inholdings.

THE PLAN - NPS PROPOSAL

Summary of the Proposal

The NPS proposal represents management's plan to solve many of the issues presented in this document. The Proposal Map shows the overall resolution of and general relationship between issues presented in the proposal. It should be referred to while reading the text.

The proposal calls for some changes in the park's facilities, which would result in an overall improvement in park operations. It would *provide the appropriate level of changes to present operations, park facilities, and uses necessary to separate conflicting uses, serve the visitor, and reduce resource impacts.*

The Corridor Area Map shows the general location for all areas mentioned in this alternative. Specific development concept plans are shown for some areas.

The proposal includes relocation of major visitor orientation and interpretive services from Moose to the vicinity of the park's southern boundary. These are discussed in detail in the section entitled South Boundary Area.

At Moose, the proposal would increase the quality of human history and valley interpretation by improving the interpretive site at Menor's Ferry. It would consolidate park operations by moving research and resource management offices from Beaver Creek to Moose. It would decrease the amount of area requiring snow plowing. It would improve wildlife habitat through proposed removal of some facilities, would improve safety through facility and circulation improvements and would retain and improve integrity of some historic structures. Design changes would improve circulation and separate conflicting visitor uses.

At Beaver Creek, the proposal would improve safety and aesthetics. It would separate conflicting uses. Historic and non-historic uses would be separated and the historic district retained. It would improve the existing road, allowing for more efficient snow plowing. It would improve the quality of park and concessioner seasonal housing.

Within the corridor from Beaver Creek to Lupine Meadows, the proposal would provide a centrally coordinated and centrally located summer Search and Rescue operation at Climber's Ranch area. It would improve park management by consolidating seasonal housing at a central location. It would improve wildlife habitat by removing Fabians and placing seasonal closures on the River Road. It would improve resource management by relocating Taggart Corral. It would retain low cost accommodations for visitors at Climber's Ranch. Some historic structures would be stabilized.

In the Lupine Meadows area, the proposal would move some activities out of the prime resource. It would reduce horse/hiker conflicts. It would improve air quality through paving gravel roads, which have caused dust problems. Resource management would be improved through hardened trails and defined parking. It would improve safety through replacement of the Cottonwood Creek Bridge. Circulation would be improved by separating conflicting uses and removing some services.

At Jenny Lake, the proposal would improve visitor orientation/interpretation, retain motorized boat use, and provide for improved and expanded hiker/biker camping sites. It would improve resource protection and separate conflicting uses by removing some facilities and functions from the lake shore. It would improve safety and aesthetics and protect resources by defining trails in high-use areas. It would adaptively use some historic structures in the service complex.

At String Lake, the proposal would upgrade the existing facility by providing a developed picnic area. It would enhance resource protection by removing facilities from the lake shore and defining use areas. It would separate the competing functions of the picnic area, boat launch, and trailhead.

At Jenny Lake Lodge, the proposal would define employee and guest parking, improve resource management, and reduce horse/hiker conflicts by limiting horse use to specified trails.

The proposal addresses the planning issues as follows:

Visitor Services and Facilities. The proposal would construct a new visitor center near the south boundary; would expand and convert space at the existing visitor center for additional office space, a post office, and an information/reception area for administration; would modify the Jenny Lake area to facilitate visitor use, and rehabilitate and expand a picnic area at String Lake, provide a raft launch and picnic area at Moose, and make other improvements within the corridor to support the visitor. Major improvements in interpretive services at Jenny Lake, Murie Ranch and Menor's Ferry are also proposed.

Concessioner Visitor Services. Some consolidation of existing concessioner operations would occur - the gas station/store at Moose would be upgraded, improved services would be provided at Jenny Lake, the concessioner horse operation at Lupine Meadows would be phased out and removed, the concessioner horse operation at Jenny Lake Lodge would be confined to designated routes, Exum Climbing sales office would be moved to the Visitor Service Area at Jenny Lake, and moderate improvements would be provided for Jenny Lake Lodge. Some provisions would also be made for essential concessioner seasonal housing at Beaver Creek and in the Highlands Ranch/Climber's Ranch area.

Park Operations. Park operations would change with the consolidation of all offices at Moose, the visitor center function near the south boundary, some reorganization of the maintenance area, and additional NPS seasonal housing at Beaver Creek.

Circulation. Some major improvements in circulation would be accomplished from the consolidation of some similar functions and the relocation of others.

Housing. The proposal would amend the 1976 Grand Teton National Park Master Plan for housing by proposing the rehabilitation and expansion of housing in the Moose and Beaver Creek areas. Housing for NPS seasonal and permanent employees would be rehabilitated and upgraded at Moose and substantially expanded at Beaver Creek. New housing would be constructed at Beaver Creek for NPS permanent and seasonal employees. The Lupine Meadows and Jenny Lake housing areas would be phased out and removed.

Historic Resources. Selected historic resources would be emphasized. A replica of Menor's Ferry would be constructed and the area rehabilitated. A portion of the Murie Ranch would be interpreted. Crandall Studio and the ranger station at Jenny Lake would

be placed in the Jenny Lake complex between the two parking areas. Contributing historic structures at the Bar BC Ranch would be evaluated for retention. The integrity of the Beaver Creek Historic District would be maintained. A detailed list of contributing properties, their NRHP status, the impact the proposal would have on them, protective measures outlined in the DCP, and the rationale for the actions outlined in the proposal are provided in Appendix A.

General

The following information applies to all areas within the proposal:

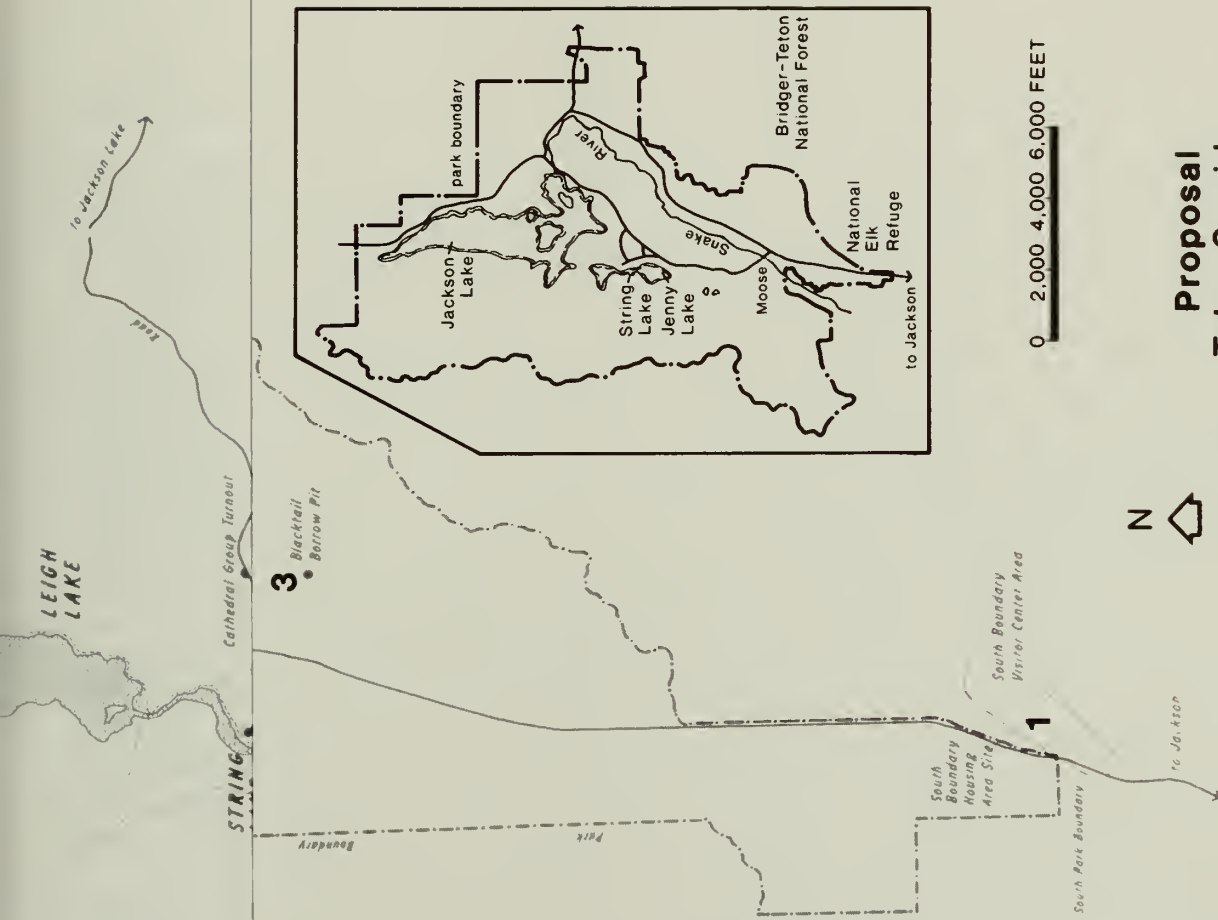
Site Rehabilitation. In general, the proposal provides for the complete rehabilitation of abandoned roads, trails, ditches and impacted areas to existing ecological standards in addition to rehabilitation required at major developments. Table 1 summarizes rehabilitation needs.

Table 1 - Rehabilitation Needs

| Area | Miles | Area |
|-----------------------------------|--------------|--------------|
| Highway 89 to Moose | 2.0 | 6.3 |
| Moose Bridge to Moose Wilson Rd. | 1.5 | 3.6 |
| Moose Wilson Rd to Windy Pt. | 9.0 | 24.1 |
| Windy Point to Cottonwood Crk. | 1.8 | 49.3 |
| Cottonwood Crk.to Timbered Is.Rd. | 5.75 | 48.8 |
| Timbered Is. to S. Jenny | 11.0 | 59.2 |
| S. Jenny to N. Jenny | 9.5 | 27.8 |
| N. Jenny to Sting Lake | 2.5 | 21.0 |
| TOTAL | 43.05 | 217.3 |

Architectural Theme. The proposal provides for a general architectural theme throughout the corridor that emphasizes rustic log architecture or incorporates architecture for new construction and planned renovation that is historically common to the area. This would exclude minor modifications to existing structures.

Utilities. The proposal provides for the burial of all utility lines. It also includes the upgrading and winterization of all storage tanks and water, sewer, electric, and telephone lines to meet State and Federal standards. Table 2 displays the utility needs by area. This does not include any additions for new construction.



Proposal **Teton Corridor** **Grand Teton National Park** United States Department of the Interior - National Park Service

**Note: A. Zinner shown to Teton Park Road - a new alignment*

Table 2

| AREA | ELECTRIC LINES To be Buried | TELEPHONE To be Buried | ADDITIONAL NEEDS |
|--|--------------------------------|---------------------------|--|
| Moose | 2,600 LF | 2,600 LF | Replace 3,000 LF waterline, 1 sewer lift station |
| Beaver Creek | 250 LF | 250 LF | Replace 1 well, 500 LF of sewerline |
| Corridor: Beaver Creek to Lupine Meadows | 47,250 LF | | |
| Climber's Ranch | 500 LF | 500 LF | Replace 500 LF waterline |
| Jenny Lake | | | Replace 2,600 LF waterline |
| Jenny Lake Lodge | | | Replace 1 sewage lift station |

South Boundary Area

The proposal includes relocation of major visitor orientation and interpretive services from Moose to the vicinity of the park's southern boundary. This relocation will eliminate the problems at Moose, associated with congested circulation, inadequate space for the visitor, and inadequate separation of conflicting uses, which interfere with a positive visitor experience. The new visitor center would include all the functions currently provided at Moose. These include an area for audiovisual presentations, information services, trip planning and visitor orientation, cooperative association offices, exhibits, book sales, book storage, relief model, a workroom, library, and public restrooms. A maintenance storage area would be constructed at the Blacktail Borrow Site to replace the one vacated at Moose. Interpretive themes at this facility could include major themes outlined in the park's Interpretive Prospectus. Themes that may be appropriate for this area are: 1) Movement along the Teton Fault combined with three different periods of glacial ice have created the landscape that supports the natural systems that flourish in Grand Teton National Park. 2) Grant Teton National Park is affected by conditions of the Greater Yellowstone Ecosystem as the Greater Yellowstone Ecosystem is affected by natural and political global trends. The facility should have adequate space for parking, should be adequately separated from other resources, should be adjacent to a highway, where it can attract the most visitors, and should be situated so that the prime resource of the park - Grand Teton - is fully visible from it. A facility satisfying these requirements would better orient visitors to Grand Teton National Park and improve the facilities for visitor services/interpretation.

The visitor center could be entirely a National Park Service facility or if the location and NPS functions could accommodate other Agency needs, a joint facility could be built. The park requires a facility that will provide the full range of interpretive services outlined above. A joint facility would provide a visible sign of cooperation under the Greater Yellowstone Area concept and an opportunity for cost sharing in construction and operation among Federal Agencies. The park service would support a joint facility in addition to the park visitor center if that facility serves as a one-stop center for the visitor to Jackson Hole, Wyoming. A one-

stop facility would provide a brief orientation/trip planning service and describe the variety of resources the visitor could enjoy. A joint facility would be complementary with, but not duplicative of, the more thorough interpretive story presented at the park's proposed visitor center were the joint facility a one-stop center. However, the National Park Service recognizes that a joint facility could accommodate all of the needs discussed above.

The following outlines approximate space needed to replace the visitor center function at Moose:

Visitor Center Space Requirements - National Park Service Only

| Description | Space Requirement |
|--|-------------------------------|
| Audiovisual Theater | 1,700 |
| Lobby/Information Desk | 900 |
| Book Sales | 750 |
| Exhibits | 1,500 |
| Alcove for Model Relief | 500 |
| Office/Naturalist and Seasonal Supervisor | 600 |
| Two Offices for Cooperating Associations | 600 |
| Book Storage Space for Cooperating Association | 1,000 |
| Workroom/Library/Lunchroom | 600-700 |
| Public Restrooms | 1,000 |
| Mechanical | 800 |
| Approximate Total | 10,000 |
| Parking area Capacity | 108 cars, 30 buses/RVs |

Other Agencies may need additional visitor space and/or office space. For the National Park Service, the net total requirement is 10,000 square feet and the gross space requirement is 12,500 square feet, or about 25 percent additional space to provide for entry ways, hallways, and so on. Parking capacity is based on a peak average daily traffic count of 4,600 vehicles per day along the Teton Park Road (Wyoming State Highway Department), a 48 percent stopping rate, a 70 percent car: 24 percent RV: 6 percent bus ratio, and an average length of stay of .5 hour in an 8 hour day.

The visitor center would serve as the primary focus for interpretation of the resources and missions of all Agencies involved. There are three clear advantages to this approach.

- It would provide a visible sign of interagency cooperation in the Greater Yellowstone Area.
- It would provide an area where the differences and similarities in the missions of Agencies could be stated. It could help clarify the role of each Agency in the GYA.
- It would attract about one quarter to one third of the visitors to the GYA.

Moose

Under the proposal, park operations, maintenance, administration, housing, and concession operations would remain at Moose. This concept is outlined on The Moose DCP Map.

Specifically, this proposal calls for the NPS to retain and maintain the integrity of existing and potential National Register of Historic Places structures in the Murie Ranch area and to provide parking and a trail to the Murie residence and interpretation at the site. The proposal calls for upgrading the existing gas station/store. The post office would be moved to the north side of the road. The area gained by moving the visitor center function to the south boundary would be used for additional office space and the post office. The existing administration/maintenance area would be reorganized. A picnic area would be provided and the raft launch would be retained in its present location and upgraded. Housing at Moose would be upgraded to modern standards and landscaped. Covered storage would be added to existing houses. A community multi-purpose building would be constructed. Research and resource management offices at Beaver Creek would be relocated to Moose. Office space would be expanded and upgraded as indicated in Tables 23 - 26 and 6 (Space Requirements). The appearance of the maintenance area would be improved by landscaping.

Table 3 shows the Housing Space requirements for the proposal.

| Table 3 - Moose Housing (Permanent Employee Housing) (SF) | | | |
|--|--------------|------------|--------|
| Description | No. of Units | Space Each | Total |
| Single Family - 3-Bedroom to Remain (P) | 22 | 1,350 | 29,700 |
| Duplex - 3-Bedroom to Remain (P) | 6 | 1,280 | 7,680 |
| Apartment - 2-Bedroom to Remain (P) | 8 | 1,120 | 8,960 |
| New Single Family - 3-Bedroom (P) | 3 | 1,350 | 4,050 |
| New Duplex - 3-Bedroom (P) | 2 | 1,280 | 2,560 |
| (S) Seasonal (P) Permanent (C) Concessioner Seasonal | | | |

At Menor-Noble Historic District, a replica of Menor's Ferry would be built and interpreted. The ferry would be built at full scale and would not interfere with river raft traffic. Menor's Ferry is the site's primary theme, and its reconstruction is essential to the public understanding of the site. A furnishing plan would be completed for the Menor cabin to coincide with the period represented by the general store (ca 1900). New exhibits would be developed for the history museum depicting the human history of the valley (pre-history to dude ranching). The historic photo exhibit in the Noble cabin would be redone, based on the theme of the early days in Jackson Hole. The self-guiding trail would be retained, hardened and improved. Structures comprising the 4 Lazy F Dude Ranch would be removed and the site rehabilitated after private interests were relinquished.

Visitor Services and Facilities. Under the proposal, the new visitor center would be constructed near the south boundary and the existing visitor center would be used as a contact station and as additional office space for park administration and operation and as a small post office. A new picnic facility would be constructed and a raft launch for both concessioner and private use would be redesigned to separate the two uses.

Concessioner Visitor Services. Concessioner visitor services would be improved by the upgrading of the existing store/gas station. Parking would be redesigned and improved. The raft launch parking and facilities would be improved, adding to the concessioner's efficiency in providing better float opportunities for visitors.

Park Operations. Research and resource management offices from Beaver Creek would be consolidated into space provided by moving the visitor center to the south boundary. The storage space in the maintenance area would be moved to the Blacktail Borrow Site. Operations would be improved by being nearer to management and other divisions.

Circulation. Circulation would be improved at the gas station/store because of redesign and relocation of the gas pumps and parking. Space acquired through the relocation of the visitor center would also help to improve overall circulation.

Housing. Housing would be brought up to standard. Mission 66 type housing would be rehabilitated and given a general face lift. Five additional units would be provided. A formal storage area for the use of residents will be designated, paved and fenced.

Historic Resources. The buildings and structures of the 4 Lazy F Dude Ranch would be removed and the access road and site rehabilitated. A replica of Menor's Ferry would be built and the site interpreted. The main structures of the Murie Ranch would be retained. A parking lot separate from the immediate vicinity and a trail to the Murie residence would be provided in the future.

Beaver Creek

Under the proposal, Beaver Creek would become a primary housing area. Existing housing would be expanded and upgraded to modern standards. The majority of seasonal housing in the corridor would be consolidated at Beaver Creek. Mobile homes would be removed and replaced with permanent structures. Seasonal mobile home pads would be placed out of sight of the Teton Road and additional vegetative screening would be planted. The existing utility yard would be relocated to the Blacktail Borrow Site and trailer pads would be added for seasonal employees in its place. A community multipurpose building would be provided. The existing road design would be reorganized and upgraded for ease of snow removal and a parking area would be defined. Table 4 shows the housing space requirements under this alternative. Research and resource management offices would relocate to Moose. The existing Historic District would be preserved and maintained according to the *Secretary of the Interior's Standards for Rehabilitation* and *NPS-28, Cultural Resource Management Guideline*, which provide guidance on the preservation of the integrity of a historic district. Adaptive uses - storage, administration, and housing - would be made of structures inside historic district boundaries.

Park Operations. The proposal would relocate offices for research and resource management to Moose and would relocate the utility yard to the Blacktail Borrow Site.

Circulation. Moderate changes would be made in the road system to improve overall circulation. The double road in the Beaver Creek area would be combined into one road. Parking would be redesigned, formalized, and paved. Separate areas for seasonal and permanent housing would be defined in a manner consistent with increased ease of snow plowing. The NPS winter search and rescue cache would be located at the entrance to the housing area for operation during the winter months. A formal storage area for residents' use would be designated, paved and fenced.

Housing. Under the proposal, housing would be expanded in this area to absorb removal and consolidation of NPS seasonal and permanent housing elsewhere. Existing housing would be upgraded to modern standards. A new loop for seasonal trailers for both concessioner and seasonal employees would be constructed. New seasonal and permanent duplex and single family units would be built. The Beaver Creek DCP Map shows the development plan for Beaver Creek.

| Table 4 - Beaver Creek Housing (Permanent, Seasonal, and Concessioner) (SF) | | | |
|---|--------------|------------|--------|
| Description | No. of Units | Space Each | Total |
| Single Family - 3-Bedroom to Remain (P) | 2 | 1,350 | 2,700 |
| Single Family - 2-Bedroom to Remain (P) | 2 | 1,000 | 2,000 |
| Single Family - 1-Bedroom to Remain (P) | 1 | 720 | 720 |
| Single Family - 2-Bedroom - Removed (S) | 2 | 1,000 | 2,000 |
| Duplex - 2-Bedroom - Removed (S) | 1 | 875 | 875 |
| Duplex - 1-Bedroom - Removed (S) | 5 | 420 | 2,100 |
| Mobile Home - 2-Bedroom - Removed (P) | 2 | 720 | 1,440 |
| Mobile Home - 3-Bedroom - Removed (S) | 3 | 715 | 2,145 |
| Mobile Home - 1-Bedroom - Removed (S) | 1 | 540 | 540 |
| Mobile Home Sites - Relocated (S) | 10 | | |
| New Mobile Home Sites (S) | 5 | | |
| Mobile Home Sites - Relocated (C)-GTLC | 5 | | |
| New Mobile Home Sites (C)-GTLC | 3 | | |
| New Mobile Home Sites (C)-Other | 4 | | |
| New Mobile Home Sites (C)-Teton Boating | 2 | | |
| New Quadplex - 2-Bedroom Units (S) | 28 | 850 | 23,800 |
| (S) Seasonal (P) Permanent (C) Concessioner Seasonal | | | |

Historic Resources. The historic district would be maintained with improvements to circulation and the existing road system. Three garage buildings would be adaptively used

Note: Development for this area is conceptual. Locations of proposed facilities are approximate and subject to adjustment during advance planning/site design.

existing 

proposed 

all areas shown are in the 500 year floodplain



MOOSE DCP

Grand Teton National Park

United States Department of the Interior - National Park Service

Note: Development for this area is conceptual. Locations of proposed facilities are approximate and subject to adjustment during advance planning/site design.

existing 
proposed 

all areas shown are in the 500 year floodplain



MOOSE DCP
Grand Teton National Park
United States Department of the Interior -
National Park Service

Corridor: Beaver Creek to Lupine Meadows

The Cottonwood Creek turnout picnic area would be formalized - three picnic tables and a vault toilet would be provided. The stock operation at Taggart Corral would be relocated to the Mormon Row area and the site would be rehabilitated. The proposed National Register of Historic Places buildings and structures on the Bar BC Ranch would be evaluated for possible retention and interpretation. Administrative access, parking, interpretation, and a trail would be provided. The River Road, with seasonal closures for wildlife, would be retained. A minimum of road maintenance and vehicle pullouts would be provided to protect the river viewshed. All structures at Fabian Place would be removed, including the bridge and abutments subject to recommendations of the Historic Site Preservation Plan. If the structures were removed, the site would be rehabilitated. Summer mountain rescue operations and associated personnel would be stationed in the Highlands Ranch/Climber's Ranch area, including Exum, NPS Search and Rescue, Climber's Ranch and helicopter operations. A helicopter pad would be built between Highlands Ranch NPS seasonal Housing and Climber's Ranch. The seasonal housing capacity of the Highlands Ranch area would be maintained. The area would be slightly altered and upgraded. A new area for Exum housing would be placed at a site between Highlands Ranch and Climber's Ranch. Climber's Ranch would be reorganized within the existing site. Existing cabins would be relocated/upgraded or replaced, parking defined, and the Cottonwood Creek bridge replaced. Capacity of Climber's Ranch would be maintained at pre-1985 levels. The Climber's Ranch DCP Map shows the development concept for the area. Table 5 shows the housing space requirements in the Highlands Ranch/Climber's Ranch area.

| Table 5 - Highlands/Climber's Ranch (Permanent, Seasonal, and Concessioner) (SF) | | | |
|--|--------------|------------|--------|
| Description | No. of Units | Space Each | Total |
| Highlands | | | |
| Single Family Log-2 Bedr.Remain (S) | 3 | 440 | 1,320 |
| Single Family Log -Efficiency Remain (S) | 13 | 430 | 5,590 |
| Single Family Log -1 Bedr. Remain (S) | 8 | 240 | 1,920 |
| Single Family Log -Efficiency Relocated (S) | 2 | 240 | 480 |
| Single Family Log -1 Bedr. Relocated(S) | 2 | 430 | 860 |
| Single Family Log-2 Bedr.Relocated(S) | 1 | 440 | 440 |
| Exum | | | |
| Relocated Cabins (C) | 10 | 1,000 | 10,000 |
| Shower/Restroom (C) | 1 | 400 | 400 |
| Climber's Ranch | | | |
| Cabins to Remain/Upgraded (C) | 2 | 800 | 1,600 |
| Cabins to be Relocated/Upgraded/Rebuilt | 10 | 410 | 4,100 |
| Outdoor Dining Hall to Remain/Upgraded | 1 | --- | --- |
| (S) Seasonal (P) Permanent (C) Concessioner Seasonal | | | |

Visitor Services and Facilities. The picnic area at the Cottonwood Creek Turnout would

be formalized with the addition of picnic tables and a vault toilet. Administrative access, interpretive signs and a trail would be added to the Bar BC Ranch area. The River Road, with seasonal closures for the protection of wildlife, would be minimally maintained for a motorized opportunity along the Snake River. Some small turnouts would be provided for parking.

Concessioner Visitor Services. A new area for Exum personnel and offices would be built at a site between Highlands Ranch and Climber's Ranch. Climber's Ranch would be reorganized within the confines of the existing site. Existing cabins would be relocated/upgraded or replaced, parking defined, and the Cottonwood Creek bridge replaced. Capacity of Climber's Ranch would be maintained at pre-1985 levels. The Exum office function would be moved to the Visitor Service Complex at Jenny Lake.

Housing. Climber's seasonal housing would be placed in one location - Highlands Ranch/Climber's Ranch.

Historic Resources. All buildings and structures at Fabian Place would be removed, including the bridge and abutments subject to recommendations of the historic structures report. The proposed National Register of Historic Places structures at the Bar BC Ranch would be evaluated for possible retention and interpretation. Administrative access, parking, interpretation, and a trail would be provided.

Lupine Meadows

Under the proposal, this area would be reorganized as shown on the Lupine Meadows DCP Map.

Visitor Services and Facilities. A new trailhead parking facility would be constructed at Lupine Meadows. A series of hardened trails would link the Lupine Meadows parking with the rest of the Jenny Lake area to help alleviate visitor density. The Jenny Lake boat launch would be improved and the parking formalized. The Cottonwood Creek Bridge would be replaced.

Concessioner Visitor Services. The horse concession operation would be phased out and removed. The Exum office would be moved to the Visitor Service Complex at Jenny Lake, and the site rehabilitated.

Park Operations and Circulation. Operations and circulation would be improved overall in the Jenny Lake-Lupine Meadows area with the addition of hardened trails and parking. The trailhead road and parking area would be paved. The gravel road to the boat launch and boat launch parking would be paved.

Housing. NPS and concessioner housing would be removed and the site rehabilitated. Essential housing would be relocated to Beaver Creek and Highlands Ranch. Exum seasonal housing would be relocated to a site between Highlands and Climber's Ranch (See Climber's Ranch Area DCP Map). Essential housing for Teton Boat Company would be relocated to Beaver Creek.



retain
natural
drainage

screen
planting

rehab

Beaver Creek
utility yard

retain
natural drainage

existing
proposed

Note: Development for this area is conceptual. Locations of proposed facilities are approximate and subject to adjustment during advance planning/site design.

Beaver Creek DCP

Grand Teton National Park

United States Department of the Interior -
National Park Service

300 FEET



CLIMBER'S RANCH DCP Grand Teton National Park

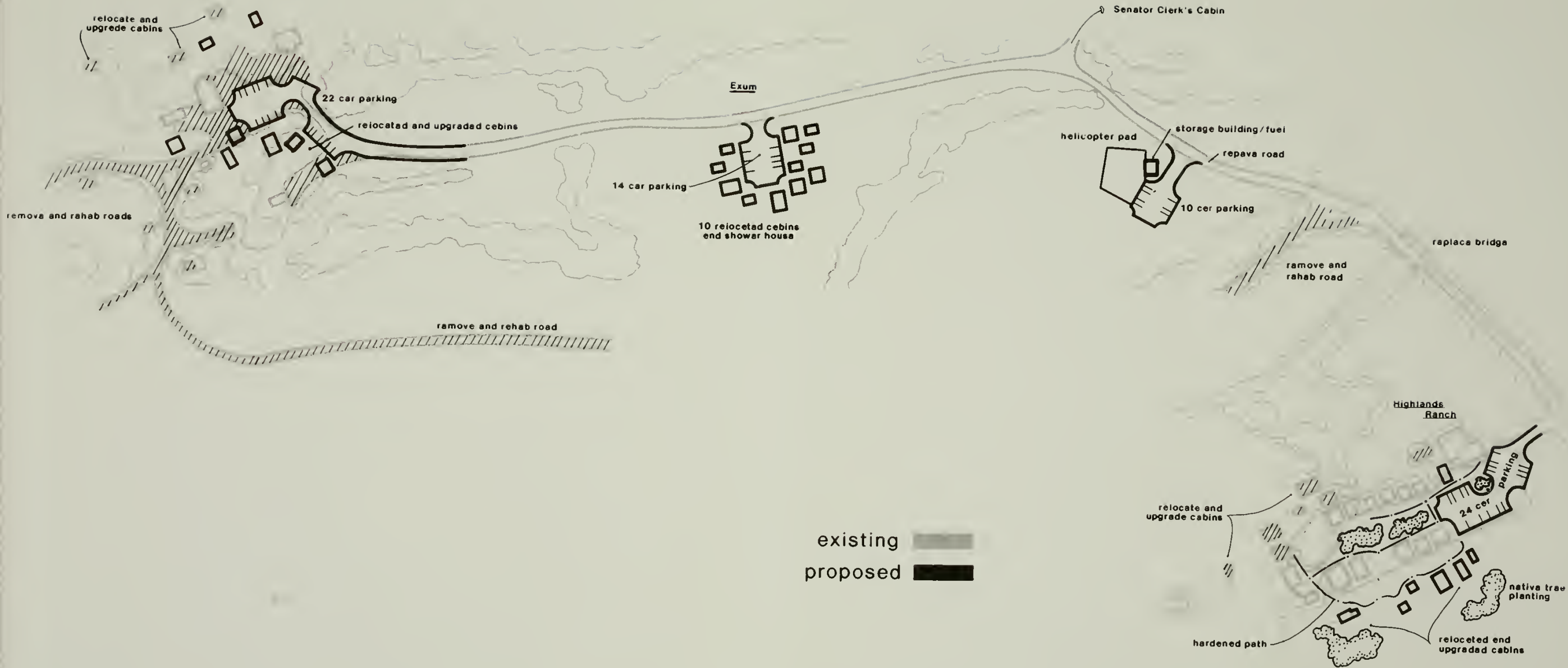
United States Department of the Interior -
National Park Service

No

Climber's Ranch

Exum

Senator Clerk's Cabin



Note: Development for this area is conceptual. Locations of proposed facilities are approximate and subject to adjustment during advance planning/site design.

CLIMBER'S RANCH DCP Grand Teton National Park

United States Department of the Interior -
National Park Service

Historic Resources. Structures would be removed, adaptively used elsewhere when feasible, and the site rehabilitated.

Jenny Lake

Under the proposal, the Jenny Lake area would be rehabilitated as shown on the Jenny Lake DCP Maps 1 and 2.

Visitor Service and Facilities. A new centralized service complex would be built adjacent to a newly constructed parking area. A network of hardened trails would be constructed to provide for high visitor densities. The existing campground sites and parking spurs would be upgraded and ten clustered walk-in sites for biker/hikers would be added. A small picnic area with at least two sites accessible to persons with disabilities would be provided in the South Jenny Lake area. The service area will include visitor orientation, interpretation and exhibits.

Concessioner Visitor Services. An Exum office would be placed in Jenny Lake Service Complex. New docks and toilet facilities would be constructed in the boating area and on the west side of Jenny Lake. The fuel delivery system would be brought up to State and Federal standards. The store would be located at the visitor service complex. Space allocation for the store would be small and its function would emphasize camper services. Lockers for security would be provided for the public. All other concessioner structures would be removed. Private motorboat use on Jenny Lake would be continued and motors up to 10 h.p. would be allowed.

Park Operations and Circulation. Operations and circulation would be improved overall in the Jenny Lake-Lupine Meadows area with the addition of consolidated trails management and parking. Walks and trails would be selectively hardened, paved and signed, and some areas would be fenced. Access to the lakeshore would be restricted to designated locations.

Housing. All housing would be removed from the Jenny Lake area.

Historic Resources. The Crandall Studio and ranger station would be moved and adaptively used in the visitor service complex. The historic restrooms would be relocated to the north end of the campground.

Table 6 shows the office space requirements for the Jenny Lake Complex.

String Lake

Under the proposal, the String Lake area would be rehabilitated as shown on the String Lake DCP Map.

Visitor Services and Facilities. The existing restrooms would be upgraded and new ones built. The portable toilets would be removed and vault toilets added. A canoe launch would be provided. A new trailhead parking area would be constructed. Landscaping would be added where needed. Impacted areas would be rehabilitated. Thirty to forty picnic sites and one to two shelters would be constructed. Existing facilities would be upgraded. Existing sites would be stabilized and defined. The pumphouse and old waterlines would be removed, and impacted and degraded areas would be rehabilitated.

Park Operations and Circulation. Trails would be hardened and walks selectively hardened, fenced and signed. Trailhead, canoe launch and parking, and picnic areas would be defined for separate uses.

Jenny Lake Lodge

Under the proposal, the Jenny Lake Lodge would be altered slightly as indicated on the Jenny Lake Lodge DCP Map.

Concessioner Visitor Services. The kitchen would be renovated and rebuilt. A new activity building and tack room would be constructed. The horse corral would be moved and screened. The total number of horses would be limited and horse use would be confined to designated trails. Accommodations for visitors would be improved by converting seven existing units from double to single units and providing seven additional units, but maintaining the current "pillow count". One additional employee unit (4 private baths) will be constructed.

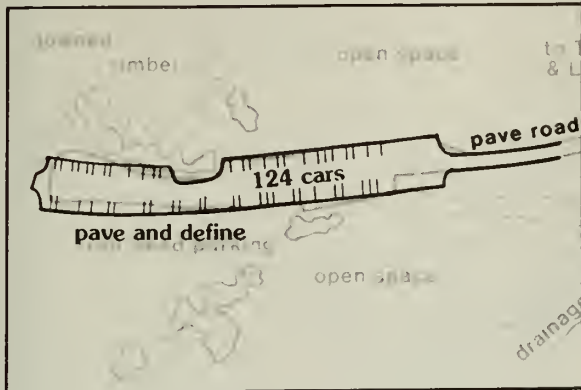
Park Operations. The ability of the park management to reduce hiker/horse conflicts would be improved with the confinement of horses from the Jenny Lake Lodge to a designated trail system.

Circulation. The proposal calls for improvements in road alignment and formalizing parking areas by defining, paving, curbing and screening with trees or fencing or both.

Operations

Under the proposal, the following additional staffing levels would be needed:

| | |
|---------------------------------|----------------|
| Maintenance | 1.6 FTE |
| Visitor Protection | 1.0 FTE |
| Visitor Services/Interpretation | 3.0 FTE |
| Resource Management | 1.0 FTE |
| Total | 6.6 FTE |



Lupine Meadows trailhead park trail

Note: Development for this area is conc
Locations of proposed facilities a
approximate and subject to adjust
during advance planning/site desi

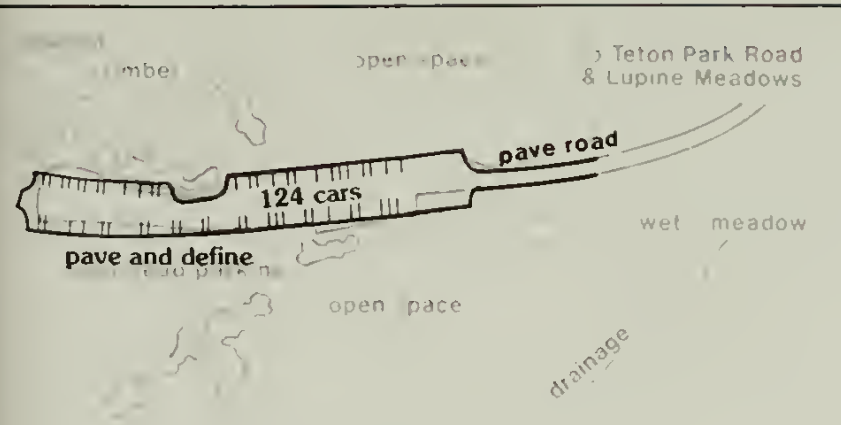


LUPINE MEADOWS DCP

Grand Teton National Park

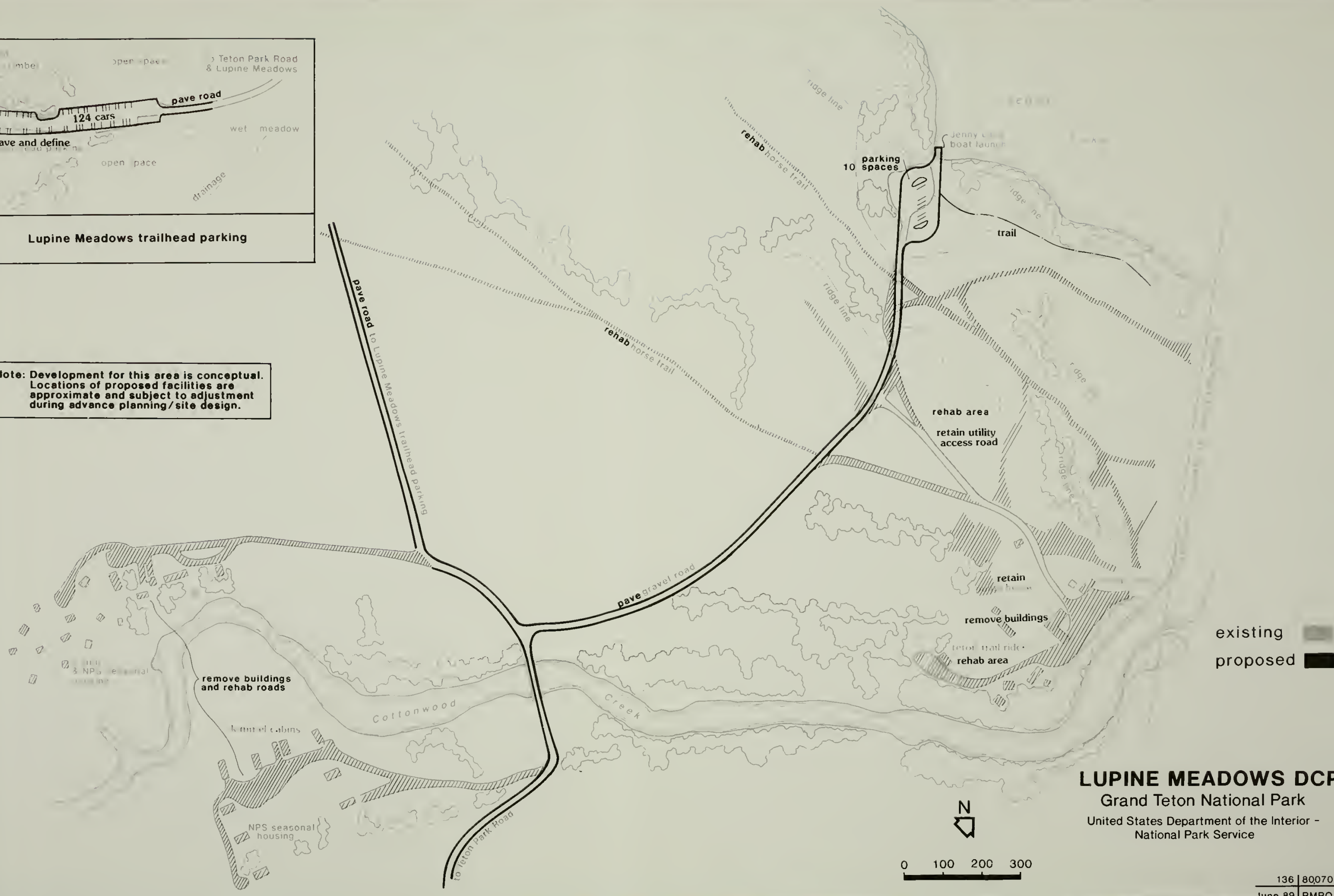
United States Department of the Interior -
National Park Service

C 300



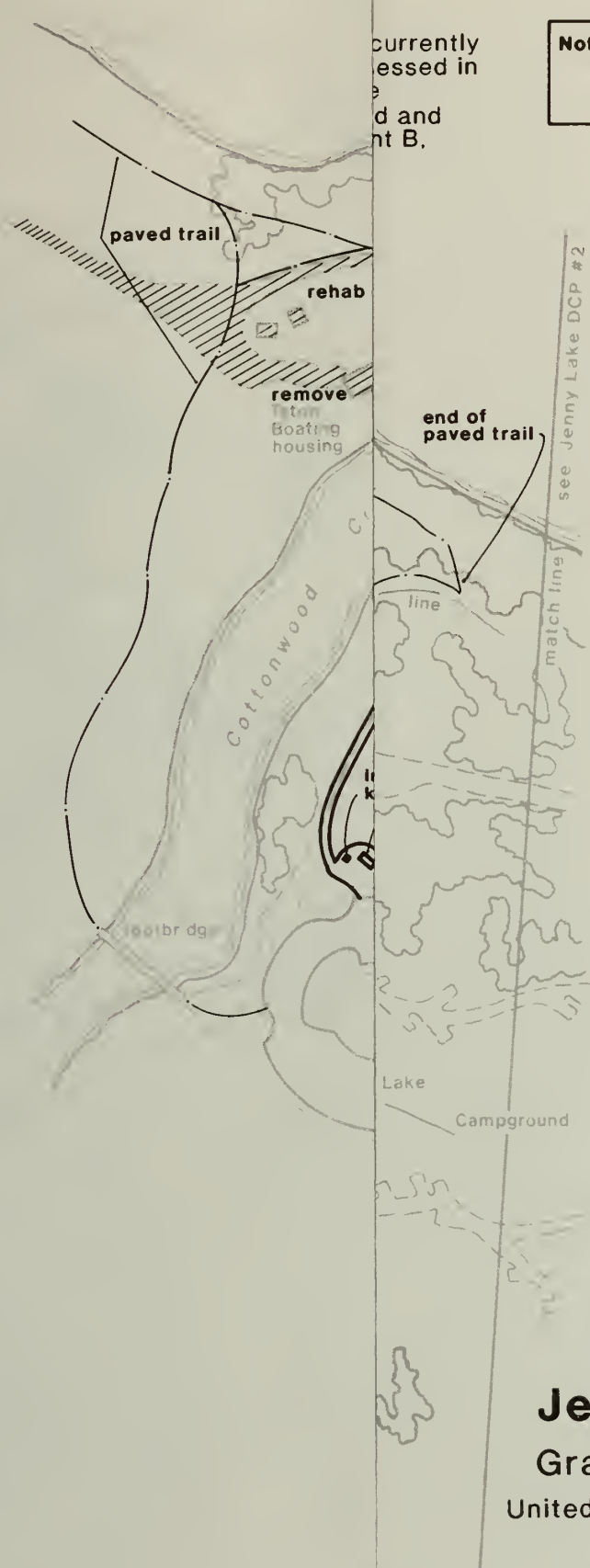
Lupine Meadows trailhead parking

Note: Development for this area is conceptual. Locations of proposed facilities are approximate and subject to adjustment during advance planning/site design.


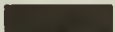


LUPINE MEADOWS DCP
 Grand Teton National Park
 United States Department of the Interior -
 National Park Service

0 100 200 300



Note: Development for this area is conceptual. Locations of proposed facilities are approximate and subject to adjustment during advance planning/site design.

existing 
 proposed 

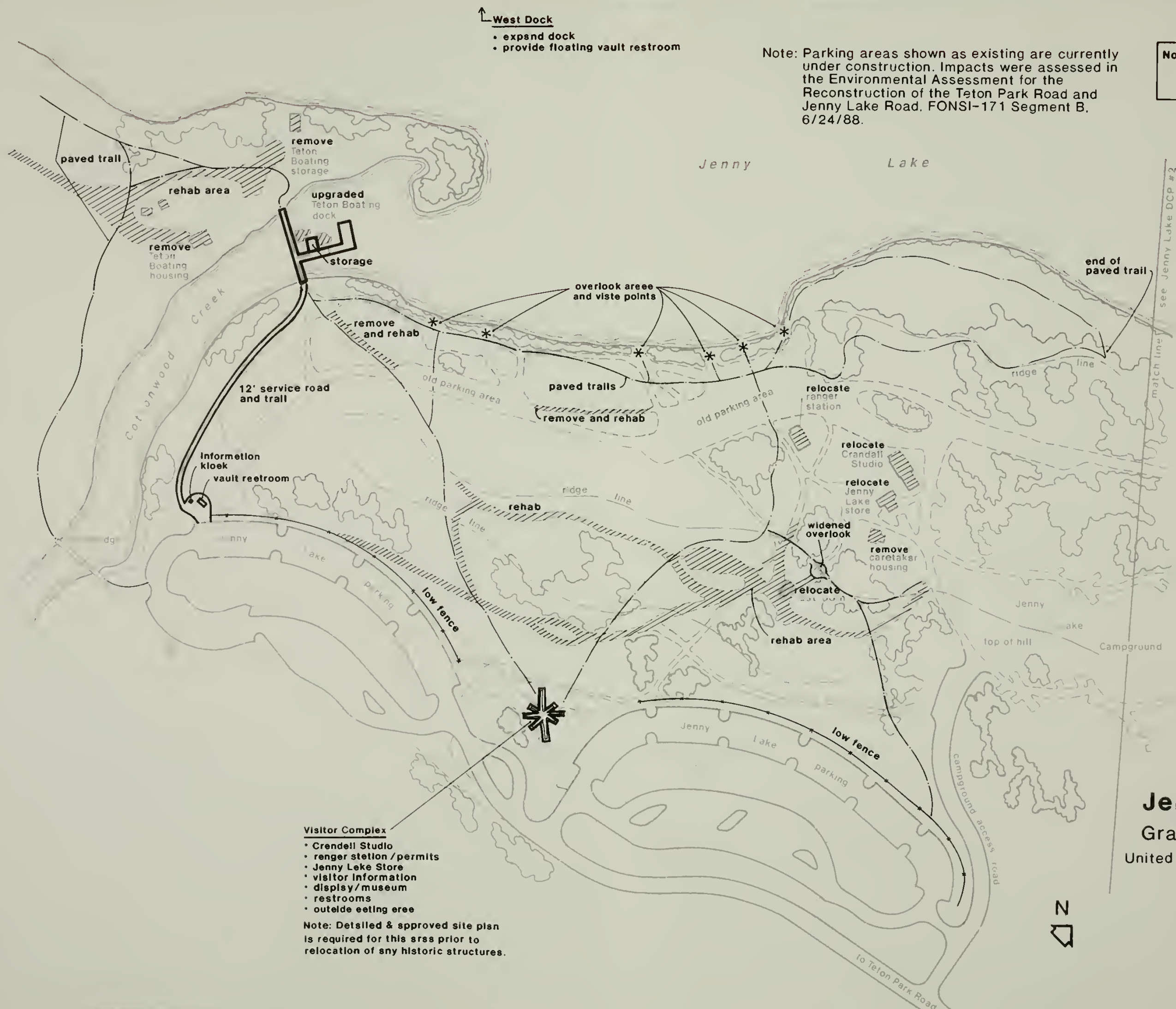
Jenny Lake DCP #1
Grand Teton National Park
 United States Department of the Interior
 National Park Service



- West Dock
- expand dock
 - provide floating vault restroom

Note: Parking areas shown as existing are currently under construction. Impacts were assessed in the Environmental Assessment for the Reconstruction of the Teton Park Road and Jenny Lake Road. FONSI-171 Segment B, 6/24/88.

Note: Development for this area is conceptual. Locations of proposed facilities are approximate and subject to adjustment during advance planning/site design.



existing 
proposed 

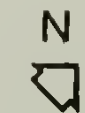
Visitor Complex

- Crandall Studio
- ranger station / permits
- Jenny Lake Store
- visitor information
- display/museum
- restrooms
- outside eating area

Note: Detailed & approved site plan is required for this area prior to relocation of any historic structures.

Jenny Lake DCP #1 **Grand Teton National Park** United States Department of the Interior National Park Service

0 100 200 300 FEET



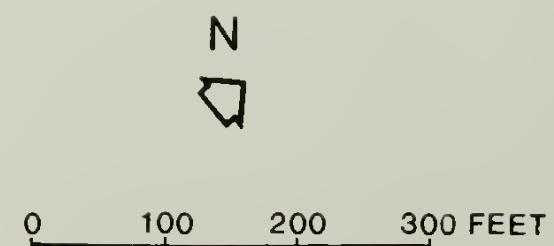
Note: Development for this area is conceptual. Locations of proposed facilities are approximate and subject to adjustment during advance planning/site design.

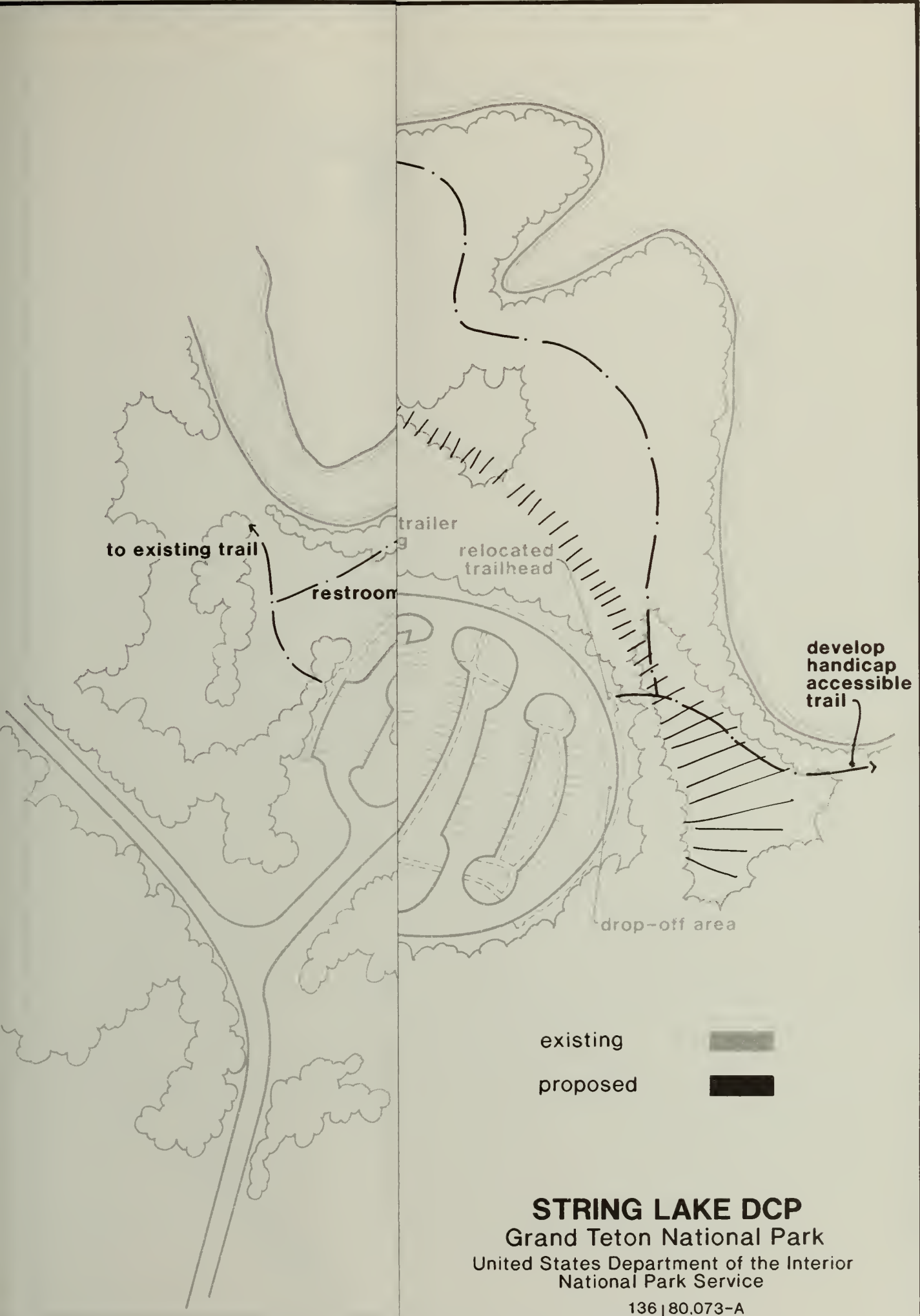


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 Realign (R)
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existing [solid line]
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Jenny Lake DCP #2
 Grand Teton National Park
 United States Department of the Interior -
 National Park Service





STRING LAKE DCP

Grand Teton National Park

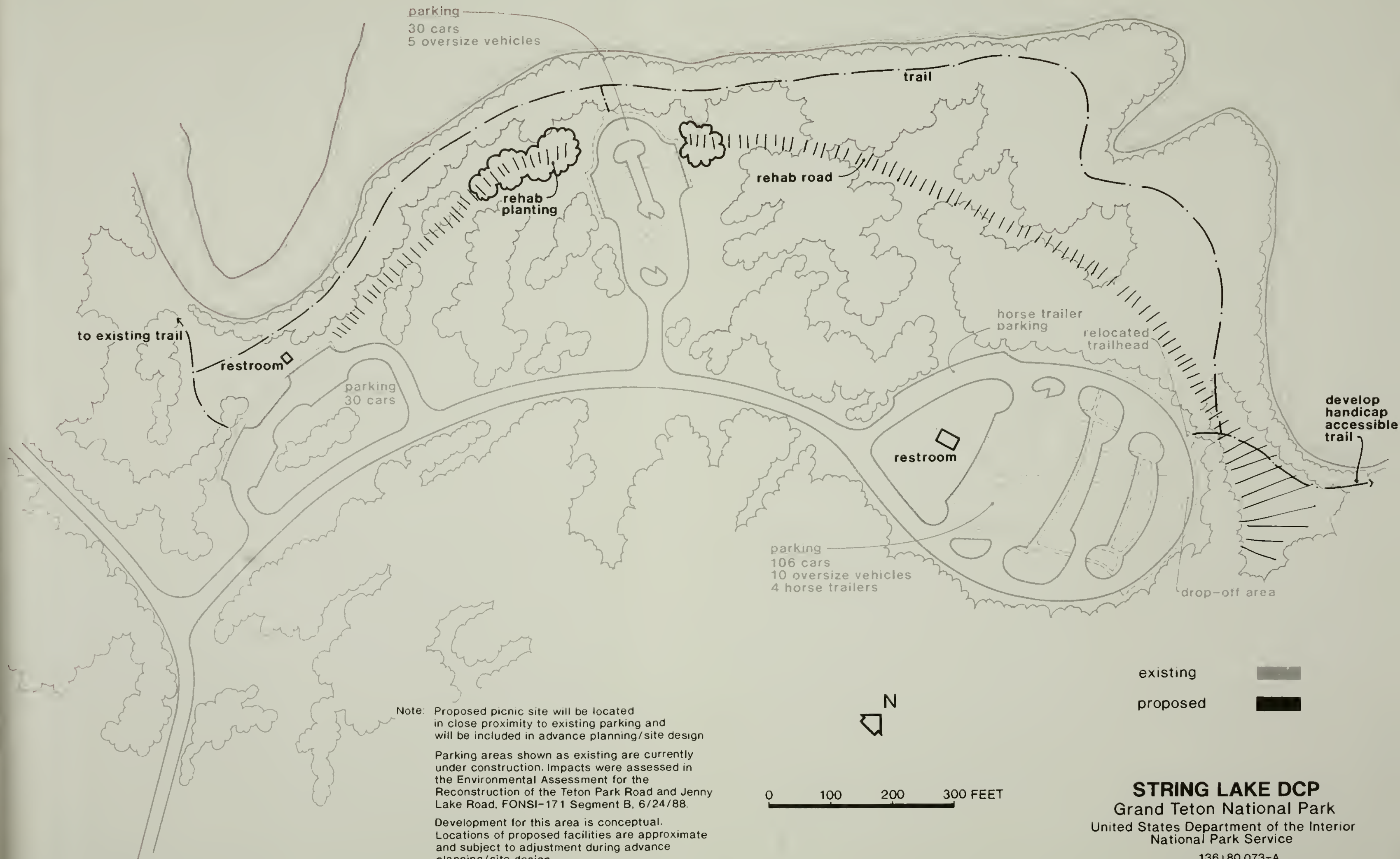
United States Department of the Interior
National Park Service

136 | 80.073-A

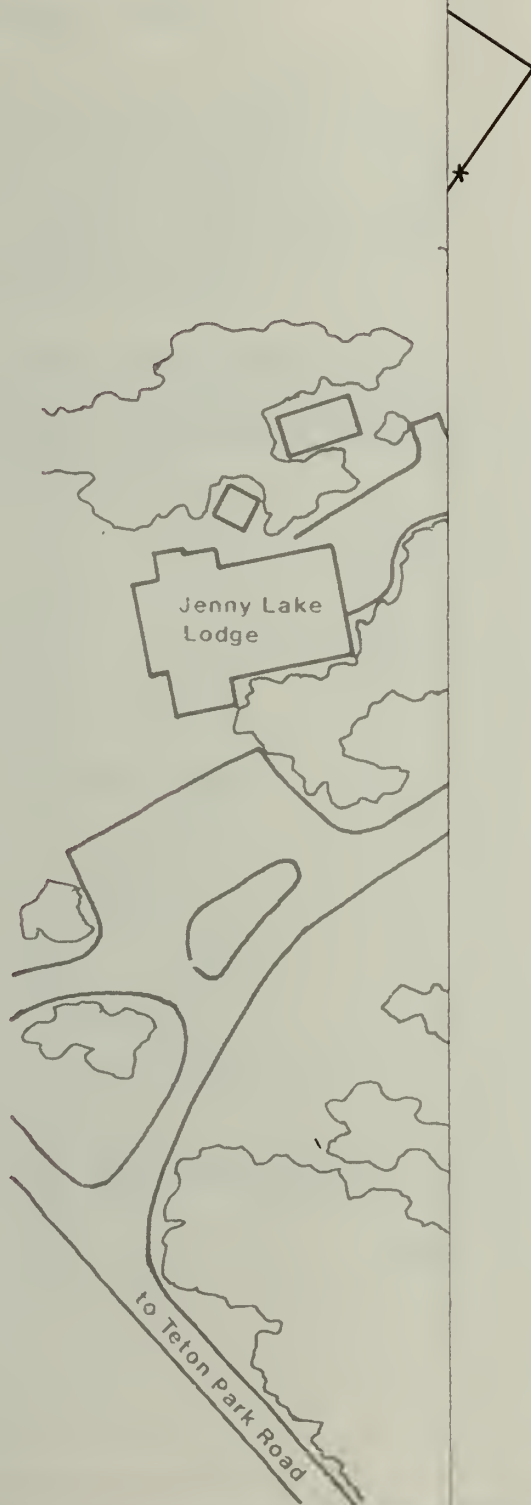
April 90 | RMRO

String

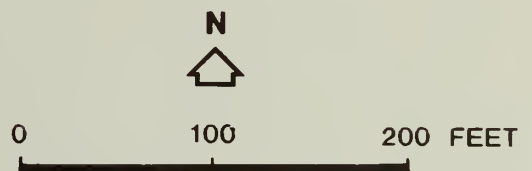
Lake



Note: Deve
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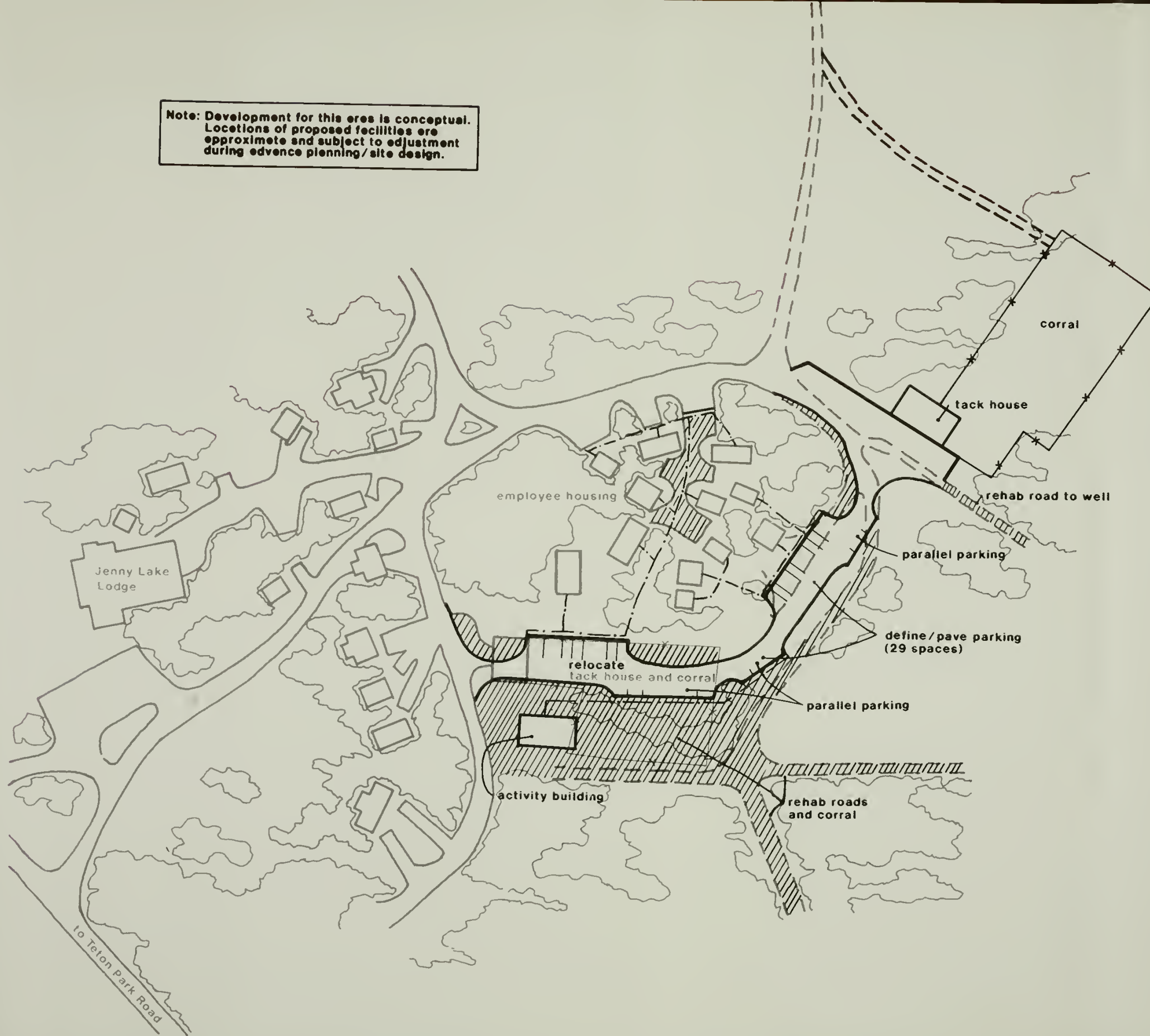
existing
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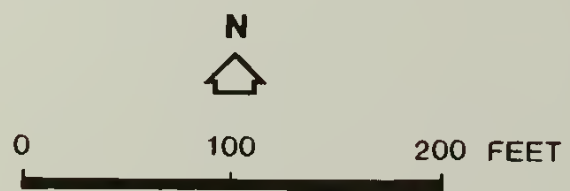
JENNY LAKE LODGE DCP

Grand Teton National Park
United States Department of the Interior -
National Park Service

Note: Development for this area is conceptual.
Locations of proposed facilities are
approximate and subject to adjustment
during advance planning/site design.



existing
proposed



JENNY LAKE LODGE DCP
Grand Teton National Park
United States Department of the Interior -
National Park Service

Estimates are based on a GS-5 step 5 salary for one full-time employee. Estimated yearly cost for additional staffing is \$148,341 and \$98,894 for supplies. Total recurring operation and maintenance costs under this alternative are \$247,235 with a one time equipment cost of \$180,000.

Construction Cost Estimate

The estimated cost to the National Park Service for the proposal is \$22,873,125. Table 7 outlines the itemized costs for the proposal:

Future Planning Needs

There are two future planning efforts that will be required if the proposal is adopted: planning for a visitor center at the south boundary and planning for management of the Snake River. The proposal includes relocation of major visitor orientation and interpretive services from Moose to the vicinity of the park’s southern boundary. Formal planning for this facility or facilities, negotiations with other Federal Agencies, a separate planning effort, and environmental assessment are identified as future planning needs should the proposal be adopted as the final plan.

Use of the Snake River corridor requires future planning. The river is used by many private and commercial float trip operators. Assessment for private and commercial float needs should be made. Capacity limits, which would resolve impacts of river float traffic on wildlife, should be determined.

| TABLE 7 - Teton Corridor Proposal | |
|-----------------------------------|-----------|
| ITEM DESCRIPTION | COST |
| Equipment Needs | |
| Maintenance | |
| Loader | \$40,000 |
| Pickups | \$15,000 |
| Snow blower | \$80,000 |
| Visitor Protection | |
| Patrol car | \$15,000 |
| Resource Management | |
| Pickup | \$15,000 |
| Visitor Services/Interpretation | |
| Pickup | \$15,000 |
| Total Equipment Costs | \$180,000 |

TABLE 7 - Teton Corridor Proposal

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|--|-------------------------|-----------------------------|------------------------|
| General - Phase II | | | |
| Imp of haz. fuel reduction 20 ac. | \$131,000 | \$25,000 | \$156,000 |
| Rehab impacted areas 270 acres | \$1,308,690 | \$249,750 | \$1,558,440 |
| Subtotal | \$1,439,690 | \$274,750 | \$1,714,440 |
| Moose - Phase II | | | |
| Additional office space 4,630sf | \$818,816 | \$156,263 | \$975,078 |
| Additional parking 50 cars | \$104,800 | \$20,000 | \$124,800 |
| Covered storage building 3,000sf | \$176,850 | \$33,750 | \$210,600 |
| Upgrade 3- bed. housing 22 *** | \$1,008,700 | \$192,500 | \$1,201,200 |
| Upgrade 3-bedroom duplex 6 *** | \$251,520 | \$48,000 | \$299,520 |
| Upgrade 2-bedroom apts 8 *** | \$293,440 | \$56,000 | \$349,440 |
| Upgrade fuel sys.stor. EPA&500yr Fldpn. | \$262,000 | \$50,000 | \$312,000 |
| New 3-bedroom house 3 | \$353,700 | \$67,500 | \$421,200 |
| New 3-bedroom duplex 2 | \$180,780 | \$34,500 | \$215,280 |
| Community building 3,000sf | \$491,250 | \$93,750 | \$585,000 |
| 200 Evergreen trees | \$23,580 | \$4,500 | \$28,080 |
| Sprinkler irrigation system 6 acres | \$58,950 | \$11,250 | \$70,200 |
| Hardened trails 6,200lf | \$153,826 | \$29,356 | \$183,182 |
| Low wooden fence 4,100 lf | \$96,678 | \$18,450 | \$115,128 |
| Housing road 500 lf | \$68,229 | \$13,021 | \$81,250 |
| Rd. resurf. housing loop 5,200 lf-22ft w | \$122,111 | \$23,304 | \$145,415 |
| Rehab existing housing road 800 lf | \$30,741 | \$5,867 | \$36,608 |
| Bury 2,600 lf electric | \$47,684 | \$9,100 | \$56,784 |
| Bury 2,600 lf telephone | \$17,030 | \$3,250 | \$20,280 |
| Replace 3000 lf waterline | \$216,150 | \$41,250 | \$257,400 |
| Sewer lift station | \$163,750 | \$31,250 | \$195,000 |
| 22 Picnic sites & tables | \$43,230 | \$8,250 | \$51,480 |
| Vault toilet at picnic area | \$26,200 | \$5,000 | \$31,200 |
| Undrgr. water storage 50,000 gal. | \$104,800 | \$20,000 | \$124,800 |
| Menor's Ferry | | | |
| Replicate ferry | \$32,750 | \$6,250 | \$39,000 |
| Implement furnishing plan | \$13,100 | \$2,500 | \$15,600 |
| Improve & replicate cabin | \$19,650 | \$3,750 | \$23,400 |
| New exhibits & photos | \$19,650 | \$3,750 | \$23,400 |
| Menor's ferry landscaping | \$8,515 | \$1,625 | \$10,140 |
| Paved parking 25 cars | \$52,400 | \$10,000 | \$62,400 |
| Paved parking 14 RV | \$82,530 | \$15,750 | \$98,280 |
| Concessioner cost 1)* | | | \$73,700 |
| Upgrade store/gas station facade \$30,000 LS 1)* | | | \$30,000 |
| Subtotal | \$5,343,410 | \$1,019,735 | \$6,466,845 |

***Housing upgrade includes new roof 6:12 pitch, electric wiring to code, replace exterior walks/patio, plumbing upgrade, garage expansion, interior remodeling

TABLE 7 - Teton Corridor Proposal

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|--|-------------------------|-----------------------------|------------------------|
| Beaver Creek - Phase II | | | |
| Upgrade single family housing 5 | \$229,250 | \$43,750 | \$273,000 |
| Remove housing & mobile homes 29 | \$94,975 | \$18,125 | \$113,100 |
| 7 quadplex 28 units | \$1,834,000 | \$350,000 | \$2,184,000 |
| 2 duplex -4 3-bedroom | \$361,560 | \$69,000 | \$430,560 |
| 6 3-bedroom w/attached garage | \$911,760 | \$174,000 | \$1,085,760 |
| Improve hist. bldgs. for storage | \$13,100 | \$2,500 | \$15,600 |
| Community building 3,000 sf | \$491,250 | \$93,750 | \$585,000 |
| Housing road 3,200 lf | \$436,667 | \$83,333 | \$520,000 |
| Rehab existing housing road 900 lf | \$34,584 | \$6,600 | \$41,184 |
| Wastewater treatment 35,000 g/day | \$1,179,000 | \$225,000 | \$1,404,000 |
| 50 Evergreen trees | \$5,895 | \$1,125 | \$7,020 |
| Sewer pipe 4,500 lf | \$224,010 | \$42,750 | \$266,760 |
| Underground electric 4,500 lf** | \$82,530 | \$15,750 | \$98,280 |
| Sewer 4,500 lf | \$235,800 | \$45,000 | \$280,800 |
| Water 4,500 lf | \$200,430 | \$38,250 | \$238,680 |
| 2 Wells 200 lf | \$41,920 | \$8,000 | \$49,920 |
| Telephone 4,500 lf ** | \$82,530 | \$15,750 | \$98,280 |
| New trailer court & utilities 25 sites | \$393,000 | \$75,000 | \$468,000 |
| Subtotal | \$6,852,261 | \$1,307,683 | \$8,159,944 |
| Corridor:Beaver Creek to Lupine Meadows - Phase II | | | |
| Cottonwood Creek turnout | | | |
| Picnic tables 3 | \$1,965 | \$375 | \$2,340 |
| Vault toilet | \$26,200 | \$5,000 | \$31,200 |
| River road | | | |
| 10 car parking | \$10,480 | \$2,000 | \$12,480 |
| 3 signs | \$1,965 | \$375 | \$2,340 |
| Highlands | | | |
| Cabins/relocated/upgraded 5 | \$163,750 | \$31,250 | \$195,000 |
| Cabins/upgraded 14 | \$275,100 | \$52,500 | \$327,600 |
| Paved parking 24 cars | \$37,728 | \$7,200 | \$44,928 |
| Climber's Ranch | | | |
| Relocate/upgrade 10 cabins | \$327,500 | \$62,500 | \$390,000 |
| Paved parking 22 cars | \$34,584 | \$6,600 | \$41,184 |
| Climber's Ranch/Exum | | | |
| Paved parking 14 cars | \$22,008 | \$4,200 | \$26,208 |
| Pave narrow road 2,400 lf | \$163,750 | \$31,250 | \$195,000 |
| Underground telephone 500 lf ** | \$9,170 | \$1,750 | \$10,920 |
| Underground electric 500 lf ** | \$9,170 | \$1,750 | \$10,920 |
| Septic sys/leach field | \$65,500 | \$12,500 | \$78,000 |
| Waterline 1,000 lf | \$44,540 | \$8,500 | \$53,040 |
| Sewerline 1,000 lf | \$30,130 | \$5,750 | \$35,880 |
| Well 100 lf | \$10,480 | \$2,000 | \$12,480 |
| Helipad | | | |
| Concrete pad 2,000sf | \$6,550 | \$1,250 | \$7,800 |
| Fuel storage | \$19,650 | \$3,750 | \$23,400 |
| Paved parking 10 cars | \$15,720 | \$3,000 | \$18,720 |
| Concessioner cost | | | |
| Exum 10 cabins moved/remodl. 3)* | | | \$35,100 |
| Exum shower house 3)* | | | \$49,000 |
| Subtotal | \$1,275,940 | \$243,500 | \$1,603,540 |

TABLE 7 - Teton Corridor Proposal

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|--|-------------------------|-----------------------------|------------------------|
| Lupine Meadows - Phase II | | | |
| Housing removal | \$65,500 | \$12,500 | \$78,000 |
| Paved boat parking 10 car/trailer | \$58,950 | \$11,250 | \$70,200 |
| Paved parking 10 car | \$20,960 | \$4,000 | \$24,960 |
| Paved road 9,100 lf | \$1,241,771 | \$236,979 | \$1,478,750 |
| Paved trailhead parking 30 car/trailer | \$62,880 | \$12,000 | \$74,880 |
| Hardened trails 3,300 lf | \$81,875 | \$15,625 | \$97,500 |
| Low wooden fence 4,300 lf | \$101,394 | \$19,350 | \$120,744 |
| Boat ramp 30x50 | \$3,275 | \$625 | \$3,900 |
| Cottonwood creek bridge 75'lx24'w | \$282,960 | \$54,000 | \$336,960 |
| Subtotal | \$1,919,565 | \$366,329 | \$2,285,894 |
| Jenny Lake - Phase I | | | |
| Relocate CrSt/RS to visitor cplx. | \$131,000 | \$25,000 | \$156,000 |
| Restore CrSt/RS 2,000sf **** | \$655,000 | \$125,000 | \$780,000 |
| Visitor ser. cplx. landscaping | \$13,100 | \$2,500 | \$15,600 |
| Visitor ser. cplx interp/audio/visual | \$131,000 | \$25,000 | \$156,000 |
| Visitor ser. cplx. comfort sta. | \$117,900 | \$22,500 | \$140,400 |
| Move historic comf. sta. n. cmpg | \$19,650 | \$3,750 | \$23,400 |
| Septic/drain field for his.comf.sta. | \$26,200 | \$5,000 | \$31,200 |
| Picnic area 20 tables | \$13,100 | \$2,500 | \$15,600 |
| Reestab. cmpg. veg. 4,000 seedlings | \$26,200 | \$5,000 | \$31,200 |
| Hardened trails 5,800lf | \$143,902 | \$27,462 | \$171,364 |
| Low wooden fence 8,600 lf | \$202,788 | \$38,700 | \$241,488 |
| Deck overlooks 3 @ 1,600sf | \$201,216 | \$38,400 | \$239,616 |
| Rehab cmpg. 38 sites | \$69,692 | \$13,300 | \$82,992 |
| Redesign cmpg. add 44 sites | \$172,920 | \$33,000 | \$205,920 |
| Campground toilets | \$26,200 | \$5,000 | \$31,200 |
| Paved road 800 lf | \$109,167 | \$20,833 | \$130,000 |
| Replace waterline 2,600 lf ** | \$115,804 | \$22,100 | \$137,904 |
| Remove foot bridge | \$2,620 | \$500 | \$3,120 |
| Jenny Lake concessioner cost | | | |
| Upgrade dock facility 4)* | | | \$70,200 |
| Subtotal | \$2,177,458 | \$415,545 | \$2,663,204 |

**** Concessioners using space would be charged a use fee.

TABLE 7 - Teton Corridor Proposal

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|------------------------------------|-------------------------|-----------------------------|------------------------|
| String Lake - Phase II | | | |
| Paved parking - under construction | --- | --- | --- |
| Hardened trails 5,300 lf | \$131,496 | \$25,095 | \$156,591 |
| Low wooden fence 7,600 lf | \$179,208 | \$34,200 | \$213,408 |
| Restrooms 2 | \$54,583 | \$10,417 | \$65,000 |
| Picnic site 40 | \$52,400 | \$10,000 | \$62,400 |
| Shade shelters 2 @1,000 sf | \$104,800 | \$20,000 | \$124,800 |
| Entrance sign | \$6,550 | \$1,250 | \$7,800 |
| Interpretive sign | \$1,310 | \$250 | \$1,560 |
| Subtotal | \$530,348 | \$101,211 | \$631,559 |
| Jenny Lake Lodge - Phase II | | | |
| Concessioner cost 1)* | | | |
| Move tack bldg 1,000sf | | | \$10,000 |
| New activity bldg 1,000sf | | | \$76,000 |
| Paved parking 45 cars | | | \$63,200 |
| Cabin expansion/remodel | | | \$70,000 |
| Upgrade kitchen | | | \$10,000 |
| Subtotal | | | \$229,200 |
| Grand Total | \$19,538,671 | \$3,728,754 | \$23,934,625 |

TOTAL PROJECT COST

| | |
|------------------------------|--------------|
| Phase I | \$2,663,204 |
| Phase II | \$20,677,922 |
| National Park Service Cost | \$23,341,125 |
| Equipment cost | \$180,000 |
| Concessioner Cost | |
| 1)*Grand Teton Lodge Company | \$259,200 |
| 2)*American Alpine Club | -0- |
| 3)*Exum Mountain Guides | \$84,100 |
| 4)*Teton Boat Co. | \$70,200 |
| Total Concessioner Cost | \$413,500 |

| | |
|--------------------|--------------|
| TOTAL PROJECT COST | \$23,934,625 |
|--------------------|--------------|

1)* & 4) *Includes all planning, design and construction costs. NPS policy requires that to the extent it is economically feasible, the concessioner undertake all costs relating to construction of its own facilities as well as utilities, roads, parking, and similar infrastructure. Such feasibility determination has not yet been made, but will be accomplished prior to implementation of this plan. The cost allocation above must therefore be regarded as tentative.

1)*, 2)*, & 3)* At the new location these concessions will rent facilities provided by government improvements to conduct their operations.

** Include existing to be buried

ALTERNATIVE A

Summary of Alternative

This alternative calls for some major improvements in park facilities and would result in significant changes in park operations. It would *provide significant changes in park operations and uses by guiding natural and cultural resource protection, enhancing visitor experience, improving park facilities and uses through consolidation, and providing space and separation between diverse uses*. The map for Alternative A shows the general resolution and relationship of issues suggested by the alternative. It should be referred to while reading the text.

Visitor Services and Facilities. Changes to visitor services and support facilities include the removal of the existing visitor center at Moose, the modification of the Jenny Lake area to facilitate visitor use, the rehabilitation and expansion of a picnic area at String Lake, the construction of a new visitor center at the south boundary, provisions for a raft launch and picnic area in Moose or its immediate vicinity, and other improvements within the corridor to support the visitor. Major improvements in interpretive services at Jenny Lake and Menor's Ferry are also proposed.

Concessioner Visitor Services. Some concessioner operations would be eliminated or reduced. The gas station/store at Moose would be removed, improved services would be provided at Jenny Lake, the concessioner horse operation at Lupine Meadows and Jenny Lake Lodge would be phased out, and moderate improvements allowed for Jenny Lake Lodge. Exum would be relocated to the Highlands Ranch/Climber's Ranch area.

Park Operations. Administration and research and resource management offices would be relocated to the south boundary visitor center complex, maintenance to the Blacktail Borrow Site, and NPS seasonal housing built at the south boundary.

Circulation. Circulation improvements would be accomplished through consolidation of similar functions and relocation of others.

Housing. Housing would be eliminated in Moose and substantially reduced in Beaver Creek. New housing would be built near the south boundary for NPS employees, with provisions for concessioner seasonal housing. All other housing would be removed.

Historic Resources. Selected historic resources would be emphasized, with the reconstruction and rehabilitation of Menor's Ferry. Bar BC Ranch would be maintained as a historic district. The integrity of the Beaver Creek Historic District would be maintained.

General

The following information applies to all areas within this alternative:

Site Rehabilitation. In general, this alternative provides for the rehabilitation of abandoned roads, trails, ditches, and impacted areas to ecological standards. Table 1 shown under the

proposal summarizes rehabilitation needs.

Architectural Theme. This alternative provides for the conversion of existing structures throughout the corridor to meet a unified rustic log architectural theme. The same theme would apply to new construction as well.

Utilities. This alternative provides for the burial of all utility lines. It also includes the upgrading and winterization of all storage tanks and water, sewer, electric, and telephone lines to meet State and Federal standards. Table 8 displays the utility needs by area. It does not include any requirements for new construction.

Table 8

| AREA | ELECTRIC LINES To be Buried | TELEPHONE To be Buried | ADDITIONAL NEEDS |
|--|--------------------------------|---------------------------|--|
| Moose | 2,600 LF | 2,600 LF | Replace 3,000 LF waterline, 1 sewer lift station |
| Beaver Creek | 250 LF | 250 LF | Replace 1 well, 500 LF sewerline |
| Corridor: Beaver Creek to Lupine Meadows | 47,250 LF | | |
| Climber's Ranch | 500 LF | 500 LF | Replace 500 LF waterline |
| Jenny Lake | | | Replace 2,600 LF waterline |
| Jenny Lake Lodge | | | Replace 1 sewage lift station |

South Boundary Area

Under this alternative, administration, park operations, and housing would be at the south boundary. Housing would be built on the west side of Highway 191/26/89 inside the park's south boundary near Abercrombie. Maintenance would be located at the Blacktail Borrow Site. (See Corridor Area Map).

The new visitor center and park administration and operations offices would be built near the south boundary. The alternative calls for inclusion of park offices with a jointly funded visitor center. Table 9 shows the visitor center space required by the NPS should this alternative be chosen.

Table 9 - Visitor Center Space Requirements - National Park Service Only

| Description | Space Requirement |
|--|------------------------|
| Audiovisual theater | 1,500 |
| Lobby/information desk | 700-800 |
| Book sales | 500 |
| Exhibits ¹ , | 500 |
| Alcove for model relief | 500 |
| Two offices for Cooperating Associations | 450 |
| Book storage space for Cooperating Association | 1,000 |
| Workroom/library/lunchroom | 600-700 |
| Public restrooms | 1,000 |
| Mechanical | 800 |
| Office space - Superintendent | 1,200-1,300 |
| Office space - Administration | 3,300-3,400 |
| Office space - Naturalist | 1,100-1,200 |
| Office space - Rangers | 2,400-2,500 |
| Office space - Maintenance (Blacktail Borrow Site) | 2,600-2,700 |
| Office space - Resource Management | 1,500-1,600 |
| Office space - Natural History Association | 500-600 |
| Approximate Total | 23,000 |
| Parking area capacity | 108 cars, 30 buses/RVs |
| Employee parking | 40 cars cars |

The net total is 23,000 square feet. Gross space requirements are 27,600 square feet, or about 25 percent additional space to allow for hallways, entryways and so on. Parking capacity is based on a peak average daily traffic count of 4,600 vehicles per day along the Teton Park Road (Wyoming State Highway Department), a 48 percent stopping rate, a 70 percent car: 24 percent RV: 6 percent bus ratio, and an average length of stay of .5 hour in an 8 hour day.

A maintenance area would be built at the Blacktail Borrow Site to replace the one vacated at Moose. A housing area providing most park housing would be built. Table 10 shows the housing requirements for this alternative.

**Table 10 - South Boundary Housing
(Permanent, Seasonal, Concessioner)
(SF)**

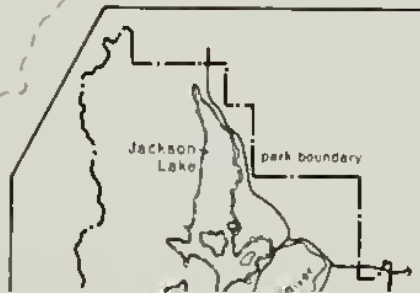
| Description | No. of Units | Space Each | Total |
|-----------------------------------|--------------|------------|--------|
| New Single Family - 3 Bedroom (P) | 30 | 1,350 | 40,500 |
| New 2-Bedroom Units (S) * | 50 | 850 | 42,500 |
| New 1-Bedroom Units (S) * | 20 | 700 | 14,000 |
| New Mobile Home Sites (S) | 15 | | |
| New Mobile Home Sites (C) | 10 | | |

(S) Seasonal (P) Permanent (C) Concessioner Seasonal

* Includes housing to replace seasonal capacity at Lupine Meadows and essential concessioner housing.



- 1 - Visitor Services and Facilities
- 2 - Concessioner Visitor Services
- 3 - Park Operations
- 4 - Circulation
- 5 - Housing
- 6 - Historic Resources



Visitor Services and Facilities. A new visitor center would be constructed in a highly visible area.

Park Operations. Administrative, operations and maintenance functions (Blacktail Borrow Site) would be moved to this area.

Moose

Under this alternative, park operations, maintenance, administration, housing and concession operations would be removed from Moose. The only services and functions that would remain would be a picnic area, Menor's Ferry, and the raft/boat launch. Specifically, this alternative calls for the NPS to relocate Murie Ranch residence to the Teton Science School, remove the remaining structures, and rehabilitate the existing access road and site. The alternative calls for removing the gas station/store and relocating the post office to the new visitor center at the south boundary. The existing visitor center, park administration, housing, operations, and maintenance buildings would be removed and the area rehabilitated. Housing would be in the south boundary, offices for park operations and administration at the visitor center, and maintenance offices, operations, and storage at the Blacktail Borrow Site. A picnic area would be provided adjacent to the Snake River and the raft launch would be upgraded and retained in its present location.

At Menor - Noble Historic District, a replica of Menor's Ferry would be built, placed in the Snake River, and operated by NPS personnel for demonstration purposes. The ferry would be built at full scale and would not interfere with river raft traffic. Menor's Ferry is the site's primary theme, and its reconstruction is essential to the public understanding of the site. A furnishing plan would be completed for the Menor cabin to coincide with the period represented by the general store (1900). New exhibits would be developed for the history museum depicting the human history of the valley (pre-history to dude ranching). The historic photo exhibit in the Noble cabin would be redone, based on the theme of the early days in Jackson Hole. The self-guiding trail would be retained, hardened and improved. Structures comprising the 4 Lazy F Dude Ranch would be removed and the site rehabilitated. The Chapel of the Transfiguration and parking would be retained.

Visitor Services and Facilities. Under this alternative, a new visitor center would be constructed close to the south boundary. The existing maintenance area, visitor center, offices, and housing would be removed. A new picnic facility would be constructed. The raft launch would be redesigned to provide separation between the concessioner launch area and a public launch area. The road would be realigned to make direct use of the chapel parking area for Menor's Ferry. Attractions would be tied together within the area to include interpretation of historic story of Menor's Ferry.

Concessioner Visitor Services. Some concessioner visitor services - the gas station, store, and post office - would be removed. The raft launch parking and facilities would be improved, adding to the concessioner's efficiency in providing better float opportunities for visitors.

Park Operations. Administration, research and resource management, operations and

maintenance offices would be relocated to the south boundary visitor center complex. Maintenance offices, storage, and vehicles would be relocated to a new complex at the Blacktail Borrow Site.

Circulation. Circulation would be improved because of the removal of some facilities and the redesign of others. There would be more space and separation between competing uses.

Housing. Housing would be removed and relocated to the south boundary.

Historic Resources. The structures of the 4 Lazy F Dude Ranch would be removed and the road and site rehabilitated. The Murie Ranch studio and residence would be relocated to the Teton Science School. All other structures would be removed and the site and roads rehabilitated.

Beaver Creek

Concerning Beaver Creek, the alternative is the same as the proposal, except that only the housing within the Historic District would be retained. All other temporary and seasonal housing would be removed. No housing would be added in this location. The resource management offices would be relocated to the visitor center at the south boundary along with all other park operations. Table 11 shows the housing space to be retained for this alternative.

Table 11 - Beaver Creek Housing
(Permanent, Seasonal, and Concessioner)
(SF)

| Description | No. of Units | Space Each | Total |
|---|--------------|------------|-------|
| Single Family - 3-Bedroom to Remain (P) | 2 | 1,350 | 2,700 |
| Single Family - 2-Bedroom to Remain (P) | 2 | 1,000 | 2,000 |
| Single Family - 1-Bedroom to Remain (P) | 1 | 720 | 720 |

(S) Seasonal (P) Permanent (C) Concessioner Seasonal

Park Operations. The proposal would consolidate offices at the south boundary.

Circulation. Moderate changes would be made to the road system to improve overall circulation within the Historic District. The utility yard would be relocated to the maintenance area at the Blacktail Borrow Site.

Housing. Under the proposal, only contributing housing within the Historic District would be maintained. All other housing would be removed and the site rehabilitated.

Historic Resources. The historic district would be maintained with minor improvements to circulation and the existing road system.

Corridor: Beaver Creek to Lupine Meadows

Under this alternative, the corridor areas and functions would be reorganized. The area's appearance would be upgraded, and administration access to the entire site retained.

Visitor Services and Facilities. A helicopter pad would be built at Climber's Ranch. The picnic area at the Cottonwood Creek Turnout would be formalized with the addition of a picnic area and vault toilet. Bar BC Ranch would be preserved and maintained although noncontributing structures would be removed, gravel parking, interpretive signs and a trail added. The Taggart Corral would be relocated to Mormon Row and the site rehabilitated. The River Road would be maintained for nonmotorized use. Parking would be defined on either end of River Road, and minimal maintenance to access roads provided. The road would be gated and motorized use between gated sections stopped.

Concessioner Visitor Services. Exum Climber's seasonal housing would be relocated to this location along with NPS rescue operations and the Old Climber's Ranch rehabilitated.

Housing. The Climber's Ranch area would be expanded and upgraded. Climber's seasonal housing would be located in one location - Climber's Ranch. Existing cabins would be replaced, parking defined, and the bridge replaced. New seasonal housing would be provided at this location. NPS search and rescue operations and housing would also be located here. Table 12 shows the housing space requirements for this alternative.

| Table 12 - Highlands/Climber's Ranch (Permanent, Seasonal, and Concessioner) (SF) | | | |
|---|--------------|------------|--------|
| Description | No. of Units | Space Each | Total |
| Highlands | | | |
| Climber's Ranch/Exum/NPS | 200 | | |
| Cabins to Remain/Upgraded (C) | 8 | 800 | 6,400 |
| Cabins to be Relocated/Upgraded/Rebuilt | 10 | 410 | 4,100 |
| Outdoor Dining Hall to Remain/Upgraded | 1 | | |
| New 2 Bedroom Units (S&C) | 15 | 850 | 12,750 |
| (S) Seasonal (P) Permanent (C) Concessioner Seasonal | | | |

Historic Resources. All structures at Fabian Place and Highlands Ranch, including bridge and abutments, would be removed and the site rehabilitated. Bar BC Ranch would be preserved and maintained as a Historic District and interpreted.

Lupine Meadows

Under this alternative, Lupine Meadows would be reorganized.

Visitor Services and Facilities. The trailhead road and parking area would be removed and a new trailhead parking facility would be constructed. A series of hardened trails would link

the Lupine Meadows parking with the rest of the Jenny Lake area to ease visitor density. The Jenny Lake boat launch would be improved and the parking design formalized. The Cottonwood Creek Bridge would be replaced.

Concessioner Visitor Services. The horse concession operation would be phased out. Exum office would be relocated to Climber's Ranch.

Park Operations and Circulation. Operations and circulation would be improved overall in the Jenny Lake-Lupine Meadows area, with the addition of consolidated management and parking. The gravel road to the boat launch would be upgraded and the parking area defined. The area would have a network of parking facilities serving as centralized dispersion nodes to control the distribution of people through the area on to a hardened trail system.

Housing. All essential Exum housing and NPS seasonal housing would be relocated to Highlands Ranch/Climber's Ranch. Essential Teton Boating housing would be relocated to the south boundary.

Historic Resources. Structures would be removed, adaptively used elsewhere when feasible, and the site rehabilitated.

Jenny Lake

Under this alternative, the Jenny Lake area would be treated the same as under the proposal, with two differences. The Exum concession office would be relocated to Climber's Ranch and private motorboat use would be eliminated at Jenny Lake.

Visitor Services and Facilities. A new complex would be built between the two existing parking areas. A network of hardened trails would be constructed to provide for high visitor densities. The existing campground sites and parking spurs would be upgraded, biker/hiker sites added, and new restrooms built at the north end of the campground. A small picnic facility and at least two sites accessible to persons with disabilities would be provided. Private boat use would be eliminated at Jenny Lake.

Concessioner Visitor Services. Exum office would be relocated to Climber's Ranch. Ferry boat operations would continue. New docks and toilet facilities would be constructed in the boating area. The fuel delivery system would be brought up to State standards.

Park Operations and Circulation. Operations and circulation would be improved overall in the Jenny Lake-Lupine Meadows area, with the addition of consolidated management and parking. The area would have a network of parking facilities serving as centralized dispersion nodes to control the distribution of people through the area onto a hardened trail system.

Housing. All housing would be removed from the Jenny Lake area. Essential Exum housing would be relocated to Climber's Ranch.

Historic Resources. The Crandall Studio, Ranger station, and comfort station would be relocated to another site, or removed.

String Lake

Under this alternative, the String Lake area would be treated the same as under the proposal.

Visitor Services and Facilities. The existing restrooms would be upgraded and new ones built. Some walks would be hardened and a new picnic area with shade shelters built. A canoe launch would be provided. A new trailhead parking area would be constructed.

Park Operations and Circulation. Operations and circulation would be formalized (i.e. hardened trail system). Trailhead, boat launch, and picnic area would be constructed in separate areas. The area would have a network of parking facilities serving as centralized dispersion nodes to control the distribution of people through the area onto a hardened trail system.

Jenny Lake Lodge

Under this alternative, the Jenny Lake Lodge area would be treated the same as under the proposal except that all commercial horse use at Jenny Lake Lodge would be eliminated.

Concessioner Visitor Services. The kitchen would be renovated and rebuilt. A new activity building and tack room would be constructed. Commercial horse use would be eliminated.

Park Operations. Hiker and horse conflicts would be eliminated.

Circulation. Circulation would be improved through the separation of vehicles, accomplished via definition of parking. The alternative calls for improvements in road alignment and formalization of parking areas.

Operations

Under this alternative, the following additional staffing levels would be needed:

| | |
|---------------------------------|----------------|
| Maintenance | 3.1 FTE |
| Visitor Protection | 2.0 FTE |
| Visitor Services/Interpretation | 3.0 FTE |
| Resource Management | 1.0 FTE |
| Total | 9.1 FTE |

Estimates are based on a GS-5 step 5 salary for one full-time employee. Estimated yearly cost for additional staffing is \$204,531 and \$136,354 for supplies. Total recurring operation and maintenance costs under this alternative are \$340,884 with a one time equipment cost of \$285,000.

Construction Cost Estimate

The estimated cost to the National Park Service for this alternative is \$28,217,385. Table 13

shows the estimated costs for each element in this alternative:

| Table 13 - Teton Corridor Alternative A | |
|---|-----------|
| ITEM DESCRIPTION | COST |
| Equipment Needs | |
| Maintenance | |
| Loader | \$40,000 |
| 2 Pickups | \$30,000 |
| Crew Cab | \$20,000 |
| Snow blower | \$80,000 |
| Visitor Protection | |
| 2 Pickups | \$30,000 |
| Patrol car | \$15,000 |
| Resource Management | |
| 2 Pickups | \$30,000 |
| Visitor Services/Interpretation | |
| 2 Crew cabs | \$40,000 |
| Total Equipment Costs | \$285,000 |

Table 13 - Teton Corridor Alternative A

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|--|-------------------------|-----------------------------|------------------------|
| General - Phase II | | | |
| Imp. of haz. fuel reduction 20 ac. | \$131,000 | \$25,000 | \$156,000 |
| Rehab impacted areas 270 acres | \$1,308,690 | \$249,750 | \$1,558,440 |
| Subtotal | \$1,439,690 | \$274,750 | \$1,714,440 |
| South Boundary - Phase II | | | |
| Housing | | | |
| Single family/duplex houses 3-bdr. 30 | \$3,537,000 | \$675,000 | \$4,212,000 |
| 18 quadplex 72 units | \$4,716,000 | \$900,000 | \$5,616,000 |
| Community building 3,000 sf | \$491,250 | \$93,750 | \$585,000 |
| Pave housing road 5,400 lf | \$736,875 | \$140,625 | \$877,500 |
| 200 evergreen trees | \$23,580 | \$4,500 | \$28,080 |
| Underground electric 6,600 lf ** | \$121,044 | \$23,100 | \$144,144 |
| Sewer 6,600 lf | \$345,840 | \$66,000 | \$411,840 |
| Water 6,600 lf | \$293,964 | \$56,100 | \$350,064 |
| Well 200 lf | \$20,960 | \$4,000 | \$24,960 |
| Telephone 6,600 lf | \$121,044 | \$23,100 | \$144,144 |
| Blacktail borrow pit | | | |
| Maintenance building 33,200 sf | \$4,784,120 | \$913,000 | \$5,697,120 |
| Paved parking 60 cars | \$125,760 | \$24,000 | \$149,760 |
| Paved parking 20 trucks cars | \$117,900 | \$22,500 | \$140,400 |
| Pave housing road 2,000 lf | \$272,917 | \$52,083 | \$325,000 |
| Underground electric 2,000 lf | \$36,680 | \$7,000 | \$43,680 |
| Septic system/tank 8,000 gal | \$23,580 | \$4,500 | \$28,080 |
| Water 500 lf | \$22,270 | \$4,250 | \$26,520 |
| Well 200 lf | \$20,960 | \$4,000 | \$24,960 |
| Telephone 2,000 lf | \$36,680 | \$7,000 | \$43,680 |
| Concessioner cost | | | |
| New trailer court & utilities 25 sites 1)* | | | \$351,000 |
| Subtotal | \$15,848,424 | \$3,024,508 | \$19,223,932 |
| Moose - Phase II | | | |
| Demolition/rehab of site | \$131,000 | \$25,000 | \$156,000 |
| Additional parking 50 cars | \$104,800 | \$20,000 | \$124,800 |
| 22 Picnic sites & tables | \$43,230 | \$8,250 | \$51,480 |
| Vault toilet at picnic area | \$26,200 | \$5,000 | \$31,200 |
| Menor's Ferry | | | |
| Replicate ferry | \$32,750 | \$6,250 | \$39,000 |
| Implement furnishing plan | \$13,100 | \$2,500 | \$15,600 |
| Improve & replicate cabin | \$19,650 | \$3,750 | \$23,400 |
| New exhibits & photos | \$19,650 | \$3,750 | \$23,400 |
| Subtotal | \$390,380 | \$74,500 | \$464,880 |

Table 13 - Teton Corridor Alternative A

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|---|-------------------------|-----------------------------|------------------------|
| Beaver Creek - Phase II | | | |
| Upgrade single family housing 5 | \$229,250 | \$43,750 | \$273,000 |
| Remove housing & mobile homes 29 | \$94,975 | \$18,125 | \$113,100 |
| Rehab existing housing road 900 lf | \$34,584 | \$6,600 | \$41,184 |
| 50 evergreen trees | \$5,895 | \$1,125 | \$7,020 |
| Underground electric 250 lf ** | \$4,585 | \$875 | \$5,460 |
| Sewer 500 lf | \$26,200 | \$5,000 | \$31,200 |
| Water 250 lf | \$11,135 | \$2,125 | \$13,260 |
| Well 200 lf | \$20,960 | \$4,000 | \$24,960 |
| Telephone 250 lf ** | \$4,585 | \$875 | \$5,460 |
| Subtotal | \$432,169 | \$82,475 | \$514,644 |
| Corridor: Beaver Creek to Lupine Meadows - Phase II | | | |
| Cottonwood Creek turnout | | | |
| Picnic tables 3 | \$1,965 | \$375 | \$2,340 |
| Vault toilet | \$26,200 | \$5,000 | \$31,200 |
| River Road | | | |
| 20 car parking | \$20,960 | \$4,000 | \$24,960 |
| Gates 2 | \$6,550 | \$1,250 | \$7,800 |
| 3 signs | \$1,965 | \$375 | \$2,340 |
| Fabians | | | |
| Remove 7 structures & rehab site | \$13,100 | \$2,500 | \$15,600 |
| Climber's Ranch | | | |
| Climber's/office/kitchen/dining 1,500sf | \$117,900 | \$22,500 | \$140,400 |
| Climber's dormitories 5 @ 700 sf | \$435,575 | \$83,125 | \$518,700 |
| Exum | | | |
| Septic system/drain field | \$65,500 | \$12,500 | \$78,000 |
| Water line 1,000 lf | \$44,540 | \$8,500 | \$53,040 |
| Sewer line 1,000 lf | \$52,400 | \$10,000 | \$62,400 |
| Well 100 lf | \$10,480 | \$2,000 | \$12,480 |
| Parking/gravel/108 spaces | \$70,740 | \$13,500 | \$84,240 |
| Gravel road 2,400 lf | \$154,818 | \$29,545 | \$184,364 |
| Underground telephone 500 lf ** | \$9,170 | \$1,750 | \$10,920 |
| Underground electric 500 lf ** | \$9,170 | \$1,750 | \$10,920 |
| NPS office & storage 1,000 sf | \$78,600 | \$15,000 | \$93,600 |
| Helipad | | | |
| Helipad-2,000 sf concrete pad | \$6,550 | \$1,250 | \$7,800 |
| Helipad-fuel storage | \$19,650 | \$3,750 | \$23,400 |
| Paved parking 10 cars | \$15,720 | \$3,000 | \$18,720 |
| Highlands | | | |
| Remove structures 23 bldgs | \$90,390 | \$17,250 | \$107,640 |
| Concessioner Cost | | | |
| Exum 10 cabins moved/remodl. 3)* | | | \$35,100 |
| Exum shower house 3)* | | | \$49,000 |
| Subtotal | \$1,251,943 | \$238,920 | \$1,574,964 |

Table 13 - Teton Corridor Alternative A

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|---|-------------------------|-----------------------------|------------------------|
| Lupine Meadows - Phase II | | | |
| Housing removal | \$65,500 | \$12,500 | \$78,000 |
| Paved boat parking 10 car/trailer | \$58,950 | \$11,250 | \$70,200 |
| Paved parking 10 car | \$20,960 | \$4,000 | \$24,960 |
| Paved road 9,100 lf | \$1,241,771 | \$236,979 | \$1,478,750 |
| Paved trailhead parking 30 car/trailer | \$62,880 | \$12,000 | \$74,880 |
| Hardened trails 3,300 lf | \$81,875 | \$15,625 | \$97,500 |
| Low wooden fence 4,300 lf | \$101,394 | \$19,350 | \$120,744 |
| Boat ramp | \$3,275 | \$625 | \$3,900 |
| Cottonwood Creek bridge 75'x24'w | \$282,960 | \$54,000 | \$336,960 |
| Subtotal | \$1,854,065 | \$353,829 | \$2,207,894 |
| Jenny Lake - Phase I | | | |
| New visitor service complex 2,000 sf **** | \$524,000 | \$100,000 | \$624,000 |
| Visitor service complex furnishings | \$78,600 | \$15,000 | \$93,600 |
| Visitor service complex landscaping | \$52,400 | \$10,000 | \$62,400 |
| Picnic area 20 tables | \$13,100 | \$2,500 | \$15,600 |
| Reestab. cmpg. veg. 4,000 seedlings | \$131,000 | \$25,000 | \$156,000 |
| Hardened trails 5,800 lf | \$143,902 | \$27,462 | \$171,364 |
| Low wooden fence 8,600 lf | \$202,788 | \$38,700 | \$241,488 |
| Deck overlooks 3 @ 1,600 sf | \$201,216 | \$38,400 | \$239,616 |
| Rehab cmpg. 38 sites | \$69,692 | \$13,300 | \$82,992 |
| Redesign cmpg add 44 sites | \$172,920 | \$33,000 | \$205,920 |
| Campground toilets | \$104,800 | \$20,000 | \$124,800 |
| Paved road 800 lf | \$109,167 | \$20,833 | \$130,000 |
| Replace waterline 2,600 lf ** | \$115,804 | \$22,100 | \$137,904 |
| Concessioner cost | | | \$70,200 |
| Upgrade dock facility 4)* | | | |
| Subtotal | \$1,919,389 | \$366,295 | \$2,355,884 |
| String Lake - Phase II | | | |
| Paved parking - under construction | --- | --- | --- |
| Hardened trails 5,300 lf | \$131,496 | \$25,095 | \$156,591 |
| Low wooden fence 7,600 lf | \$179,208 | \$34,200 | \$213,408 |
| Restrooms 2 | \$54,583 | \$10,417 | \$65,000 |
| Deck overlooks 4 @ 1600 sf | \$268,288 | \$51,200 | \$319,488 |
| Picnic site 40 | \$52,400 | \$10,000 | \$62,400 |
| Shade shelters 2 @ 1,000 sf | \$104,800 | \$20,000 | \$124,800 |
| Entrance sign | \$6,550 | \$1,250 | \$7,800 |
| Interpret sign | \$1,310 | \$250 | \$1,560 |
| Subtotal | \$798,636 | \$152,411 | \$951,047 |

Table 13 - Teton Corridor Alternative A

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|---------------------------------|-------------------------|-----------------------------|------------------------|
| Jenny Lake Lodge 1)* - Phase II | | | |
| Concessioner cost 1)* | | | |
| Move tack bldg 1,000 sf | | | \$10,000 |
| New activity bldg 1,000 sf | | | \$76,000 |
| Paved parking 45 cars | | | \$63,200 |
| Cabin expansion/remodel | | | \$70,000 |
| Upgrade kitchen | | | \$10,000 |
| Subtotal | | | \$229,200 |
| Grand Total | \$23,934,695 | \$4,567,689 | \$29,236,885 |

**** Concessioners using space would be charged a use fee.

TOTAL PROJECT COST

| | |
|------------------------------|--------------|
| Phase I | \$2,285,684 |
| Phase II | \$25,931,701 |
| National Park Service Cost | \$28,217,385 |
| Equipment costs | \$285,000 |
| Concessioner Cost | |
| 1)*Grand Teton Lodge Company | \$580,200 |
| 2)* American Alpine Club | -0- |
| 3)*Exum Mountain Guides | \$84,100 |
| 4)*Teton Boat Co. | \$70,200 |
| Total Concessioner Cost | \$734,500 |
| TOTAL PROJECT COST | \$29,236,885 |

1)* & 4) *Includes all planning, design and construction costs. NPS policy requires that to the extent it is economically feasible, the concessioner undertake all costs relating to construction of its own facilities as well as utilities, roads, parking, and similar infrastructure. Such feasibility determination has not yet been made, but will be accomplished prior to implementation of this plan. The cost allocation above must therefore be regarded as tentative.

1)*, 2)*, & 3)* At the new location these concessions will rent facilities provided by government improvements to conduct their operations.

** Include existing to be buried

ALTERNATIVE B

Summary of Alternative

This alternative calls for some changes in park facilities and would result in some improvement in park operations. It would *provide minimal changes in present operations and uses but provide some improvement in park facilities and uses and selected separation of conflicting uses necessary to better serve the visitor and reduce resource impacts*. The map for Alternative B shows the general resolution and relationship of issues suggested by the alternative. It should be referred to while reading the text.

Visitor Services and Facilities. Some minor changes would be made in visitor services. These include the expansion of the existing visitor center at Moose, the modification of the Jenny Lake area to support higher concentration of visitors, the rehabilitation of a picnic area at String Lake, provisions for a raft launch/picnic area at Moose, and other improvements within the corridor to support the visitor. The post office would be moved to the north side of the road. Major improvements in interpretive services at Jenny Lake, Murie Ranch and Menor's Ferry are also proposed.

Concessioner Visitor Services. Some consolidation of existing concessioner operations would occur - the gas station and store at Moose would be upgraded, improved services would be provided at Jenny Lake, the horse concession operation at Lupine Meadows would be phased out and removed, the concessioner horse operation at Jenny Lake Lodge would be confined to designated routes, climbing facilities (offices/housing) would be moved outside the park, and moderate improvements would be allowed for Jenny Lake Lodge. Provisions would also be made for essential concessioner seasonal housing at Beaver Creek.

Park Operations. Changes in park operations would consist of the consolidation of all offices at Moose, some reorganization of the maintenance area, and the provision for NPS seasonal housing at Beaver Creek.

Circulation. Major improvements in circulation would be accomplished through the consolidation of some similar functions and the relocation of others.

Housing. Housing for NPS seasonal and permanent employees would be modified. Housing would be rehabilitated and upgraded at Moose and substantially expanded at Beaver Creek. All nonessential housing would be phased out and removed.

Historic Resources. Selected historic resources would be emphasized. A replica of Menor's Ferry would be constructed and the site rehabilitated. Crandall Studio and the Jenny Lake ranger station would be positioned in the Jenny Lake Complex between the two parking areas. Historic structures at Fabian Place, Bar BC Ranch, and Lupine Meadows would be retained. The integrity of Beaver Creek Historic District would be maintained.

General

The following information applies to all areas within this alternative:

Site Rehabilitation. In general, this alternative provides for the complete rehabilitation of abandoned roads, trails, ditches, and impacted areas in prime visitor use areas, up to existing ecological standards. Table 1 (shown in the proposal section) summarizes the rehabilitation needs.

Architectural Theme. This alternative provides for a general architectural theme that emphasizes rustic log architecture or incorporates architecture historically common to the area, for new construction and planned renovation only. This would exclude minor modifications to existing structures.

Utilities. This alternative provides for the burial of selected utility lines in high visibility areas. It also includes the upgrading and winterization of all storage tanks and water, sewer, electric, and telephone lines in order to meet State and Federal standards. Table 14 displays the utility needs by area, not including any additions for new construction.

Table 14

| AREA | ELECTRIC LINES To be Buried | TELEPHONE To be Buried | ADDITIONAL NEEDS |
|---|--------------------------------|---------------------------|--|
| Moose | 2,600 LF | 2,600 LF | Replace 3,000 LF waterline, 1 sewer lift station |
| Beaver Creek | 250 LF | 250 LF | Replace 1 well, 500 LF of sewerline |
| Corridor: Beaver Creek to Lupine Meadows | 27,250 LF | | |
| Climber's Ranch Jenny Lake | 500 LF | 500 LF | Replace 500 LF waterline Replace 2,600 LF waterline |
| Jenny Lake Lodge | | | Replace 1 sewage lift station |

Moose

Under this alternative visitor services, park operations, maintenance, administration, housing, and concession operations would remain in the Moose area. Total public space in the visitor center is approximately 3,350 square feet. About 2,700 additional square feet are needed to accommodate increased visitation at Moose.

Visitor Services and Facilities. Under this alternative, the visitor center would be expanded. Additional office space would be provided and parking reorganized. Visitor services and operations would be consolidated and reorganized in the Moose area. A new picnic facility would be constructed and the raft launch would be upgraded and redesigned to provide separation between the concessioners and the public. It would remain in its present location. Attractions would be tied together within the area with a trail to include the rebuilding and interpretation of historic story of Menor's Ferry. The post office would be moved to the north side of the Teton Road.

Concessioner Visitor Services. Concessioner visitor services would be improved via upgrading the existing store/gas station. Parking would be redesigned and improved. The raft launch parking and facilities would be improved. The improvement of the raft launch would add to the efficiency of the concessioners providing floating opportunities for visitors.

Park Operations. Park offices for research and resource management from Beaver Creek would be consolidated, office space expanded and upgraded as indicated in Tables 23 - 26 and 6 (Space Requirements). Natural resources offices from Beaver Creek would be consolidated into space in a new building. Operations would be improved because of better communication between natural resource staff and other divisions. The storage area in the maintenance area would be moved to the Blacktail Borrow Site. The appearance of the maintenance area would be improved by landscaping.

Circulation. Circulation would be improved at the gas station and store because of redesign and relocation of the gas pumps. The road to the Chapel of The Transfiguration would be relocated south of Moose Entrance Station and the old road bed rehabilitated.

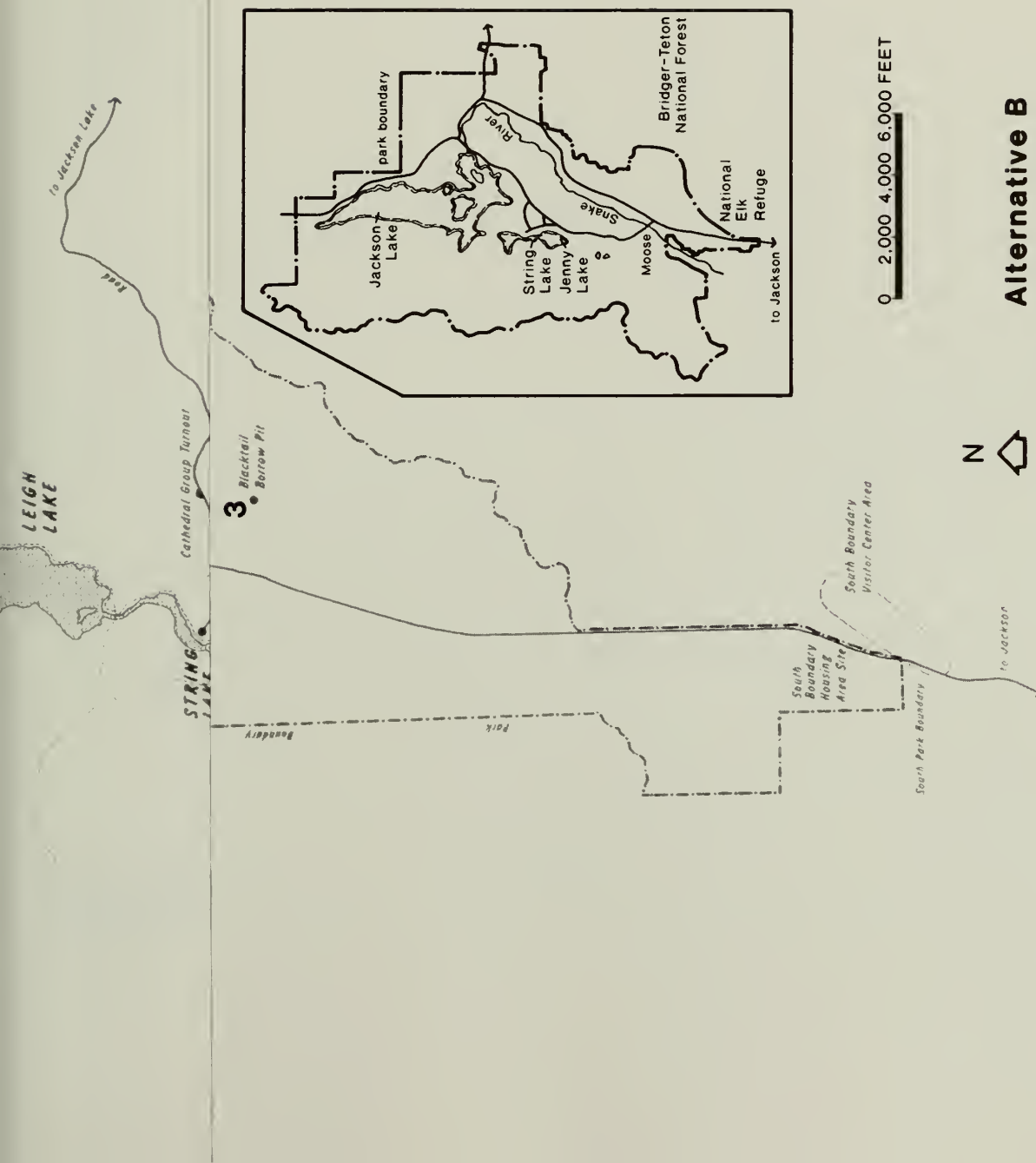
Housing. Covered storage would be added to existing houses and a community multi-purpose building built. Housing would be brought up to modern standards and landscaped. Mission 66 type housing would be rehabilitated and given a general face lift. Five additional units would be provided. Table 15 shows housing space requirements for this alternative.

| Table 15 - Moose Housing (Permanent Employee Housing) (SF) | | | |
|---|--------------|------------|--------|
| Description | No. of Units | Space Each | Total |
| Single Family - 3-Bedroom to Remain (P) | 22 | 1,350 | 29,700 |
| Duplex - 3-Bedroom to Remain (P) | 6 | 1,280 | 7,680 |
| Apartment - 2-Bedroom to Remain (P) | 8 | 1,120 | 8,960 |
| New Single Family - 3-Bedroom (P) | 3 | 1,350 | 4,050 |
| New Duplex - 3-Bedroom (P) | 2 | 1,280 | 2,560 |
| (S) Seasonal (P) Permanent (C) Concessioner Seasonal | | | |

Historic Resources. This alternative calls for the NPS to retain and maintain the integrity of National Register of Historic Places structures in the Murie Ranch area and to provide parking and a trail to Murie residence with interpretation at the site. Structures of the 4 Lazy F Dude Ranch would be retained for adaptive use or moved to an alternate location. The integrity of the Menor-Noble Historic District would be maintained and nonhistoric structures removed, the ferry rebuilt, and the 4 Lazy F Road relocated to exit chapel parking. A full interpretive program would be developed. The contributing structures of Murie Ranch would be retained. Parking (separate from the immediate vicinity of the ranch) and trail to the Murie residence would be provided in the future.

Beaver Creek

Under this alternative, the Beaver Creek Area would be treated the same as under the



Alternative B **Teton Corridor** **Grand Teton National Park** United States Department of the Interior - National Park Service

* Note Alignment shown for Teton Park Road is new alignment.

proposal.

Park Operations. The alternative would relocate offices for research and resource management to Moose.

Circulation. Moderate changes would be made in the road system to improve overall circulation. The utility yard would be relocated to the Blacktail Borrow Site. The divided road in the Beaver Creek area would be combined into one road. Parking areas would be redesigned, formalized, and paved. Seasonal and permanent housing would be separated in order to decrease snow plowing in the winter months. NPS winter search and rescue would be centralized at the entrance to the housing area.

Housing. Under this alternative, housing would be moderately expanded in this area to absorb NPS housing removal elsewhere. Existing housing would be upgraded to modern standards. A new loop for trailers for seasonal concessioner and NPS employees would be constructed. New seasonal and permanent duplex and single family units would be built. Table 16 shows the housing retained at Beaver Creek for this alternative.

Table 16 - Beaver Creek Housing
(Permanent, Seasonal, and Concessioner)
(SF)

| Description | No. of Units | Space Each | Total |
|---|--------------|------------|--------|
| Single Family - 3-Bedroom to Remain (P) | 2 | 1,350 | 2,700 |
| Single Family - 2-Bedroom to Remain (P) | 2 | 1,000 | 2,000 |
| Single Family - 1-Bedroom to Remain (P) | 1 | 720 | 720 |
| Single Family - 2-Bedroom - Removed (S) | 2 | 1,000 | 2,000 |
| Duplex - 2-Bedroom - Removed (S) | 1 | 875 | 875 |
| Duplex - 1-Bedroom - Removed (S) | 5 | 420 | 2,100 |
| Mobile Home - 2-Bedroom - Removed (P) | 2 | 720 | 1,440 |
| Mobile Home - 3-Bedroom - Removed (S) | 3 | 715 | 2,145 |
| Mobile Home - 1-Bedroom - Removed (S) | 1 | 540 | 540 |
| Mobile Home Sites - Relocated (S) | 10 | | |
| New Mobile Home Sites (S) | 5 | | |
| Mobile Home Sites - Relocated (C)-GTLC | 5 | | |
| New Mobile Home Sites (C) | 5 | | |
| New 2-Bedroom Units(S) * | 31 | 850 | 26,350 |
| New 1-Bedroom Units(S) * | 9 | 600 | 5,400 |
| Historic Conversion - Storage | 12 | 700 | 8,400 |

(S) Seasonal (P) Permanent (C) Concessioner Seasonal

* Includes housing to replace seasonal capacity at Highlands and Lupine Meadows

Historic Resources. The historic district would be maintained with a small improvement to circulation and the existing road system. Three buildings would be adaptively used for storage.

Corridor: Beaver Creek to Lupine Meadows

Under this alternative, the area would be treated the same as under the proposal, except that Climber's Ranch would be removed and the site rehabilitated.

Visitor Services and Facilities. The picnic area at the Cottonwood Creek Turnout would be formalized with the addition of picnic facilities and vault toilet. Defined parking, interpretive signs and a trail would be added to the Bar BC Ranch area. The River Road would be minimally maintained (with seasonal closures for wildlife) for a semi-primitive motorized opportunity along the Snake River in the fall. Some small turnouts would be provided for parking.

Concessioner Visitor Services. The Taggart Corral operation would be relocated and the existing pasture rehabilitated. The corral would remain. Climbing concession office and housing would be relocated outside the park and Climber's Ranch would be removed.

Housing. All essential seasonal housing would be relocated to Beaver Creek.

Historic Resources. Fabian Place would be retained as a abandoned building. Bar BC Ranch would be retained, stabilized and interpreted.

Lupine Meadows

Under this alternative, Lupine Meadows area would be treated the same as under the proposal.

Visitor Services and Facilities. A new trailhead parking facility would be constructed at Lupine Meadows. A series of hardened trails would link the Lupine Meadows parking with the rest of the Jenny Lake area to ease visitor density. The Jenny Lake boat launch would be improved and the parking formalized. The Cottonwood Creek Bridge would be replaced.

Concessioner Visitor Services. The horse concession operation would be phased out and removed. Exum Climbers would be relocated outside the park.

Park Operations and Circulation. Operations and circulation would be improved overall in the Jenny Lake-Lupine Meadows area, with the addition of consolidated management and parking.

Housing. All nonessential housing would be phased out and removed.

Historic Resources. Historic structures in this area would be retained.

Jenny Lake

Under this alternative, all impacted and degraded areas in the Jenny Lake area would be rehabilitated.

Visitor Services and Facilities. The Crandall Studio and Ranger Station would be relocated to a visitor service area built between the two existing parking areas. A network of hardened trails would be constructed to provide for high visitor densities. The existing campground sites and parking spurs would be upgraded, ten clustered biker/hiker sites added, two sites accessible to persons with disabilities provided, and historic restrooms relocated to the north end of the campground. A small picnic facility would be provided in the South Jenny Lake area.

Concessioner Visitor Services. An Exum office would be placed in Jenny Lake Complex. Private motorboat use on Jenny Lake would be continued and motors up to 10 hp would be allowed. New docks would be built on the east and west shores along with storage for the concessioner at the east dock. Toilet facilities would be provided at the west dock. The fuel delivery system would be brought up to State and Federal standards. A new camper store would be built. Access to the lakeshore would be restricted to designated locations.

Park Operations and Circulation. Operations and circulation would be improved overall in the Jenny Lake-Lupine Meadows area with the addition of consolidated management and parking. Walks and trails would be selectively hardened, paved, signed, and some would be fenced.

Housing. All nonessential housing would be removed from the Jenny Lake area.

Historic Resources. The Crandall Studio and Ranger Station would be relocated to the visitor service area and the comfort station would be relocated to the north end of the campground.

String Lake

Under this alternative, the String Lake area would be treated the same as under the proposal, except that no shade shelters would be provided at the picnic area.

Visitor Services and Facilities. The existing restrooms would be upgraded and new ones built. Some walks would be hardened and a new picnic area built. A canoe launch would be provided.

Park Operations and Circulation. Operations and circulation would be formalized with a hardened trail system.

Jenny Lake Lodge

Under the proposal, the Jenny Lake Lodge would be treated the same as under the proposal.

Concessioner Visitor Services. The kitchen would be renovated. A new activity building and tack room would be constructed. The horse corral would be moved and screened.

Park Operations. The ability of park management to monitor and control hiker/horse conflicts would be improved with the confinement of horses from the Jenny Lake Lodge to

a designated trail system.

Circulation. Circulation would be improved by the separation of vehicles through defined parking. The proposal calls for improvements in road alignment and formalizing parking areas.

Operations

Under this alternative, the following additional staffing levels would be needed:

| | |
|---------------------------------|---------|
| Maintenance | 1.1 FTE |
| Visitor Protection | 1.0 FTE |
| Visitor Services/Interpretation | 2.0 FTE |
| Resource Management | 1.0 FTE |

Total **5.1 FTE**

Estimates are based on a GS-5 step 5 salary for one full-time employee. Estimated yearly cost for additional staffing is \$114,627 and \$76,418 for supplies. Total recurring operation and maintenance costs under this alternative are \$191,045, with a one time equipment cost of \$45,000.

Construction Cost Estimate

The estimated cost to the National Park Service for this alternative is \$21,091,360. Table 17 shows the estimated costs for each element of this alternative.

| Table 17 - Teton Corridor Alternative B | |
|---|----------|
| ITEM DESCRIPTION | COST |
| Equipment Needs | |
| Visitor Protection Patrol car | \$15,000 |
| Resource Management Pickup | \$15,000 |
| Visitor Services/Interpretation Pickup | \$15,000 |
| Total Equipment Costs | \$45,000 |

Table 17 - Teton Corridor Alternative B

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|--|-------------------------|-----------------------------|------------------------|
| General - Phase II | | | |
| Imp. of haz. fuel reduction 20 ac. | \$131,000 | \$25,000 | \$156,000 |
| Rehab impacted areas 270 acres | \$1,308,690 | \$249,750 | \$1,558,440 |
| Subtotal | \$1,439,690 | \$274,750 | \$1,714,440 |
| Moose - Phase II | | | |
| Visitor center 3,375 sf gross | \$884,250 | \$168,750 | \$1,053,000 |
| Visitor center furnishings | \$132,638 | \$25,313 | \$157,950 |
| Visitor center landscaping | \$88,425 | \$16,875 | \$105,300 |
| Visitor center interp/audio visual | \$221,063 | \$42,188 | \$263,250 |
| Additional office space 4,630 sf | \$818,816 | \$156,263 | \$975,078 |
| Additional parking 50 cars | \$104,800 | \$20,000 | \$124,800 |
| Covered storage building 3,000 sf | \$176,850 | \$33,750 | \$210,600 |
| Upgrade 3-bed. housing 22 *** | \$1,008,700 | \$192,500 | \$1,201,200 |
| Upgrade 3-bedroom duplex 6 *** | \$251,520 | \$48,000 | \$299,520 |
| Upgrade 2-bedroom apts. 8 *** | \$293,440 | \$56,000 | \$349,440 |
| Upgrade fuel sys.stor.EPA&500yr fldpn. | \$262,000 | \$50,000 | \$312,000 |
| New 3-bedroom house 3 | \$353,700 | \$67,500 | \$421,200 |
| New 3-bedroom duplex 2 | \$180,780 | \$34,500 | \$215,280 |
| Community building 3,000 sf | \$491,250 | \$93,750 | \$585,000 |
| 200 Evergreen trees | \$65,500 | \$12,500 | \$78,000 |
| Sprinkler irrigation system 6 acres | \$58,950 | \$11,250 | \$70,200 |
| Hardened trails 6,200 lf | \$153,826 | \$29,356 | \$183,182 |
| Low wooden fence 4,100 lf | \$96,678 | \$18,450 | \$115,128 |
| Housing road 500 lf | \$68,229 | \$13,021 | \$81,250 |
| Rd. resurf.housing loop 5,200 lf | \$122,111 | \$23,304 | \$145,415 |
| Rehab existing housing road 800 lf | \$30,741 | \$5,867 | \$36,608 |
| Bury 2,600 lf electric | \$47,684 | \$9,100 | \$56,784 |
| Bury 2,600 lf telephone | \$17,030 | \$3,250 | \$20,280 |
| Replace 3,000 lf waterline | \$216,150 | \$41,250 | \$257,400 |
| Sewer lift station | \$163,750 | \$31,250 | \$195,000 |
| 22 Picnic sites & tables | \$43,230 | \$8,250 | \$51,480 |
| Vault toilet at picnic area | \$26,200 | \$5,000 | \$31,200 |
| Undrgr.water storage 50,000 gal | \$104,800 | \$20,000 | \$124,800 |
| Menor's Ferry | | | |
| Replicate ferry | \$32,750 | \$6,250 | \$39,000 |
| Implement furnishing plan | \$13,100 | \$2,500 | \$15,600 |
| Improve & replicate cabin | \$19,650 | \$3,750 | \$23,400 |
| New exhibits & photos | \$19,650 | \$3,750 | \$23,400 |
| Chapel road 1,200 lf | \$163,750 | \$31,250 | \$195,000 |
| Paved parking 25 cars | \$52,400 | \$10,000 | \$62,400 |
| Paved parking 14 RV | \$82,530 | \$15,750 | \$98,280 |
| Concessioner cost 1)* | | | \$73,700 |
| Upgrade store/gas station facade 1)* | | | \$30,000 |
| Subtotal | \$5,540,565 | \$1,057,360 | \$6,701,625 |

*** Housing upgrade includes new 6:12 pitch roof, electric wiring to code, replacement of exterior walks/patios, plumbing upgrade, garage expansion, interior remodeling.

Table 17 - Teton Corridor Alternative B

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|---|-------------------------|-----------------------------|------------------------|
| Beaver Creek - Phase II | | | |
| Upgrade single family housing 5 | \$229,250 | \$43,750 | \$273,000 |
| Remove housing & mobile homes 29 | \$94,975 | \$18,125 | \$113,100 |
| 10 Quadplex 40 units | \$2,620,000 | \$500,000 | \$3,120,000 |
| 2 Duplex - 4 3-bedroom | \$361,560 | \$69,000 | \$430,560 |
| 6 3-Bedroom w/attached garage | \$911,760 | \$174,000 | \$1,085,760 |
| Adpt. use 12 storage units 600 sf ea. | \$235,800 | \$45,000 | \$280,800 |
| Community building 3,000 sf | \$491,250 | \$93,750 | \$585,000 |
| Housing road 3,200 lf | \$436,667 | \$83,333 | \$520,000 |
| Rehab existing housing road 900 lf | \$34,584 | \$6,600 | \$41,184 |
| Wastewater treat. 35,000 g/day | \$1,179,000 | \$225,000 | \$1,404,000 |
| 50 Evergreen trees | \$5,895 | \$1,125 | \$7,020 |
| Sewer pipe 4,500 lf | \$224,010 | \$42,750 | \$266,760 |
| Underground electric 4,500 lf ** | \$82,530 | \$15,750 | \$98,280 |
| Sewer 4,500 lf | \$235,800 | \$45,000 | \$280,800 |
| Water 4,500 lf | \$200,430 | \$38,250 | \$238,680 |
| 2 Well 200 lf | \$41,920 | \$8,000 | \$49,920 |
| Telephone 4,500 lf ** | \$82,530 | \$15,750 | \$98,280 |
| New trailer crt. & utilities 25 sites | \$393,000 | \$75,000 | \$468,000 |
| Subtotal | \$7,860,961 | \$1,500,183 | \$9,361,144 |
| Corridor: Beaver Creek to Lupine Meadows - Phase II | | | |
| Cottonwood Creek turnout | | | |
| Picnic tables 3 | \$1,965 | \$375 | \$2,340 |
| Vault toilet | \$26,200 | \$5,000 | \$31,200 |
| River road | | | |
| 10 Car parking | \$10,480 | \$2,000 | \$12,480 |
| 3 Signs | \$1,965 | \$375 | \$2,340 |
| Climber's Ranch/Highlands | | | |
| Remove stuctures & rehab site | \$32,750 | \$6,250 | \$39,000 |
| Helipad-2,000sf concrete pad | \$6,550 | \$1,250 | \$7,800 |
| Helipad-fuel storage | \$19,650 | \$3,750 | \$23,400 |
| Subtotal | \$99,560 | \$19,000 | \$118,560 |

Table 17 - Teton Corridor Alternative B

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|--|-------------------------|-----------------------------|------------------------|
| Lupine Meadows - Phase II | | | |
| Trailhead parking 125 cars | \$131,000 | \$25,000 | \$156,000 |
| Gravel road 9100 lf | \$587,019 | \$112,027 | \$699,045 |
| Gravel trailhead parking 30 car | \$31,440 | \$6,000 | \$37,440 |
| Deck overlooks 1,600 sf | \$67,072 | \$12,800 | \$79,872 |
| Hardened trails 3,300 lf | \$81,875 | \$15,625 | \$97,500 |
| Low wooden fence 4,300 lf | \$101,394 | \$19,350 | \$120,744 |
| Boat ramp 30x50 | \$3,275 | \$625 | \$3,900 |
| Cottonwood Creek bridge 75x24 | \$282,960 | \$54,000 | \$336,960 |
| Subtotal | \$1,286,035 | \$245,427 | \$1,531,461 |
| Jenny Lake - Phase I | | | |
| Relocate CrSt/RS/CS to visitor complex | \$131,000 | \$25,000 | \$156,000 |
| Restore Cr St/RS/CS 2,000 sf **** | \$655,000 | \$125,000 | \$780,000 |
| Visitor complex landscaping | \$131,000 | \$25,000 | \$156,000 |
| Visitor complex interp/aud/ visual | \$131,000 | \$25,000 | \$156,000 |
| New comfort station | \$117,900 | \$22,500 | \$140,400 |
| Picnic area 20 tables | \$13,100 | \$2,500 | \$15,600 |
| Reestab. cmpg. veg. 4,000 seedlings | \$26,200 | \$5,000 | \$31,200 |
| Hardened trails 5,800 lf | \$143,901 | \$27,462 | \$171,363 |
| Low wooden fence 8,600 lf | \$202,788 | \$38,700 | \$241,488 |
| Deck overlooks 3 @ 1,600 sf | \$201,216 | \$38,400 | \$239,616 |
| Rehab cmpg. 38 sites | \$69,692 | \$13,300 | \$82,992 |
| Redesign CMPG add 44 sites | \$172,920 | \$33,000 | \$205,920 |
| Campground toilets 4 | \$104,800 | \$20,000 | \$124,800 |
| Paved road 800 lf | \$109,166 | \$20,833 | \$129,999 |
| Replace waterline 2,600 lf ** | \$115,804 | \$22,100 | \$137,904 |
| Concessioner cost | | | |
| Upgrade dock facility 4)* | | | \$70,200 |
| Subtotal | \$1,159,587 | \$221,295 | \$1,451,082 |
| String Lake - Phase II | | | |
| Paved parking - under construction | --- | --- | --- |
| Hardened trails 5,300 lf | \$131,496 | \$25,095 | \$156,591 |
| Low wooden fence 7,600 lf | \$179,208 | \$34,200 | \$213,408 |
| Restrooms 2 | \$54,583 | \$10,417 | \$65,000 |
| Picnic site 40 | \$268,288 | \$51,200 | \$319,488 |
| Shade shelters 2 @1,000sf | \$52,400 | \$10,000 | \$62,400 |
| Entrance sign | \$6,550 | \$1,250 | \$7,800 |
| Interpret sign | \$1,310 | \$250 | \$1,560 |
| Subtotal | \$693,836 | \$132,411 | \$826,247 |

**** Concessioners using space would be charged a use fee.

Table 17 - Teton Corridor Alternative B

| ITEM DESCRIPTION | GROSS CONST. COST | ADV. & PROJ. PL. COST | TOTAL GROSS COST |
|---------------------------------|-------------------------|-----------------------------|------------------------|
| Jenny Lake Lodge - Phase II 1)* | | | |
| Concessioner cost 1)* | | | |
| Move tack bldg. 1,000 sf | | | \$10,000 |
| New activity bldg. 1,000 sf | | | \$76,000 |
| Paved parking 45 cars | | | \$63,200 |
| Cabin expansion/remodel | | | \$70,000 |
| Upgrade kitchen | | | \$10,000 |
| Subtotal: | | | \$229,200 |
| Grand Total: | \$17,949,233 | \$3,425,426 | \$21,933,760 |

TOTAL PROJECT COST

| | |
|------------------------------------|--------------|
| Phase I | \$1,451,082 |
| Phase II | \$20,108,277 |
| National Park Service Cost | \$21,559,360 |
| Equipment cost | \$45,000 |
| Concessioner Cost | |
| 1)*Grand Teton Lodge Company | \$259,200 |
| 2)*American Alpine Club | -0- |
| 3)*Exum Mountain Guides | -0- |
| 4)*Teton Boat Co. | \$70,200 |
| Total Concessioner Cost | \$329,400 |
| US Fish & Wildlife Service Cost 5) | \$0 |
| US Forest Service Cost 6) | \$0 |

| | |
|--------------------|--------------|
| TOTAL PROJECT COST | \$21,888,760 |
|--------------------|--------------|

1)* & 4) *Includes all planning, design and construction costs. NPS policy requires that to the extent it is economically feasible, the concessioner undertake all costs relating to construction of its own facilities as well as utilities, roads, parking, and similar infrastructure. Such feasibility determination has not yet been made, but will be accomplished prior to implementation of this plan. The cost allocation above must therefore be regarded as tentative.

1)*, 2)*, & 3)* At the new location these concessions will rent facilities provided by government improvements to conduct their operations.

** Include existing to be buried

ALTERNATIVE C - NO-ACTION

Under this alternative, existing functions would be maintained. Facilities would remain as described in the next chapter. The quality of many visitor services would continue to deteriorate. The appearance of facilities would worsen. Park operations would become less efficient. Circulation would continue to interfere with efficient operations. Housing would remain marginal and inadequate.

This alternative describes current conditions as written in the Affected Environment and Environmental Consequences section. For a more detailed description of existing facilities and conditions refer to this section.

No major new public or private investment in facilities would occur. For a more detailed discussion of existing uses, refer to the planning background and issues sections of this document.

SUMMARY OF ALTERNATIVES

GENERAL-(APPLIES TO ALL)

| | |
|---------------------------|--|
| Historic Structures | Structures will be adaptively used, where possible, either on site or relocated. |
| Handicapped-Accessible | Provide self-guiding accessible trail in the corridor. New facilities will be accessible to persons with disabilities. Existing facilities will be brought up to handicapped-accessible standards, where possible. |
| Hazard Fuel Reduction | Implement hazard fuel reduction plan to reduce wildfire hazards around all developments and facilities. |
| Recycling | Provide opportunities for recycling. |
| Winter Use | Coordinate development with Joint Winter Use Plan for Yellowstone National Park, Grand Teton National Park, and J. D. Rockefeller, Jr. Memorial Parkway. |
| Bear-Resistant Facilities | All food handling facilities and garbage collection will be bear-resistant. |
| Vistas and Views | Maintain integrity of viewshed (possible oil field and timber harvest activity on the Bridger-Teton National Forest) |
| Facility Construction | Facilities should be constructed with materials and |

techniques that will minimize earthquake (Earthquake Hazard) damage.

Inholdings

Carry out an opportunity purchase/easement program.

| ISSUE/AREA | PROPOSAL | ALTERNATIVE A (Significant Change) | ALTERNATIVE B (Minimal Change) | NO-ACTION |
|-----------------------|---|--|--|---|
| GENERAL EMPHASIS | Provides an appropriate level of changes in present operations, park facilities, and services to separate conflicting uses, serve the visitor, and reduce resource impacts. | Provides significant changes in park operations and uses by guiding natural and cultural resource protection, enhancing visitor experience, improving park facilities and uses through consolidation, and providing space and separation between diverse uses. | Provides minimal changes in present operations and uses but provides some improvement in park facilities and uses and selected separation of conflicting uses necessary to better serve the visitor and reduce resource impacts. | Provides no change in current operations. |
| GENERAL | | | | |
| Site Rehabilitation | Rehabilitate abandoned roads, ditches, trails, impacted areas to existing ecological standards. | Same as proposal. | Rehabilitate abandoned roads, ditches, trails, impacted areas to existing ecological standards in prime use areas. | No change in present conditions. |
| Architectural Theme | Implement a general architectural theme throughout the corridor, which emphasizes rustic log architecture or incorporates architecture that is historically common to the area. (New construction and renovation only.) | Implement unified architectural theme throughout the corridor, which incorporates rustic log architecture. | Same as proposal. | No change in current conditions. |
| Utilities | Bury selected utilities. Upgrade, winterize, and provide water, sewer, electric, and storage tanks to meet State and Federal standards. | Same as proposal. | Bury selected utilities in high visibility areas. Upgrade, winterize and provide water, sewer, electric, telephone, and storage tanks to meet State and Federal standards. | No change in present conditions |
| MOOSE | | | | |
| Murie Ranch | Retain and maintain the integrity of contributing structures. Provide parking (separate from the immediate vicinity of the ranch) and trail to Murie residence with interpretation at the site. | Relocate the studio and residence to the Teton Science School. Remove all other structures, and rehabilitate the existing access road and site. | Same as proposal. | No change. |
| Gas Station and Store | Upgrade and improve facade of station/store. | Remove the service station and store | Same as proposal. | No change. |
| Post Office | Relocate the Post Office to the north side of the road | Relocate the Post Office near new housing area. | Same as proposal. | No change. |
| Visitor Center | Reduce area to contact station. Use area vacated for office space. Move visitor center to the south boundary. | Build a new visitor center at the south boundary with administration offices. | Provide expanded visitor center at present location. | No change. |
| Picnic Area | Provide a picnic area | Same as proposal. | Same as proposal. | No change. |
| Raft Launch | Retain and upgrade existing raft launch. | Expand in existing location. | Move to new location | No change. |

| MOOSE | PROPOSAL | ALTERNATIVE A (Significant Change) | ALTERNATIVE B (Minimal Change) | NO-ACTION |
|--|--|---|---|------------|
| Housing | Upgrade housing to modern standards. Screen housing, add covered storage areas, provide community multipurpose building. Allow minimum expansion. | Relocate housing to the Abercrombie Warm Springs area. | Same as proposal. | No change. |
| Park Administration, Maintenance, and Operations | Upgrade, consolidate, and expand administrative facilities as per Tables 6 and 23-26 (Space Requirements). Upgrade appearance and screen maintenance base. Move storage area to Blacktail Borrow Site. | Relocate park administration/operations to the new visitor center at the south boundary and maintenance to the Blacktail Borrow Site. | Upgrade, consolidate, and expand administrative facilities. Upgrade appearance and screen maintenance base. Move storage area to Blacktail Borrow Site. | No change. |
| Menor's Ferry | Build replica of ferry. At Menor's Cabin implement furnishings plan. Install new exhibits. Retain self-guiding trail. Improve trail for handicapped access. Relocate 4 Lazy F Road to exit chapel parking. Rehabilitate roadbed through historic district and interpret site. | Same as proposal. | Same as proposal. | No change. |
| 4 Lazy F Dude Ranch | Once private interests are relinquished, remove all structures. Rehabilitate site and road. | Same as proposal. | Retain structures for adaptive use or move to alternate location. | No change. |
| Chapel of Transfiguration | Retain as is. | Same as proposal. | Same as proposal. | No change. |
| BEAVER CREEK | | | | |
| Utility Yard | Relocate utility yard and timbered island storage to the Blacktail Borrow Site. Rehabilitate road and site. | Same as proposal. | Same as proposal. | No change. |
| Housing | Expand and upgrade housing to modern standards. Consolidate the majority of seasonal housing in the corridor to Beaver Creek. Remove mobile homes and replace w/permanent structures. Upgrade and add trailer pads for seasonal concessioner employees. Provide a community multipurpose building, upgrade roads and define parking. | Maintain historic district for park housing. Remove all other housing. | Same as proposal. | No change. |
| Research and Resource Management Offices | Consolidate at Moose. | Consolidate at visitor center location close to the south boundary. | Consolidate administration and move Research and Resource Mgt. Office to Moose. | No change. |
| Historic District | Preserve and maintain according to NPS-28 guidelines. Adapt use of structures inside district boundaries for storage, administration, and housing. | Same as proposal. | Same as proposal. | No change. |

| CORRIDOR: BEAVER CREEK TO LUPINE MEADOWS | PROPOSAL | ALTERNATIVE A (Significant Change) | ALTERNATIVE B (Minimal Change) | NO-ACTION |
|---|--|--|---|------------|
| Helicopter Pad | A formal helicopter pad would be constructed in the corridor. | Same as proposal. | Same as proposal. | No change. |
| Cottonwood Creek Turnout | Three picnic tables and a vault toilet would be provided. | Same as proposal. | Same as proposal. | No change. |
| Taggart Corral | Relocate to Mormon Row. Rehabilitate site. | Same as proposal. | Relocate cattle operation/retain corral. Rehabilitate pasture. Same as proposal. | No change. |
| Bar BC Ranch and Bar BC Road | Evaluate for preservation, retention as an abandoned building, or eventual removal depending on historical significance and physical condition. Define parking area. Retain access road and provide minimal maintenance as necessary. Interpret site. Provide trail and administrative access. | Preserve and maintain as historic district. Retain access road and provide minimal maintenance as necessary. Define parking area. Provide trail to site and interpretation. Upgrade site appearance, remove noncontributing structures. Provide administrative access. | | No change. |
| River Road | Retain River Road with seasonal closures and provide minimum maintenance as necessary. Provide vehicle pullout areas to protect river viewshed. | Retain River Road and provide minimum maintenance. Eliminate motorized use. Define parking. Gate the River Road north and south for non-motorized vehicles. | Same as proposal. | No change. |
| Fabian Place | Remove all structures including bridge abutments. Rehabilitate site. | Same as proposal | Retain homestead cabin as an abandoned building. Remove all other outbuildings and bridge. Rehabilitate site. | No change. |
| Highlands Ranch | Retain NPS seasonal housing. Relocate 5 buildings, outside floodplain. | Remove structures. Rehabilitate site. | Replace capacity at Beaver Creek. Remove structures and rehabilitate site. | No change. |
| Climber's Ranch | Upgrade to pre-Beaver Creek fire capacity (1985) and relocate cabins, provide storage, pave road, define parking, upgrade utilities, replace bridge. Provide Exum a new site. | Build new Climber's Ranch at this location. Place NPS search and rescue/Exum at this location. | Remove Climber's Ranch. Rehabilitate site. | No change. |
| LUPINE MEADOWS | | | | |
| Housing | Remove NPS and concession structures. Rehabilitate site. | Same as proposal. | Retain structures for historic value. | No change. |
| Bridge | Replace Cottonwood Creek Bridge. | Same as proposal. | Same as proposal. | No change. |
| Trailhead Parking | Pave trailhead road and parking area in present location. | Remove and relocate parking. Rehabilitate site. | Same as proposal. | No change. |
| Boat Launch | Pave parking area and road to boat launch. Reconstruct concrete boat launch. | Same as proposal. | Retain gravel road, define parking, and retain boat launch. | No change. |
| Concessioner horse operations | Phase out horse concession. Rehabilitate site. | Same as proposal. | Same as proposal. | No change. |
| JENNY LAKE | | | | |
| Visitor Service Area | Relocate Crandall Studio and Ranger Station to visitor service area between Jenny Lake parking lots. Build new store. Relocate comfort station to north end | Build new complex between the two Jenny Lake parking lots. Relocate or remove Crandall Studio, Ranger Station, and comfort station. | Same as proposal. | No change. |

of campground. Add additional space, if needed, to Crandall Studio and Ranger Station.

| JENNY LAKE | | PROPOSAL | ALTERNATIVE A (Significant Change) | ALTERNATIVE B (Minimal Change) | NO-ACTION |
|--------------------------|--|--|---|---|------------|
| Housing | | Remove all housing from the Jenny Lake area. Provide Exum a new site for relocated housing between Highlands Ranch and Climber's Ranch. | Same as proposal. | Phase out all non-essential housing. | No change. |
| Walks/Trails | | Selectively harden, pave, sign and fence all walks. Provide access to lake shore at chosen locations. Rehabilitate degraded areas. | Same as proposal. | Same as proposal | No change. |
| Exum Concessioner Office | | Provide a small office for Exum in the vicinity of the new service area. Remove existing office. | Provide a small office for Exum at Climber's Ranch. Remove existing office. | Same as proposal. | No change. |
| Campground | | Relocate historic restrooms to north end of campground. Upgrade existing campsites. Provide 10 walk-in sites for bikers/hikers. Provide two handicapped-accessible sites. Rehabilitate degraded areas. | Same as proposal. | Same as proposal. | No change. |
| Picnic Area | | Place small picnic site in South Jenny Lake area. | Same as proposal. | Same as proposal. | No change. |
| Boat Concessioner | | Build new docks on east and west shores. Provide concession storage area. Provide toilet facilities at west docks. Bring fuel system up to State and Federal standards. Remove all other facilities. | Same as proposal. | Same as proposal. | No change. |
| Private Boat Use | | Retain existing use. Up to 10 hp motors permitted. | Eliminate private motorized boat use on Jenny Lake. | Same as proposal. | No change. |
| STRING LAKE | | | | | |
| Restrooms | | Build additional restrooms. Upgrade existing restrooms. Provide vault toilet. Remove portable toilets. | Same as proposal. | Same as proposal. | No change. |
| Walks | | Selectively harden, pave, fence, and sign walks to restrooms along lake shore. Plant trees. Rehabilitate degraded areas. | Same as proposal. | Same as proposal. | No change. |
| Picnic Sites | | Provide thirty to forty quality sites and one to two shelters. Upgrade existing facilities. Stabilize and define sites. Remove pumphouse and old waterlines. Rehabilitate degraded areas. | Same as proposal. | Provide thirty to forty quality sites. Upgrade existing facilities. Stabilize and define sites. Remove pumphouse and old waterlines. Rehabilitate degraded areas. | No change. |
| Boat Launch | | Provide canoe launch. | Same as proposal. | Same as proposal. | No change. |

| JENNY LAKE LODGE | PROPOSAL | ALTERNATIVE A (Significant Change) | ALTERNATIVE B (Minimal Change) | NO-ACTION |
|-----------------------------------|---|--|-----------------------------------|------------|
| Horse Use | Relocate and screen corral. Limit total number of horses. Confine horse use to designated trails. | Eliminate commercial horse use at Jenny Lake Lodge. | Same as proposal. | No change. |
| Guest Parking | Define, pave and curb guest parking. screen with trees and/or fencing. | Same as proposal. | Same as proposal. | No change. |
| Facilities | Add activity building and tack room. Rebuild and renovate kitchen facility to present capacity. Allow cabin expansion/remodeling but no increase in "pillow count". | Rebuild and renovate kitchen facility to present capacity. | Same as proposal. | No change. |
| National Park Service Cost | | | | |
| Capital Cost | \$23,341,125* | \$28,217,385* | \$21,559,360 | No cost |
| Equipment Cost | 180,000 | 285,000 | \$ 45,000 | |
| Annually Recurring Costs | 247,235 | 340,884 | 191,045 | |

*Capital cost does not include a new visitor center called for under this alternative.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

The planning area is within and immediately adjacent to the Grand Teton National Park in northwestern Wyoming. The Teton Corridor planning area lies from Moose to Jenny Lake as shown on Corridor Area Map. Proposals for land immediately adjacent to the south boundary of the park near Jackson Hole, Wyoming, are also included in this plan. The planning area lies at the entrance to one of the busiest tourist areas in the United States.

Grand Teton National Park consists of 310,520.94 acres in Teton County, northwestern Wyoming, and in the At-Large Congressional District. Bordered by two national forests and Yellowstone National Park, the park occupies a central position in a 27,000-square-mile tract of relatively isolated upland wilderness that is mostly federally owned.

The climate of Grand Teton National Park is characterized by short, cool summers and cold, harsh winters. July is the warmest month of the year, while January usually exhibits the coldest temperatures. Moose, at elevation 6,470, has a mean annual temperature of 37.7°F and a mean annual precipitation of 20.57 inches.

The growing season is very short. Final spring frosts are common in June and autumn frosts frequently first occur in early September. Freezing temperatures may occur throughout summer in the higher mountain elevations.

Approximately 3/4 of the annual precipitation in the Jackson Hole vicinity falls as snow. Midwinter snow depths along the Teton Mountain Range are commonly more than 6 feet. The mean annual snowfall (1960-1969) at Beaver Creek is 204 inches. Snow accumulation in the valley corridor from Moose to North Jenny Lake Junction ranges from 3 to 4 feet. Wind is from the southwest and sometimes causes drifting, which increases the cost of plowing roads. Frequent, accessible snow storage areas are necessary to accommodate winter snow plowing operations in developed areas at Moose and Beaver Creek and along Teton Park Road as far north as Cottonwood Creek Turnout.

EXISTING DEVELOPMENT

Existing developments within the corridor are in a state of disrepair. Existing conditions for operations, maintenance, concessioner, visitor, and housing facilities within the project area can be described as follows:

General

Existing Operation and Maintenance Space at Moose and Beaver Creek. Several tables are displayed below documenting space requirements. This is based on an inventory done by park staff. Table 18 shows existing office space. Table 19 shows

storage space by resource function. Table 20 shows vehicle work space. Table 21 shows existing parking spaces for operations by resource group.

Table 18 - Office Space

| Group | Visitor Center | Maint. Bldg. | Beaver Creek | Jenny Lake | Total |
|--------------------|----------------|--------------|--------------|------------|--------|
| Superintendent | 1,232 | | | | 1,232 |
| Administration | 1,795 | 1,541 | | | 3,336 |
| Naturalists | 900 | 234 | | | 1,134 |
| Rangers | 810 | 544 | 256 | 800 | 2,410 |
| Maintenance | 634 | 1,978 | | | 2,612 |
| Resource Mgt. | | | 1,567 | | 1,567 |
| Natural Hist. Ass. | 463 | 108 | | | 571 |
| TOTAL | 5,834 | 4,405 | 1,823 | 800 | 12,862 |

Table 19 - Storage Space

| Group | Beaver Creek |
|--------------------|--------------|
| Naturalists | 638 |
| Rangers | 638 |
| Maintenance | 7,062 |
| Resource Mgt. | 1,248 |
| Natural Hist. Ass. | 300 |
| TOTAL | 9,886 |

Table 20 - Vehicle Work Space

| Group | Maint. Bldg. |
|-------------|--------------|
| Rangers | 5,744 |
| Maintenance | 14,479 |
| TOTAL | 20,223 |

Table 21 - Parking Spaces

| Group | Existing |
|----------------|----------|
| Superintendent | 6 |
| Administration | 2 |
| Naturalists | 2 |
| Rangers | 21 |
| Maintenance | 60 |
| Resource Mgt. | 7 |
| TOTAL | 98 |

Housing. Seasonal and permanent housing in these areas is inadequate for the number of employees, their families, and their belongings. Houses at Moose are very close to the highway and have inadequate screening to hide household items stored outside. Because of the constricted land base in the Jackson Hole area, housing is expensive. According to the Teton County Chamber of Commerce, the median cost of a family house in 1987 was \$96,100, with a median apartment rental rate of \$445.00 per month, when available. Rental housing is very limited during the summer months in the Jackson area.

Appearance of structures, especially housing, and the image presented to the public is poor. Inadequate indoor storage space forces employees to store items outdoors. This creates a junky appearance and gives a poor public image.

Unified Architectural Theme and Overall Appearance. A negative factor concerning the image and appearance of the Grand Teton National Park is the lack of a unified architectural theme. This is true for structures and barriers within campgrounds.

Most facilities are within areas which evolved as a result of use. As is the case in most areas of this type, the appearance is far from complementary to the resources with which they are associated. Areas devoid of vegetation detract from the visual quality of use areas in both Jenny Lake and Lupine Meadows. Because parking areas are undefined and inadequate in number, visitors have created their own places to park. These areas grew in size as use increased until barriers had to be erected to limit growth and keep visitors out. Barriers used vary from posts to rocks, giving the impression that they were installed with no thought given to visual harmony. As a result, many areas look bad, which of course gives the park a negative image.

Utilities. Table 22 shows existing utilities that are above ground and not buried to code, or that need additional length to service existing facilities.

| Table 22 - Utilities | | | | | |
|--|----------|----------------|-----------|-----------|--|
| Area | Water | Sewer | Electric | Telephone | |
| Moose | 3,000 lf | 1 Lift Station | 2,600 lf | 2,600 lf | |
| Beaver Creek | 1 well | 500 lf | 250 lf | 250 lf | |
| Corridor: Beaver Creek to Lupine Meadows | | | 47,250 lf | | |
| Climber's Ranch/Clarks | 500 lf | | 500 lf | 500 lf | |
| Jenny Lake | 2,600 lf | | | | |
| String Lake | 2,600 lf | | | | |
| Jenny Lake Lodge | | 1 Lift Station | | | |

Moose

Public Service Area. A group of three buildings is located on the southwest side of the park entrance road at Moose. These function as a visitor service area and include a gas station, post office, and store. Parking and circulation for all three is not adequate and becomes very congested during the summer high use season. The existing gas pumps

are old and may not meet current EPA standards. The three buildings vary in appearance and do not support a unified log architectural theme. Vegetation next to the site has been trampled and considerable site rehabilitation is needed. The service area behind the three buildings and north of the service station is poorly defined.

Vehicle and fuel oil is stored in underground tanks: one 1,000-gallon tank that stores fuel oil; four other tanks, a 6,000-, 8,000-, and two 4,000-gallon that store vehicle fuel. These were installed before 1965 and are scheduled for tightness testing. Total maximum fuel storage in this area is 22,000 gallons.

Administrative Offices and Visitor Center. The existing building on the northeast side of the road functions as a visitor center and an administrative office. Current space is inadequate for both administrative and visitor use. Existing administrative offices are split between this building, the maintenance building, and the research and resource management section located in a building at Beaver Creek.

Maintenance Area. The maintenance area is located directly behind the administrative offices and visitor center. The existing facility has insufficient space to accommodate administrative offices, maintenance operations (equipment repair, etc.), equipment storage, the fire cache, property procurement, and contracting management. Parking is inadequately defined to accommodate the number of employees (seasonal and permanent) and large equipment needed to run the park. The maintenance building is made of concrete block and brick. It would be susceptible to earthquake damage were one to occur and is not consistent with a unified log architectural theme. Little screening exists between this facility and park housing, the raft launch, and the visitor center.

Fuel is stored in underground tanks at the maintenance area. Vehicle fuel is stored in three tanks - a 2,000-gallon, and two 10,000-gallon tanks. Two tanks, a 3,600-gallon and an 8,000-gallon, store heating oil. All five were installed before 1965 and are currently scheduled for removal and replacement in 1990. Replacement will be with double wall tanks with cathodic protection, meeting EPA and State regulations. Total maximum fuel stored in the maintenance area at one time is 37,200 gallons.

Raft Launch. The current location for the raft launch in relationship to existing roads, increases traffic congestion and severely restricts expansion and circulation in the maintenance area. The maintenance base is not screened from the launch and space is inadequate to separate the facilities. A sewage treatment plant is 20 feet from the parking area for river floaters, with no screening. Road access for concessioner float trips directs their vehicles through the park's maintenance area. Restrooms for floaters are inadequate. The same ramp is used for both public and concession launches. Existing vegetation is trampled where random visitor movement has occurred adjacent to the stream bank. No defined walk system exists to prevent further compaction, destruction of vegetation, and erosion. A moving gravel bar has obstructed raft launches in the past and dredging has been necessary to keep the ramp open.

Housing Area. National Park Service permanent housing at Moose includes 22 single family units (3 BR, 1 1/2 B) with single garages, 6 duplex units (3 BR, 1 1/2 B) with 5

garages, and 8 quad units (2 BR, 1B) serviced by a separate enclosed garage for 8 vehicles. Existing housing was built between 1956 and 1963 and does not meet modern standards. Existing houses have roof leaks because the pitch (3 1/2: 1) is too shallow for the climate and roofs must be shoveled to remove snow during the winter. Insulation is inadequate for severe winters. Interior wiring is over 30 years old and outlets are not grounded in some of the dwellings (11 single family permanent homes built in 1956).

Because of age, heating systems were installed before energy conservation measures. They are inefficient and run on fuel oil. Solar hot water heaters have been installed in some of the dwellings. Wood stoves supplement each dwelling's heat, yet no wood storage space is provided.

Plumbing is inadequate. Some galvanized steel pipe waterlines are cracked. Feeder lines run under existing roads and are often broken when the roads are plowed. Interior cabinets and floor coverings are in poor condition. Siding is in poor condition. Walks, steps, and patios are cracked.

In addition, housing is inadequately screened from the access road to the Chapel of the Transfiguration and Menor-Noble Historic District. Because of the lack of storage space within existing residences, stored items in the employee housing area are visible from the highway. Moose is isolated in the winter and the housing area does not have a community multi-purpose building for residents.

Each residence has its own fuel storage. There are approximately twenty-eight 500-gallon tanks used for fuel oil storage in the Moose housing area. All were installed before 1965. Two have been replaced since that time. Total maximum fuel oil storage at one time is 14,000 gallons.

Other Areas. Other areas in the Moose vicinity are two life estates (Murie Ranch and the 4 Lazy F Dude Ranch), a historic district (Menor-Noble), and a private inholding (The Chapel of the Transfiguration).

Murie Ranch includes a residence, a studio, and 19 other structures (cabins and outbuildings). 4 Lazy F Dude Ranch includes 14 buildings (cabins, barns, tack room, storage) and its development encroaches on foraging and roosting habitat for bald eagles. Menor-Noble Historic District includes 7 structures (ferry, museum, transportation shed).

The Chapel of the Transfiguration is used for church services and is popular and crowded during peak use. Existing parking is not adequate if current use continues. The access road is poorly screened from the housing area.

Beaver Creek

Housing Area. National Park Service permanent housing at Beaver Creek includes 5 single family units (2-3 BR, 2-2BR, 1-1BR), 2 trailers, and 1 trailer site. Seasonal housing includes 2 single family units (2 BR); 6 duplex units (2 BR), 3 trailers, and 14 trailer sites (pads, utilities, parking) for NPS and concessioner employees.

Many housing structures do not meet modern standards. Many exterior logs have rotted. Windows and frames are in poor condition. Many units do not provide adequate storage space for the number of persons living there. Driveways and interior roads are narrow and hinder circulation and winter snow-plowing operations. Pavement is in poor condition. Garages have doors that are too narrow and do not meet vehicle clearance requirements. Powerlines are above ground. Septic tanks are old and do not have any collective septic tank/lift station. Interior wiring is old and outlets are not grounded. Lighting fixtures are inadequate. Plumbing is old. Bathroom fixtures, kitchen cabinets and floor coverings are in poor condition. There are no exhaust fans. Wood stoves are old, inefficient, and do not meet current EPA standards. Exhaust stacks are inadequate. There is no covered storage area for wood. Concrete walks are cracked. There is only one pay telephone for seasonal employees.

Administrative Area. The old administrative building is used for research and resource management offices and the winter search and rescue operation (ranger office and supplies). Research and resource management is isolated from park administration at Moose. There is no computer data link between Moose and Beaver Creek. There is inadequate covered vehicle storage.

Three log equipment sheds are used for storage by Maintenance, Resource Management, the Natural History Association, and the park Naturalist. The Recreation Hall is used for storage. The Recreation Hall is unsafe and is in collapsible condition.

Utility Yard. This area is used by maintenance for yard storage. The yard is too close to Beaver Creek. Fuel storage (5 fuel tanks) is potentially hazardous. The area has unsightly storage (eg. tires, chemical toilets, guardrail, culverts) visible from Beaver Creek trail and detracts from the skiing/hiking experience. The location encroaches on the park's prime resource (Teton Mountain Range). This is not a good location for maintenance operations.

Corridor: Beaver Creek to Lupine Meadows

Taggart Corral. The area is used for NPS horse operations (eg. trail maintenance). Included are a 10-acre pasture enclosed by buck and rail fence, 22 head of stock (maximum), a gravel access road to the well and pump, a log tack shed, and the Mangus cabin (used for storage). The gravel access road is too close to the well and pump. Horse impacts cause siltation and pollution of Taggart Creek (overgrazing, soil compaction, fertilization of pasture).

Cottonwood Creek Bridge. The bridge provides access to the X Quarter Circle X Ranch, the Clark Place, and Climber's Ranch. The bridge is unsafe and replacement is necessary.

Cottonwood Creek Turnout. The area provides a photogenic overlook of Taggart pasture and includes a small picnic area (3 tables), a pit toilet, and paved parking for 10 cars and 2 RVs. It is used as the parking area for winter activities, and Teton Park Road is plowed up to this point. The restrooms are inadequate. There is soil compaction and

loss of vegetation due to random visitor movement. The picnic tables are of poor quality and are poorly sited.

Bar BC Dude Ranch. The area includes 40 buildings and structures. These consist of a main house, lodge, dining hall, barns, corrals, cabins and service/laundry buildings. Two cabins were moved to the site after 1937 and are not part of the original ranch. There has been a lack of maintenance. The structural integrity of most buildings is unsound. The ranch buildings are within the Snake River floodplain. The site encroaches on wildlife habitat (whooping crane, moose, eagles). The area's appearance is that of unkept grounds (overgrown areas, haphazard storage, refuse). The access road is narrow and dusty in the summer months. There is no defined circulation or parking.

River Road. A narrow gravel road above the west bank of the Snake River is used for fishing access, mountain biking, and winter sports such as cross-country skiing. The roadbed is eroding and dusty. The road encroaches on the Snake River floodplain.

Highlands Ranch. These buildings provide seasonal housing for 23 NPS employees. Included are 15 single family cabins, 2 single family houses, and 6 duplexes. These provide three 2-BR units, eight 1-BR units and twelve efficiency units. The housing area includes a recreation hall used for employee gatherings, training, and laundry. Buildings are old and are lined up in a linear fashion. Pedestrian circulation is poor. Fifteen units were built in 1953-1954 and 18 units were built in 1949. The units are extremely small (many 125 to 300 square feet with 3/4 bath). The area has only one pay phone. Parking area is unpaved, dusty, and organized so the vehicles in the parking area are visible from Teton Park Road. Some exterior facades are deteriorated (logs rotting) and should be oiled and stained. Some foundations are settling. Some porches are deteriorating (logs rotting). Building windows need replacement. Insulation is inadequate (plumbing freezes). Bathrooms and plumbing are in poor condition (floors are rotting, showers and toilets old). Wiring is old and in poor repair. Heating units are old and inadequate. Furniture is cheap (from mobile homes) and is in poor condition.

Six buildings are within the 100-year Floodplain (*Highlands Ranch Flood Study*, Smilee, 1988). Building 1032 is on piers and is above any flooding that could occur. Five buildings should be relocated (Buildings 1034, 1041-1044). No storage is provided for recreational equipment.

Climber's Ranch. This is a concession service operated by the American Alpine Club (AAC) on 6.2 acres to provide inexpensive hostel-type lodging for climbers. It is operated on a 4-year renewable permit. The operation includes 11 buildings and structures (main lodge, guest cabins, storage sheds, wash house, and dormitory). Only the cookhouse is owned by AAC. The buildings are scattered, organized in a random fashion, encroach on prime park resource (Teton Mountain Range), and have an unsightly appearance (diverse facades, colors, styles, undefined parking, denuded vegetation). Pedestrian and vehicular circulation is undefined. There are inadequate utilities (fire protection, water treatment).

Fabian Place. This is a former dude ranch which reverted to the NPS. It includes eleven

buildings and structures (cabins, storage, powerhouse) in poor (collapsible) structural condition. The site encroaches on the Cottonwood Creek floodplain, has an eagle nest within 1/4 mile of the property, and is prime wildlife habitat for elk in the summer. The bridge is unsafe. The structures are in poor condition.

Lupine Meadows

NPS Seasonal Housing Area/Kimmel Cabins. This area has 13 log cabins that provide summer housing for the climbing rangers. One 2-BR, ten 1-BR, and two efficiency units are provided. These units were built 50 years ago and are in poor structural condition. The site encroaches on prime park resources: Cottonwood Creek floodplain and view of Grand Teton Mountain Range. The dispersed location of seasonal housing increases maintenance costs/time. Interior space is small (only 293-420 sq. ft. in 10 units and 552-789 sq. ft. in 3 units). Insulation is inadequate. There is no indoor plumbing and no telephone for the seasonal housing area. The rescue cache has only one phone.

Buildings are in disrepair. Exterior logs are rotting. Doors and windows are in poor condition. Porches are sagging and foundations are subsiding. The interior wiring and lighting is poor. The small wall heaters are insufficient. Furniture is in poor condition. Roads and parking are gravel and dust is a problem. Parking is not defined. Storage space is inadequate.

The Rescue Cache. The cache is used during the summer to house the office and supplies for the search and rescue operation. It was moved to Lupine Meadows in 1976. The building encroaches on Cottonwood Creek and Lupine Meadows.

Exum Mountain Guide Service. This is a concession climbing service operated on a five year contract. Included are 10 concession-owned log cabins for employee housing, a showerhouse, and an office (NPS owned) located near the mouth of Cottonwood Creek. The site encroaches on park resources (Lupine Meadows, Cottonwood Creek).

Teton Trail Rides. This is a concession trail rides service operated on a five year renewable contract. It occupies seven acres of land adjacent to Cottonwood Creek. Included are several concession-owned corrals, a tack shed, saddle shed and hay shed, an office/residence, a kitchen/dining hall (NPS owned), a bunkhouse, a mobile home, and 75 horses for trail rides into the backcountry and on trails surrounding Jenny Lake. Wet trails are impacted from use. Overgrazing small areas impacts vegetation. There is contamination of surface water (Jenny Lake, Cottonwood Creek) from use. Hiker/horse conflicts are common in the Jenny Lake area.

Lupine Meadows Trailhead Parking Area. The trailhead consists of a gravel parking area for 125 vehicles. It is accessible by a narrow gravel road, 1.8 miles long, through Lupine Meadows. Hikers and climbers use this area to gain access to the backcountry and the Grand Teton.

Jenny Lake

Jenny Lake Boat Launch. The area includes a small gravel parking lot for 10 car-and-trailer units, and a gravel ramp. The site is eroded, unpaved and dusty. Parking is undefined. Motors from boats create noise and degrade the water quality of Jenny Lake. Heavy use has impacted vegetation.

South Jenny Lake. The visitor use area (north of Cottonwood Creek) includes the ranger station (museum), store (concessioner-owned and operated by Grand Teton Lodge Company), Crandall Studio, caretaker housing, 2 comfort stations, a 49-site campground (tents only), paved visitor parking for 295 vehicles, and trailheads to Cascade Canyon and the Jenny Lake Trail. Heavy use has caused trailing from random pedestrian circulation, soil compaction, loss of vegetation. Most tree cover (Lodgepole Pine) blew down in a windstorm in 1973. This exposed facilities and left campsites with inadequate screening. Resource impacts from overuse are trampled vegetation and soil erosion. Poor circulation as a result of placement of facilities near Jenny Lake shoreline has pulled visitors toward the shoreline on undefined self-made paths and is the primary cause of resource damage.

The quality of the campground has deteriorated from expanding undefined use with an absence of tree cover. The area is unsightly and there are undefined sites, old tables/grills, undefined walks, no hiker/biker walk-in sites, no restrooms at north end, no sites accessible to persons with disabilities, and a collection of many different types of barriers placed to control use. There are no separate picnic facilities.

Teton Boating Company. This is a concession-operated ferry service across Jenny Lake from an east dock at the mouth of Cottonwood Creek to a dock on the west shore of Jenny Lake. Heavily used trails lead to Hidden Falls and Inspiration Point. The service is operated on a four year permit. Teton Boating company owns two log cabins and uses one NPS cabin for housing across Cottonwood Creek. Wort Boathouse is concession-owned, is in poor structural condition and is used for storage. Teton Boating Company owns the east dock, four 30-35 passenger ferry boats, and eight rental motorboats. Existing housing encroaches on prime park resources (Jenny Lake, Cottonwood Creek). East and west docks are not wide enough to accommodate heavy visitor use. No restrooms are provided at the east or west docks. The fuel system is inadequate and at times, degrades water quality of Jenny Lake and Cottonwood Creek. The east dock is too far downstream for boats to reach in low water without churning the channel bottom and increasing siltation of Cottonwood Creek. Covered dock storage is inadequate. Motors are noisy and degrade water quality at Jenny Lake.

String Lake

General. This area includes a heavily used picnic area, paved parking, a comfort station, popular hiking and horseback-riding trails, a small boat launch (no motors), paved trailhead parking (32 vehicles) and paved picnic parking (135 vehicles). There are no covered picnic shelters for protection from inclement weather. The picnic tables and grates are in disrepair. Pit toilets are inadequate during extended season. There is

trailing, denuded vegetation, and erosion from undefined pedestrian circulation. Horses and hikers often conflict by using the same trail. Extensive horse use has caused erosion, and manure on trails smells and is unsightly. The abandoned pumphouse and waterlines are unsightly.

Jenny Lake Lodge

General. The Lodge is operated by Grand Teton Lodge Company by contract through the year 2002. It includes a lodge/restaurant, 30 guest cabins, a tack house and corral, an employee housing area, and a utility area (NPS-owned pumphouse, pressure tank, 50,000-gallon reservoir). All buildings are owned and maintained by Grand Teton Lodge Company. Additional services provided include horseback rides. The employee parking area is undefined, unpaved, dusty, and unscreened. Excessive horse use has impacted Jenny Lake and String Lake Trails. The corral is unsightly and distracting to visitors (odor and flies) in its present location--across from guest cabins. The kitchen appliances and old boiler need to be replaced. Plumbing and sewerlines are old and inadequate.

Space Requirements

Space requirements were analyzed by the park. Tables 6 and 23-26 show the space requirements for current park operations and maintenance. Table 23 reflects estimates and analyses for space based on both resource areas and grade/administrative support methods. Estimates shown in the proposal reflect an office space requirement of 17,492 square feet only.

Storage space estimates shown in Table 24 represent space needed for receiving and stocking warehouse supplies such as copy paper, park brochures, books, toilet paper, tires, automotive and heavy equipment parts, paint, plywood, signs, road material, pipe, fencing, campground equipment, furniture, etc., and is estimated at 17,611 square feet.

Vehicle work space estimates shown in Table 25 are based upon space needed for operational and emergency equipment that is moved to the park when severe winter conditions exist. Equipment included in this category consists of: garbage, fuel and sewage trucks, patrol vehicles and summer equipment, such as boats.

Employee parking is within congested maintenance compounds. This situation hampers snow removal operations, conflicts with emergency vehicles for fire, ambulance, and law enforcement responses. With heavy construction equipment in the compound, circulation congestion often occurs.

Table 6 - Jenny Lake Complex Space
(SF)

| Group | Needed Space |
|---------------------|--------------|
| Public | 1,800 |
| Naturalists | 200 |
| Rangers | 1,200 |
| Natural Hist. Assn. | 200 |
| Ranger Office | 800 |
| TOTAL | 3,400 |

Table 23 - Office Space

By Resource Group (P)

| Group | Existing | Needed | Total |
|--------------------|----------|--------|--------|
| Superintendent | 1,232 | 510 | 1,742 |
| Administration | 3,336 | 500 | 3,836 |
| Naturalists | 1,134 | 250 | 1,384 |
| Rangers | 2,410 | 1,375 | 3,785 |
| Maintenance | 2,612 | 375 | 2,987 |
| Resource Mgt. | 1,567 | 1,500 | 3,067 |
| Natural Hist. Ass. | 571 | 120 | 691 |
| TOTAL | 12,862 | 4,630 | 17,492 |

By Grade and Administrative Support Space
(P) & (S)

Non Supervisory:

GS 1-6 (169) @ 60 sf each = 10,140 sf

GS 7-11 (55) @ 75 sf each = 4,125 sf

GS 12-13 (1) @ 100 sf each = 100 sf

Supervisory

GS 7-11 (26) @ 100 sf each = 2,600 sf

GS 12-13 (5) @ 150 sf each = 750 sf

GS 14-15 (3) @ 225 sf each = 675 sf

Bookcases (71) @ 6 sf each = 426 sf

Filing Cabinets (69) @ 8 sf each = 552 sf

Map Files (25) @ 24 sf each = 600 sf

Side chairs (83) @ 5 sf each = 415 sf

Credenza (51) @ 4 sf each = 204 sf

Safe (15) @ 8 sf each = 120 sf

Office Machine (51) @ 9 sf each = 459 sf

Table (45) @ 12 sf each = 540 sf

Shelving (147) @ 9 sf each = 1,323 sf

Total = 23,029 sf

Note: Office Space - 41cfr ch 101-17, 304-1

Note: Administrative Support Space

41 cfr ch 101-17, 304-2

(P) Permanent (S) Seasonal

Table 24 - Storage Space

| Group | Existing | Needed | Total |
|--------------------|----------|--------|--------|
| Superintendent | 0 | 75 | 75 |
| Administration | 0 | 5,000 | 5,000 |
| Naturalists | 638 | 0 | 638 |
| Rangers | 638 | 250 | 888 |
| Maintenance | 7,062 | 900 | 7,962 |
| Resource Mgt. | 1,248 | 500 | 1,748 |
| Natural Hist. Asn. | 300 | 1,000 | 1,300 |
| TOTAL | 9,886 | 7,725 | 17,611 |

Table 25 - Vehicle Work Space

| Group | Existing | Needed | Total |
|-------------|----------|--------|--------|
| Rangers | 5,744 | 3,000 | 8,744 |
| Maintenance | 14,479 | 0 | 14,479 |
| TOTAL | 20,223 | 3,000 | 23,223 |

Table 26 - Parking Spaces

| Group | Needed Space |
|----------------|--------------|
| Superintendent | 6 |
| Administration | 2 |
| Naturalists | 2 |
| Rangers | 21 |
| Maintenance | 60 |
| Resource Mgt. | 7 |
| TOTAL | 98 |

NATURAL RESOURCES

Geology and Earthquakes

Description. The landscape in the project area is dominated by the relatively flat floor of Jackson Hole, which ranges from 6,000 to 7,000 feet in elevation, and the Teton Range, which towers 3,000 to 7,000 feet above the valley to the west and culminates in the Grand Teton at 13,770 feet. Several glacier-carved morainal lakes are located in the project area. These include Taggart, Bradley, Jenny, and String lakes.

The appearance of the Teton Range and Jackson Hole is a result of its recent geological activity. Eight to nine million years ago, the ancestral Teton Range was fractured along the north-south Teton Fault. The area west of the fault rose to form the present Teton Range. The area east of the fault dropped below the present Jackson Hole, creating a sharp vertical separation between the mountain range and the valley floor. About 30,000 feet of vertical movement has occurred along the Teton Fault. The geology of this area presents earthquakes as a major hazard for development in the project area.

The last large earthquake in the region was in 1959 and occurred 50 miles north of the Tetons. Movement along the Teton Fault has averaged one foot every 300 years. This rate is high enough to pose a large risk of earthquakes during the lifetime of any development project. When an earthquake occurs, the structures most likely to survive will be structures on stable ground and those protected against flooding and landslides.

According to current maps from reports filed in 1988 by the University of California-Santa Barbara looking at earthquake potential along the Teton Fault, the entire corridor is within an area that could have earthquake nucleation of a magnitude of between 6.9 to 7.5. Probable faults are shown on a Teton Historic Seismicity map filed with the report. There are two types of damage that could occur to infrastructure and structures - fault breakage and damage from vibrations (personal conversation, Dr. Smith, 8/16/89). All structures would be subject to damage from vibrations. Areas closest to fault lines are subject to the greatest acceleration of vibrations. Because the area has more than a 20,000 foot alluvial bed, there is greater acceleration of vibrations than normal. Beaver Creek is the closest area to the Teton Fault having significant structures. There is a small fault near the south boundary that may have the potential to damage through breakage and vibrations. Thus, alternatives considering the south boundary as a location should weigh the threat of this hazard.

Of major concern during an earthquake is the secondary effect of a possible rupture of the Jackson Lake Dam. The Snake River would flood should the Jackson Lake Dam break. Existing park facilities in Moose are in the path of a flood caused by dam failure (see Floodplains).

The Jackson Lake Dam was recently reconstructed. According to the Bureau of Reclamation, seismic events were taken into account during design and the Jackson Lake Dam was designed to withstand earthquakes of no greater than 7.5 on the Richter Scale. This dam design criteria reflects "an estimate of the maximum credible earthquake that could occur...and can be estimated that the probability of dam failure would be about 1 in 10,000" (personal conversation, Mr. Mumford, BOR, 8/7/89). An Emergency Preparedness Brief done for the Jackson Lake Dam in 1984 estimates the time for a dam failure flood to get to Moose to be about 5 hours. The Bureau has instruments at the dam that are remotely linked through satellites to their Boise office, which monitor the dam constantly.

In addition a park emergency action plan has been written and a river gauge, which monitors above-normal water discharge, located about 1,100 feet downstream of the dam was installed, with a direct alarm to the dispatch office at Moose. Were a large earthquake to occur, the alarm would be activated and evacuation procedures implemented.

Impacts of the No-Action Alternative. No new facilities would be constructed and existing facilities would remain as they are. Existing facilities are primarily frame construction except the maintenance building at Moose, which is brick. Frame building is less susceptible to damage from earthquakes than brick. Damage would result to structures as a result of an earthquake. Facilities that remain in Moose would be subject to a major flood should Jackson Lake Dam fail. Management considers the current plans and monitoring systems to be adequate to prevent loss of life, but not property, should the dam fail. Loss of life could occur, but risk is largely reduced due to the time it would take a flood from dam failure to reach Moose. A more thorough discussion of impacts of alternatives on floodplains is presented in the floodplains section.

Impacts of Alternative A. New facilities would be constructed with material and methods that minimize damage to structures from earthquakes. The visitor center constructed at the south boundary would be designed to withstand earthquakes of 7.5 or greater on the Richter scale. Old structures, if included for rehabilitation, would be improved to the maximum extent practical to withstand damage from seismic activity. Since all facilities would be removed from Moose, the brick maintenance building, which would be susceptible to earthquake damage, would be removed and the threat of damage from flooding as a result of an earthquake would be eliminated.

Impacts of Alternative A and the Proposal. Structures and utility lines would be built away from faults where possible. The visitor center constructed at the south boundary would be designed to withstand earthquakes of 7.5 or greater on the Richter scale. Because a small fault line runs through the south boundary area, special provisions would need to be made to minimize damage in the event of an earthquake, if any utility lines crossed the fault line. In all cases, the best practice would be to avoid this situation.

Impacts of Alternative B and the Proposal. New facilities would be constructed with material and methods that minimize damage to structures from earthquakes. Facilities that remain in Moose would be subject to a major flood were Jackson Lake Dam to fail. Management considers the current plans and monitoring systems to be adequate to prevent loss of life, but not property, were the dam to fail. Loss of life could occur, but risk is largely reduced due to the time it would take a flood from dam failure to reach Moose. A more thorough discussion of impacts of alternatives on floodplains is presented in the floodplains section.

Soils and Vegetation

Description. Soils in the project area are a direct result of geologic action. Three types of soils exist in the project area: glacial moraine deposits, porous quartzite sand and gravel, and alluvial soils along streams and rivers.

At the base of the mountain range, along Teton fault, glacial moraine deposits consist of mixtures ranging from clay to boulders. These deposits surround Taggart, Bradley, Jenny, and String Lakes and form the vegetative base for Timbered Island. The low porosity and high nutrient content of this soil is conducive to tree growth and supports a lodgepole pine/Douglas fir forest that ranges from 6,300 to 7,800 feet in elevation. Older lodgepole pine growing in this soil type are highly susceptible to blowdown from windstorms and to attack by the mountain pine beetle. Fuel loads created by these two conditions make these areas high fire hazards. The lack of shade-tolerant trees in the understory, either because of the lack of a seed source or unfavorable microclimate conditions, makes it difficult to maintain continuous tree cover. A typical example is in the Jenny Lake area. Old mature lodgepole, weakened by mountain pine beetle, have been blown down. In 1973, a windstorm destroyed thousands of trees, leaving the Jenny Lake campground area without tree cover.

The flat meadows of the valley floor are underlain by soils developed from porous quartzite sand and gravel deposited by glacial meltwater. These glacial outwash soils

are nutrient-poor and support a fragile sagebrush/grassland community. Vegetation in these areas is easily impacted by use and revegetation is difficult after disturbance. Manual methods of reclamation are usually necessary to loosen compacted soil. Baseline Flat, Taggart Corral, and Lupine Meadows are typical examples of areas falling within this soil and vegetation type. In these areas some ground cover has been eliminated by grazing, vehicular, and human use. Old roads, irrigation ditches, social trails, and overused pastures are visible.

The Snake River and Cottonwood Creek floodplains consist of more recent alluvial soils, developed when glacial material was reworked by modern streams. These areas are characterized by wetland riparian vegetation - cottonwood, willows, blue spruce, and sedges. Areas of Moose, Bar BC Ranch, 4 Lazy F Dude Ranch, Highlands Ranch, and the Kimmel Cabins exist in this soil type.

Impacts of the No-Action Alternative. Many of the resource impacts occur as a result of heavy visitor use off a hardened trail system. These impacts would continue. In the Moose area, vegetation would continue to be trampled as a result of undefined use patterns causing soil compaction and erosion. Use along the Snake River has caused areas of denuded and trampled vegetation. This would likely continue or be amplified and remain unmitigated. In Beaver Creek, the continuation of existing uses and mix of seasonal trailer structures without defined parking, would continue to tax existing waste treatment and compact soil. In the Jenny Lake and String Lake areas, the impacted areas of denuded vegetation, which have primarily resulted from undefined visitor use, would remain or be exacerbated because of the soil type described above.

Impacts of Alternative A, Alternative B, and the Proposal. At the campground in the Jenny Lake area, parking areas at the south boundary, Moose, Jenny Lake, String Lake, Climber's Ranch, Lupine Meadows, in the Corridor and Beaver Creek, and new buildings at the south boundary, some soils would be compacted from construction. Roads, trails, and other impermeable structures would either wholly or partially eliminate direct inflow of water to soil. Compaction of soils in these areas would occur either deliberately (as is the case for roads) or as a result of settling due to the weight of the structure. Site preparation (leveling) for buildings, roads, trails, and parking areas would result in either removal or addition of earth, destroying the soil structure. Topsoil would be removed from areas to be covered by pavement or buildings and would be used to supplement any shortage of topsoil incurred in installing utilities or other facilities. Manual methods of scarification would be used for rehabilitation before seeding areas of denuded vegetation. This would minimize the overall loss of topsoil caused by development and encourage revegetation.

Any construction site where soil is disturbed would undergo accelerated erosion, at least temporarily, until drainage structures are fully operable and vegetation recovers in cleared areas. Construction of roads, buildings, and other impervious structures would be restricted to the minimum area required for building. Topsoil would be retained and replaced where possible, by conserving available organic matter. Most visitor developments would be constructed where the slopes are less than 15 percent, to minimize the soil erosion created by foot traffic. Paved trails would be provided where heavy foot traffic

is anticipated, and visitors would be encouraged to stay on maintained trails. A hardened trail system for visitors and to protect soil and vegetation resources is proposed for Jenny Lake and String Lake. This includes a series of deck structures to prevent bank erosion adjacent to the lake shore, as well as wooden barrier posts to help keep visitors on trails. Trail construction in other areas would include special design methods (such as raised decking) in areas where the slope is high and soils are easily eroded.

Buildings, roads, and other impervious structures would collect and divert precipitation to adjacent areas and would be constructed in a manner that minimizes disturbed areas. The runoff not collected and diverted to natural drainages would pour out onto adjacent areas, increasing the local soil moisture regime. The increased runoff in these areas would result in localized increases in erosion and changes in soil nutrient transport. Altered vegetative composition would also create slight changes in soil chemistry. Topsoil from disturbed areas would be set aside and replaced following construction, minimizing the loss of organic material in the soil. These areas would be reseeded with native species to speed the rate of recovery and to minimize the encroachment of invading species. To the maximum extent possible, water runoff from impervious structures would be directed to natural drainages, minimizing the impacts of increased available moisture. The precipitation that falls on buildings, roads, and other impervious structures would not be absorbed. Where this runoff is not efficiently collected and diverted to natural drainage systems, it would pour into adjacent vegetated areas, altering the natural composition of vegetation. In addition, the vegetation along road shoulders would be subject to crushing by car. These conditions would encourage the growth of exotic species.

Areas in and around campgrounds, picnic areas, and interpretive facilities would be affected by foot traffic. The primary impact on soils and vegetation would be compaction, which would decrease permeability, locally alter the soil moisture, diminish the water storage capability, all of which could alter the relative abundance of some plant species. Direct impacts on soil would result in slower rates of water transmission within soils and increased runoff on the surface, increasing soil erosion. Prolonged trampling would gradually decrease vegetation and increase exposure of bare ground to the direct erosive impact of rainfall. Erosion would take the form of channelization on barren areas of even slight slope. Compaction of the soil would be minimized in areas due to frost action, which expands the soil. Hardening and defining trails helps to keep heavy visitor use confined to walk systems and would help to mitigate some of these effects. Direct impacts on plants would alter the relative abundance of some species. Plants that invade disturbed areas would become more common. Increased erosion would lead to exposure of root systems and later death of more mesic plants. Germination of some plant species may be inhibited by soil compaction resulting from foot traffic. The impacts of trampling would range from complete exclusion of vegetation to slight shifts in species composition. In shrublands, the amount of grass and the number of low plants between the shrubs would be reduced, and in grasslands, the proportion of annuals and quick-spreading perennials would increase.

Construction of buildings, roads, trails, parking areas, and campgrounds would completely destroy vegetation.

Alternatives call for waste treatment facilities at Beaver Creek in Alternative B and the proposal and at the South Boundary in the proposal and Alternative A. Sewage systems occupy ground, with the same effects as other impermeable structures, and depend wholly or partly on evaporation or infiltration of wastewater on or in the soil. Where wastewater is placed on or under the soil (septic tank/leach field, sprayfield system), nutrient values increase. Where transpiration is high, substances in the wastewater would build up (salt up) in the soil. Roots of trees and other plants that are in or close to leach fields or that become established there following construction would probably be submerged in wastewater. This would decrease aeration, contribute to root fungal disease, and lead to death of plants in the area. Increased nutrient values in soil beneath filter fields differ in affect, depending on concentrations of nutrients and the plant species present. Lower levels of nutrient enrichment promote plant growth, but increasing concentrations progressively retard growth, or largely eliminate it, as the tolerance of each species to these chemicals is exceeded.

Excavation for utility trenches and other construction activities would remove vegetation and disturb topsoil in areas that would later revegetate. Wherever topsoil is removed and replaced, it would be mixed, effectively reducing the organic content of the top layer. In other areas, the soil would not be affected, but the vegetation would be crushed. Before installation of utilities and other construction activities, the topsoil would be scraped off and set aside. It would be replaced and reseeded with native species, resulting in more rapid recovery of native vegetation.

During the recovery period, the artificially seeded or replanted native vegetation would not be identical in composition to vegetation in adjacent areas. A reduction in organic content of the soil would cause a slight change in species composition for several years.

Impacts of Alternative A. About 53 acres of trees, shrub, and grassland would be affected. This represents .016 percent of the park and is the net loss of vegetation due to new construction of facilities. About four acres of this consist of undisturbed lodgepole/fir forest. The remaining area is grass and shrubland. Four thousand native shade tolerant spruce and fir seedlings would be underplanted in the Jenny Lake area.

Impacts of Alternative B. About eight acres of trees, shrub, and grassland would be affected. This represents .0025 percent of the park and is the net loss of vegetation due to new construction of facilities. About four acres of this consist of undisturbed lodgepole/fir forest. The remaining area is grass and shrubland. Four thousand native shade tolerant spruce and fir seedlings would be underplanted in the Jenny Lake area.

Impacts of the Proposal. About 19 acres of trees, shrubs, and grassland would be affected, 11 acres located on the National Elk Refuge and 8 acres located on Grand Teton National Park. This represents about .0025 percent of the park and is the net loss of vegetation due to new construction of facilities. About four acres consist of lodgepole/fir forest. The remaining area is grass and shrubland. Four thousand native shade tolerant spruce and fir seedlings would be underplanted in the Jenny Lake area.

Wildlife

Description. According to the Natural Resource Management Plan for the park (1986), there are over 300 species of birds, fifty-four animal species, 16 fish species and 9 reptilian and amphibian species within the park. Some of the more prominent animal species are black bear, coyote, pika, several species of chipmunk, yellowbelly marmot, Unita ground squirrel, golden-mantled ground squirrel, red squirrel, porcupine, elk, mule deer, moose, pronghorn (antelope), and bison. The willow communities and the associated riverine systems provide habitat for several wildlife species including Snake River cutthroat trout, bald eagle, osprey, trumpeter swan, great blue heron, and moose.

Impacts of the No-Action Alternative. Existing conditions for wildlife would remain unchanged.

Impacts of Alternative A, Alternative B, and the Proposal. Vegetative alterations due to construction activities result in the displacement and destruction of resident invertebrates and small vertebrates. Development of an area usually results in the displacement and disruption of small mammals and birds.

Threatened and Endangered Species

Description. According to park biologists, the status of threatened and endangered (T&E) plant species in the 1986 Natural Resource Management Plan has not changed. There are no known threatened or endangered plant species within the park. However, the Browns peony (*Paeonia brownii*) is rare and should be surveyed and protected in its open, previously disturbed, dryland habitat. This plant is found in the south Jenny Lake area at the Lupine Meadows bridge over Cottonwood Creek, near the Kimmel Cabins, and at Taggart Creek near the corral. It is also located near the new Jenny Lake parking area and the visitor service area and should be avoided.

According to the U.S. Fish and Wildlife Service (3/24/89), the threatened grizzly bear (*Ursus arctos horribilis*), endangered bald eagle (*Haliaeetus leucocephalus*), endangered whooping crane (*Grus americana*), and endangered peregrine falcon (*Falco peregrinus anatum*) are found in Grand Teton National Park.

Grizzly bears are native to the park and could potentially use habitat in the northern portion of the project area, but have not been sighted south of Jackson Lake in the last 30 years. According to the Natural Resource Management Plan, since the mid 1960s, the rare and incidental occurrence of grizzly bears in the park and the near absence of potential conflicts between grizzly bears and humans have called for little in the way of specific management action. A potential seasonal spring food source, however, is available throughout the corridor. The Teton Park Road right-of-way and the developed areas at Moose, Beaver Creek, Jenny Lake, and String Lake are rated as management situation number three (III) areas, under the *Interagency Grizzly Guidelines, Interagency Grizzly Bear Committee, 1986*. These are areas where grizzly presence is possible but infrequent. Areas adjacent to the road right-of-way outside of developed areas are management situation number two. These are areas that lack distinct grizzly population

centers and highly suitable habitat generally does not occur. No management situation number one areas are in this project area.

Bald eagles use park areas. "The Park has supported three to four nesting territories and nesting pairs since 1968, with from one to six young fledged annually....The most productive nest sites in Wyoming occur on private riparian lands outside of Yellowstone and Grand Teton National Parks. Maintenance of populations in the two parks probably depends on young produced on these sites outside the park....The major threat to nesting success within the park is human disturbance along the Snake River....Areas within .5 mile of bald eagle nests along the Snake River are closed to public entry, except river float trips....Research and experience in the park and other areas, has shown that moving boats disturb bald eagles less than boats which land near nests or human activity on the ground." [*Natural Resource Management Plan (RMP), 1986*] Float trips on the Snake River are not allowed to stop along the four sections, nearly four miles, where this situation occurs. During the last two years, bald eagles have been sighted at the mouth of Cottonwood Creek, in response to spawning Rocky Mountain whitefish.

Whooping cranes have been sighted along the Snake River corridor between April and October. They are extremely rare and use the corridor mainly for overflight, although they feed and roost in the riverine habitat. There are no nests in the planning area. Whooping cranes are very sensitive to human intrusion.

"The American peregrine falcon is native to the park....Since 1977 the Wyoming Game and Fish Department has monitored the status of the peregrine falcon in Wyoming and has developed plans for re-establishing a nesting population....The Peregrine Fund, Inc., a private organization, has captively raised and returned many peregrine falcons to the wild and has been carrying out a reintroduction program in Jackson Hole since 1980....A cooperative agreement between the Bridger-Teton National Forest, the Wyoming Game and Fish Department, and the park specifies reintroduction sites for peregrine falcons...disturbance is not a problem at reintroduction sites in the park. Most potential nest sites could only be disturbed by mountain climbers." (*RMP, 1986*) Peregrine falcons use the Snake River mainly for periodic overflight. They are sighted during spring and fall migrations along the Moose to Jenny Lake corridor.

According to the U.S. Fish and Wildlife Service (3/24/89), current candidate species, which could occur within the planning area are the North American wolverine (*Gulo gulo luscus*), the North American lynx (*Felis lynx canadensis*), Swainson's hawk (*Buteo swainsoni*), Jackson Lake snail (*Helisoma jacksonense*), the Jackson Lake springsnail (*Pyrgulopsis robusta*), and the Boreal western toad (*Bufo boreas boreas*). According to park biologists, none of these are in the planning area.

Impacts of the No- Action Alternative, Alternative A, Alternative B, and the Proposal. The evidence of roads and humans in, or immediately adjacent to, all areas has existed for some time. Current management for the species is indicated in the preceding description along with reintroduction efforts. Informal surveys by observation are being constantly done by park staff in addition to formal surveys by private, State and other Federal Agencies for some of the species listed. Current management recommendations

for listed species are contained in the *Natural Resource Management Plan, 1986*. Capacity of the Snake River for both private and commercial floating traffic needs to be assessed to resolve impacts associated with wildlife and raft float traffic.

Based on current indications and actions outlined in the alternatives and the proposal, *the park biologist has determined that these alternatives would have no effect on the bald eagle, peregrine falcon, grizzly bear, or the whooping crane in the planning area. In addition, the park biologist has also found there would be no effect on Category 2 species of the North American wolverine, North American lynx, Swainson's hawk, Jackson Lake snail, Jackson Lake springsnail, or the Boreal western toad.* Pursuant to Section 7 of the Endangered Species Act of 1973, the National Park Service will seek concurrence with the U.S. Fish and Wildlife Service on their finding of no effect.

Water Resources

Description. Studies indicate that surface and ground waters in the park are of exceptionally high quality. All surface waters are designated Class I and meet or exceed these standards. Existing uses, however, have contributed to lower water quality. This has occurred and is occurring at park facilities and concession operations on the Snake River, Cottonwood Creek, Beaver Creek, Taggart Creek, Jenny Lake, and String Lake. Much of the eastern and central portions of the park have extensive ground water resources. Water tables vary from near the surface on floodplains to 30 to 60 feet on outwash flats.

The Service holds 281 water rights within the park (262 adjudicated, and 19 unadjudicated). Most were obtained as appurtenances to lands purchased by or donated to the park.

Heavy use of the Moose raft launch on the Snake River has contributed to the degradation of vegetation and water quality through uncontrolled pedestrian trails leading from the Snake River to the parking area. Soil compaction and loss of vegetation along the riverbank has contributed to siltation and erosion. Dredging operations to maintain water depth have occurred when a gravel bar builds to the north of the ramps and impedes raft landing operations. Recently completed investigations by park staff of options for raft launch locations along the Snake River near Moose have indicated that the current raft location is the best site for a float launch.

Teton Boating Company dock, located at the mouth of Cottonwood Creek, is located too far down stream to serve motorboat use. When the water level drops, boat motors churn the bottom of the channel while attempting to reach the dock. This increases turbulence and decreases water quality in Cottonwood Creek and Jenny Lake.

The lack of adequate sanitation facilities has also contributed to some reduction in water quality and poses health risks to the public. Restrooms are inadequate at both Jenny Lake docks. The lack of restroom facilities in the heavily used Hidden Falls area is a potential problem affecting water quality. Restroom facilities are also inadequate in the Jenny Lake campground and String Lake picnic areas.

The horse concession (Teton Trail Rides), located adjacent to Cottonwood Creek and affecting the Jenny Lake area, particularly at Hidden falls, compacts soil, degrades vegetation and lowers water quality. Taggart Corral and pasture adjacent to Taggart Creek contribute to siltation and decrease the water quality.

Glacial lakes form a chain of clear pools at the base of the Teton Mountain Range. In the Jenny Lake and String Lake areas development has occurred very close to the lakeshore. The road and parking are being moved away from the lakeshore with the realignment of Jenny Lake Road in Project 171. However, many facilities remain, including the Ranger Station, Store, Crandall Studio, Comfort Station, and three cabins. Facilities near the lakeshore and the associated visitor use they attract, have denuded vegetation, increased soil compaction and erosion, and reduced water quality.

Service management policies require that adequate sewage treatment be provided at all public use and administrative facilities to prevent the discharge of effluent directly into streams or lakes as well as to avoid disruption of the area's ecosystem through pollution of the ground water.

Impacts of the No-Action Alternative. The potential would remain for ground water contamination because of inadequate toilet facilities. No improvements would be made to sanitation facilities, which would pose public health risks.

Degradation of vegetation and water quality on water bodies of the Snake River, Cottonwood Creek, Beaver Creek, Taggart Creek, Jenny Lake, and String Lake would continue. Problems associated with motorboats on Jenny Lake would remain. All the existing problems described in the description would remain and continue under this alternative.

Impacts of Alternative A. Improvements of water quality would occur along the Snake River, Cottonwood Creek, Beaver Creek, Taggart Creek, Jenny Lake, and String Lake. In the Moose area, because visitor services would be reduced and all other facilities eliminated, and a hardened path system installed, use of the area would be reduced. Removal of housing, storage, and some concessioner operations, which should reduce use, would reduce bank erosion along Cottonwood, Taggart and Beaver Creek. Consolidation of visitor activities away from the shoreline and improvement of pedestrian circulation would improve water quality on Jenny Lake and String Lake by reducing one source of siltation and water degradation.

The most significant source of pollution by motorboats is caused by leakage of oil and gas through the crankcase. A small, nonvolatile hydrocarbon fraction is not removed by evaporation from water exposed to submerged two-cycle engine exhaust emissions. The addition would not significantly increase the concentration of hydrocarbons in the total volume of the lake. Elimination of private motorized boat use on Jenny Lake would improve water quality.

Impacts of Alternative B and the Proposal. Improvements of water quality would occur along the Snake River, Cottonwood Creek, Beaver Creek, Taggart Creek, Jenny Lake,

and String Lake. In the Moose area, because visitor services better defined using a series of pedestrian trails, impacts would be reduced along the banks of the Snake River, which should improve water quality. Removal and redesign of housing, removal of fuel storage, and removal and consolidation of concessioner operations, would reduce bank erosion along Cottonwood, Taggart and Beaver Creek. Consolidation of visitor activities away from the shoreline and improvement of pedestrian circulation would improve water quality on Jenny Lake and String Lake by reducing one source of siltation and water degradation. The most significant source of pollution by motorboats is caused by leakage of oil and gas through the crankcase. A small, nonvolatile hydrocarbon fraction is not removed by evaporation from water exposed to submerged two-cycle engine exhaust emissions. The addition would not significantly increase the concentration of hydrocarbons in the total volume of the lake. Horsepower restrictions and limiting public powerboats on Jenny Lake in all alternatives has helped minimize impacts on water quality.

Impacts of Alternative A, Alternative B, and the Proposal. There are adequate water supplies for all actions proposed in the alternatives and proposal. In all areas with existing water sources, the Service owns the water rights. In areas that would require new wells such as the south boundary, water rights could be obtained.

A short-term effect of construction activities adjacent to streams would be a temporary increase in erosion, increasing turbidity. The amount would be minimal in comparison with the yearly effects of spring runoff.

Floating logs washed into the lake during spring runoff would continue to be removed by the staff. This would tend to lower the nutrient content of the lake, because the logs would otherwise sink to the bottom of the lake and decay, releasing nutrients into solution in the lake water.

Dredging, with improvements in Jenny Lake dock facility and the Moose raft launch, would result in increased turbidity, resuspended solids, increased nutrient concentrations, and disturbance of benthic organisms and possibly plants. Secondary effects would include decreased phytoplankton productivity initially, and increased productivity after the water has cleared, with high nutrient levels remaining.

All water would come from ground water sources, and the design of all supply systems would include appropriate conservation techniques and appliances to minimize the amount of water diverted from natural watersheds.

The Teton Boat Company dock would be improved and lengthened. This should increase the water level for boats wanting to dock and eliminate the turbulence problem, which has been a source of decreased water quality in Jenny Lake. Motorboats would be limited to 10 hp as per the CFR. A floating toilet for the west shore dock near Hidden Falls would be added. These actions would reduce and minimize water quality violations.

The horse concessioner would be phased out, which would eliminate hiker/horse conflicts in the area. Trails in the Jenny Lake area would be hardened and some visitor overlooks provided to reduce siltation problems along the lake shore. Facilities would be pulled

away from the lake shore and visitors confined to specific hardened trails. This would improve water quality by eliminating some of the sources - heavy use along the lake shore.

Floodplains and Wetlands

Description. The project would be affected by floodplains located along Cottonwood Creek and the Snake River. Jackson Lake Dam is located about 24 miles north and controls some river flow. For this document, three types of floodplains are discussed: 100-year floodplain, 500-year floodplain, and flooding caused by the failure of the Jackson Lake Dam. There is no potential for flash flooding in the area. There are some wetlands adjacent to the braided Snake River and along creeks within the planning area consisting of primarily cottonwood, willow and sedges. None of the alternatives affect wetlands.

100-Year Floodplain. A special study done by the U.S. Army Corps of Engineers for the Moose area shows most development to be outside of the 100-year floodplain. The approximate location of the 100-year floodplain is shown on the Moose DCP Map. The 100-year floodplain for Cottonwood Creek is delineated on The Federal Insurance Rate Map (Federal Emergency Management Agency - 56039C0425 B). The Kimmel Cabins in Lupine Meadows, used for seasonal park housing, are located in the Cottonwood Creek floodplain and have flooded in the past. Beaver activity in this area also contributes to flooding hazards. Park seasonal housing at Highlands Ranch backs onto Cottonwood Creek. Some cabins were constructed on stilts with obvious concern for protection from flooding, which has occurred in the past. Eight buildings are within the 100-year floodplain (*Floodplain Analysis for Highlands Ranch Area (FAHR)*, Smilee, 1990). One building (No. 1032) is built on stilts, the floor elevation is above the base floodplain, and is adequately protected against a flood. The other seven five buildings should either be elevated or relocated although evacuation is possible and the hazard to human safety is not considered great (*FAHR*, Smilee, 1990). The approximate location of the 100-year floodplain along with appropriate building relocation is shown on the Climber's Ranch DCP Map.

500-Year Floodplain. NPS regulations require the analysis of critical actions that occur within the 500-year floodplain. Critical actions include hazardous materials, sewage treatment plants having a capacity greater than 40,000 gpd, hospitals or emergency stations, irreplaceable objects or collections, and assembly areas or toxic chemical storage. Actions found to exist are described in the following paragraph. If critical actions are identified within the 500-year floodplain, corrective measures need to be prescribed. These corrective measures are described for the proposal and alternatives.

The area shown for major floods from the 1984 Emergency Preparedness Brief with Inundation Map can be used as an estimate for the 500-year floodplain, according to the Bureau of Reclamation (Mr. Mumford, BOR, personal conversation, 8/7/89). This map shows Moose, all of the 4 Lazy F Dude Ranch, and some of the Bar BC Ranch to be within the 500-year floodplain. The approximate location of the 500-year floodplain is shown on the Moose DCP Map. At Moose, the maximum underground

fuel storage is approximately 71,200 gallons of gasoline and heating oil. The condition of the tanks is described under *Facilities* in this chapter. In addition, valuable collections are stored and exhibited at Moose. The existing maintenance yard storage at Beaver Creek is subject to occasional spring flooding, due to beaver activity at current fuel storage area. There is potentially the hazard of polluting creek water, should a spill occur. No critical actions are at Highlands Ranch.

Dam Failure Flooding. Since 1984, water storage in Jackson Lake has been limited to elevation 6,745, eliminating the risk of breaching Jackson Lake Dam and preventing catastrophic flooding caused by dam failure. The reconstruction of the Jackson Lake Dam has just been completed. Under the Safety of Dams Program, the Bureau of Reclamation has developed an emergency preparedness plan for the evacuation of floodplain residents in the event of a dam failure. This has not changed with the reconstruction of the dam (Mr. Mumford, BOR, personal conversation, 8/7/89). If a large earthquake of 7.5 or more on the Richter Scale were to occur near the dam, inundation would be restricted for the most part to the present Snake River channel and floodplain. This area would encompass all development at Moose, 4 Lazy F Dude Ranch, and Bar BC Ranch. Bar BC Ranch and Park Headquarters at Moose are located 21.6 and 24.5 miles, respectively, downstream from the dam. The travel time of failure flood is 4.5 and 5.0 hours, respectively. Should a major flood occur without dam failure, most of Bar BC Ranch would not be affected.

Interpolation of existing BOR maps indicates that Moose would be flooded to approximately 6,460 should a major earthquake and rupture of the Jackson Lake Dam occur. Most of Moose housing and facilities are at approximately elevation 6,455. This means if Jackson Lake Dam failed, this area would be under about 5 feet of water. Warning devices (see Geology and Earthquakes) would alert Park Headquarters. Because of the high visibility of the Jackson Lake Dam, this is estimated as being sufficient to evacuate the area and prevent loss of life. Interior walls, electrical work, and furnishings would be damaged if this event occurred and depending on debris contained in the initial first wave, some structures could be lost.

Impacts of the No-Action Alternative. The no-action alternative would have no affect on the water resource values of the floodplain related to the natural moderation of floodwaters, maintenance of water quality, living resources, and ground water recharge.

Cabins in Highlands Ranch and Lupine Meadows, and the Kimmel Cabins would remain in the 100-year floodplain. Loss of life or property, or both could occur.

The facilities in Moose are within the 500-year floodplain. Under current management, money is allocated to replace tanks with double walled tanks having a total capacity of 37,600 gallons and cathodic protection, which meet EPA and State standards for protecting underground storage tanks against leakage. Replacement of other tanks is awaiting funding. Fuel storage in the utility yard at Beaver Creek would remain as is and storage would not satisfy requirements for critical actions involving fuel storage in a 500-year floodplain. In addition, if the Thomas Moran sketch collection remains in Moose, it would not be adequately protected. Flooding problems would remain at Beaver Creek,

Highlands Ranch, Lupine Meadows, and Bar BC Ranch.

Facilities which remain at Moose, Bar BC Ranch and the 4 Lazy F Dude Ranch would be subject to flooding if the dam failed. Because of the high visibility of the Jackson Lake Dam and the time a flood would take to reach Moose, the area could be evacuated, preventing loss of life.

No wetlands would be affected.

Impacts of Alternative A. Alternative A would not affect the water resource values of the floodplain related to the natural moderation of flood waters, maintenance of water quality, living resources, and ground water recharge.

There would be no effect from the 100-year floodplain or 500-year floodplain. All facilities and fuel storage would be removed from Moose, except a boat launch and picnic area. The boat launch at Moose is in the 100-year floodplain but is an excepted action as per the NPS Final Procedures for Implementing E.O. 11988, "Floodplain Management", and E.O. 11990, "Protection of Wetlands" (45FR35916, as revised, 47FR36718). The Thomas Moran collection of sketches located at Moose and worth an estimated \$500,000, would be moved to the new visitor center at the south boundary. Under this alternative there would be no irreplaceable cultural resources, sewage treatment systems, hospitals, assembly areas, underground storage tanks, or toxic chemical storage in the 500-year floodplain. Alternative A calls for mitigating existing flooding problems along Cottonwood Creek in the Highlands Ranch, Beaver Creek, and Lupine Meadows areas by calling for building relocation or removal.

Facilities that remain at Bar BC Ranch and Moose would be subject to flooding were the dam to fail.

No wetlands would be affected.

Impacts of Alternative B and the Proposal. Alternative B and the proposal would not affect the water resource values of the floodplain, related to the natural moderation of floodwaters, maintenance of water quality, living resources, and ground water recharge.

There would be no effect from the 100-year floodplain. The proposal calls for the relocation and consolidation of buildings in Highlands Ranch while Alternative B would remove all buildings from the area. The proposal and Alternative B calls for the construction of the raft launch parking area at the Moose interpretive area at Menor's Ferry, and construction of trails along the Snake River, which would be within the 100-year floodplain, but which are excepted actions as per the NPS Final Procedures for Implementing E.O. 11988, "Floodplain Management", and E.O. 11990, "Protection of Wetlands" (45FR35916, as revised, 47FR36718).

There would be an effect from a 500-year flood under the critical action criteria, but the effects would be mitigated under the Alternative B and the proposal. Most all of Moose is located within the 500-year floodplain. The Thomas Moran collection of sketches

would be moved to another location outside of the 500-year floodplain. All of the underground fuel storage tanks would be replaced or reconditioned. All replaced tanks would be securely anchored and constructed with double walls having cathodic protection against leakage. The twenty-eight separate 500-gallon fuel tanks used for existing housing would be consolidated to one centralized gas system. Fuel tanks would be equipped with an automatic buoyancy shutoff valve, which would be activated were a flood to occur. In this way fuel tanks would be completely floodproofed against erosive and hydraulic forces expected with a 500-year flood. Fuel spillage during a flood would be automatically contained and water contamination would be avoided. If Moose facilities remain, there will be no other practical alternative. Fuel storage in the utility yard at Beaver Creek would be relocated to the Blacktail Borrow site. Alternative B calls for mitigating existing flooding problems along Cottonwood Creek in the Highlands Ranch, Beaver Creek, and Lupine Meadows areas, by calling for building relocation or removal.

Facilities that remain at Moose, Bar BC Ranch and the 4 Lazy F Dude Ranch would be subject to flooding were the dam to fail. Because of the high visibility of the Jackson Lake Dam and the time a flood would take to reach Moose, the area could be evacuated and loss of life prevented.

Air Quality

Description. Air quality in the park is generally good, with occasional haze of local, regional, and interstate origin. The park is designated as a Class I Federal Area under the Clean Air Act (CAA). Two purposes of the Clean Air Act as amended in 1977 are to: "protect and enhance the quality of the nation's air resources to promote the public health and welfare and the productive capacity of its population", [CAA, sec. 101(b)(1)], and "preserve, protect, and enhance the air quality in national parks..." The park has been identified as a Mandatory Class I Federal Area (44 F.R. 69127) where "... prevention of any future, and remedying of any existing impairment of visibility...from manmade air pollution" is a national goal [CAA, sec. 169A(a)(1)]. The State of Wyoming has adopted air quality standards and regulations (Wyoming Department of Environmental Quality 1982).

Automobiles are one source of air pollution along roads. Traffic on the road produces an unknown quantity of pollutants. This may contribute to haze, however to what degree is unknown now and it is not believed to be significant.

Dust is a problem where gravel roads and gravel parking areas are heavily used. The Lupine Meadows trail entrance road, parking area, and public boat launch are unpaved and dust contributes to air and water pollution.

Wood stoves installed in government housing are currently undergoing modifications with catalytic converters, to reduce wood particulate emissions.

Impacts of the No-Action Alternative. Dust problems are associated with gravel roads at Moose, Beaver Creek, the Corridor: Beaver Creek to Lupine Meadows, Lupine Meadows, Jenny Lake, Jenny Lake Lodge. Vegetation along dirt roads and undefined parking areas would remain subject to the adverse effects of dust generated by

automobile traffic. Should dust accumulations be heavy enough, roadside vegetation would be covered with dust, resulting in the death of the plants. Dirt roads and parking areas are subject to wind erosion and contribute to an increased particulate load, increasing dust levels.

Impacts of Alternative A, Alternative B, and the Proposal. Increases in visitation and the number of cars in an area, which may result from an increase in developed facilities, would increase auto emissions. The average amount of pollutant emitted per car is being reduced steadily through the installation of emission-control systems on new vehicles and the gradual phasing out of older vehicles nationwide.

Construction activities temporarily increase the amount of particulates in the area. Construction dust can be controlled by the application of water or other approved dust palliatives. Construction would also cause a temporary increase in noise levels.

The principal sources of air pollutants in the recreation area are automobiles, motorboats, and natural erosion. Fumes, dust, and noise from vehicles are noticeable at times during periods of peak use, in the late spring and summer.

Most all of the roads having dust problems would be paved. This does vary by management alternative, however, with Alternative A proposing the highest number of paved roads and Alternative B the least. Although road improvements may reduce dust on unpaved roads, this effect may be offset in future years, by increased traffic.

SOCIOECONOMIC ENVIRONMENT

The Greater Yellowstone Area, Regional and Local Economy, and Tourism

Description. The planning area is located within a few miles of Jackson Hole, Wyoming. Besides private land, two other land management agencies in the Greater Yellowstone Area are located within the immediate vicinity of the planning area - The Bridger-Teton National Forest and the National Elk Refuge.

Greater Yellowstone Area. As part of a new cooperative effort between many land management agencies within and immediately adjacent to the planning area, the Greater Yellowstone Area and a coordinating committee was formed to provide coordination for cooperative efforts within the Greater Yellowstone Ecosystem. A Memorandum of Understanding was signed in 1986 by the National Park Service, Rocky Mountain Region and three Forest Service Regions - Northern, Rocky Mountain, and Intermountain, which affirmed mutual cooperation and coordination. Grand Teton National Park is one unit of two National Parks and six National Forests, State lands, National Wildlife refuges, unreserved public domain (Bureau of Land Management) and other lands comprising the Greater Yellowstone Area. A park study done in 1986 showing visitor patterns revealed the following:

| | |
|----------------------------|-----------|
| From Yellowstone | 788,800 |
| Moran/From the East/Dubois | 608,500 |
| To Moose/ | 626,000 |
| To Moran/ | 1,047,000 |
| From Jackson | 1,673,000 |

The study indicates that most visitors to Grand Teton National Park can be captured by a visitor center located just outside of Jackson. In addition, about a 33.7 percent of visitors in 1985 entering Yellowstone National Park used the south entrance, while about 43.4 percent exited through the south gate (*Fishing Bridge Developed Area, Final Environmental Impact Statement, 1988*). Traffic counts for 1988 the Teton Park Road just outside of Jackson averaged 4,600 vehicles per day and for a point just east of the Moran Junction on Highway 287 (Mile post 52.6) counts were 1,278 for 1988 (personal conversation, Wyoming Highway Department, 8/11/89). By combining the above information and using a simple ratio, this would appear to indicate that anywhere from one quarter to one third (26.3 percent entering to 33.9 percent exiting) of all visitors to the Greater Yellowstone Area will pass through the community of Jackson.

Local Economy and Tourism. According to the Jackson Hole Chamber of Commerce (1987), Jackson Hole's estimated permanent population by 1995 will be about 6,000 and Teton County will have about 21,000, with its seasonal population swelling to almost twice that amount. The density of Teton County is 3.26 persons per mile with about 80 percent of the population being under the age of 44. Within Jackson, as of 1987, there were about 1,100 single family homes, 700 apartment units, and 250 mobile homes. Average home price was \$96,100 in Teton County. Rental rates were \$445 per month. There is a current lack of summer seasonal housing. Jackson hole is a full-service community and relies primarily on tourist business for the income of its people. Its largest employer is the Grand Teton Lodge Company. In November 1987, motel occupancy for tourism hit a seasonal low of about 13 percent, with a maximum of about 93 percent in August. During the winter, 38 percent of the people travel by car and 56 percent by air. During the summer, 54 percent of the visitors travel by car, 16 percent by air, 24 percent by RV and 5 percent by bus. Average length of stay in the Jackson area is 3.2 days in the summer.

Seventy two percent of the visitors to Teton County in the summer come to sightsee with an additional fifteen percent coming to camp or hike (*Recreation and Tourism in Teton County Economy*, Pg. 3). According to a socioeconomic impact analysis done by the University of Wyoming (1986), in 1985, campers spent an average of \$109.43 per party or a total of \$2,144,800, in Jackson Hole. An estimated 35.2 percent of campers used the Jackson community to buy essentials before camping in the Greater Yellowstone Area. In addition, past studies done for the region have indicated that Teton County depends heavily on tourism. (*Fishing Bridge Developed Area, Final Environmental Impact Statement, 1988* p.109)

Dornans, a private inholding, currently provides a small store, gas station, post office and eating facility in the Moose area.

Impacts of the No-Action Alternative. This alternative would have no effect on the

regional economy, population, land use or other agencies.

Impacts of Alternative A. Moving the housing to the south boundary would provide employees with closer shopping, but would probably not change existing relationships. Employees' children are currently students in Jackson and the housing move should not adversely affect the school. It would increase seasonal housing available for employees of the park and concessioners. A small increase to seasonal housing would make up for existing shortages. Neither housing supply nor the rental market would be greatly affected.

Impacts of Alternative A and the Proposal. Moving the visitor center to the south boundary would have a positive effect on the local economy because of its proximity to Jackson. It might encourage visitors to stay longer and would provide a greater visibility of the cooperating Agencies. A visitor center close to the south boundary would have a positive effect on tourism in Jackson. Based on information presented in the description, this visitor center would be located in an area that would capture anywhere from one quarter to one third of the visitors to the GYA. Both Teton County and the town of Jackson are dependent on tourist dollars for their economy. This action would present a message of unity and provide a highly visible example of a cooperative effort for managing the Greater Yellowstone Ecosystem. It would be a place where both differences and similarities in management roles of the various Federal Agencies could be explained to the public.

Impacts of Alternative A, Alternative B, and the Proposal. Tourism is an important industry for the Jackson community. While "visitors travel generally in a loop pattern throughout the park and region....The direction of travel is determined by point of origin and overall trip itinerary" (*Fishing Bridge Developed Area, Final Environmental Impact Statement, 1988*). Jackson and Teton County have played a historical role in tourism in the region. The proposal and the alternative would have a positive effect by providing the level of changes in present park operations, park facilities and uses necessary to improve the delivery of services and overall quality of tourism for this part of the region.

Visual Resources

Description. On a macro scale, the landscape within the planning area is highly diverse, ranging from flat sagebrush plains and alluvial river bottoms along the Snake River, to lodgepole pine/fir forest foot hills and the backdrop of the majestic peaks of the Grand Teton. The elevation difference between the valley bottom and the mountains have made the mountains in this park world renowned. Color, texture, and patterns are highly varied. Developments in the valley may at times intrude on the natural landscape. The unimpeded view of the mountains from the Teton Park Road is an important element of a quality experience for visitors to the park. Some facilities described under the Facilities section of this chapter intrude on these resources.

On a micro scale, the condition of facilities, trails, and impacted resource areas is important to the visual resource. Some facilities are in poor condition (see Existing Development).

Impacts of the No-Action Alternative. Existing facilities would continue to intrude on the natural landscape and conditions would remain unchanged. Current resource damage from visitor use, such as trampled vegetation, soil erosion, undefined visitor parking, and trailing would continue.

Impacts of Alternative A. The visitor center and parking areas at the south boundary would be designed to blend with the natural landscape. Housing proposed at the south boundary would intrude on the natural landscape until mature vegetation screen could be established. The implementation of a unified architectural theme and buried utility lines would remove some visual intrusion on the natural landscape. The removal of all facilities at Moose would improve views of scenic values along the Snake River. Improvements in the condition of facilities, hardened trails, defined parking areas, and rehabilitated impacted areas would improve the quality of visual resources in the Jenny Lake, Lupine Meadow and String Lake areas.

Impacts of Alternative B. The implementation of a unified architectural theme and buried utility lines would remove some visual intrusion on the natural landscape. Improvements in the condition of facilities, hardened trails, defined parking areas, and rehabilitated impacted areas would improve the quality of visual resources in the Jenny Lake, Lupine Meadow and String Lake areas.

Impacts of the Proposal. The visitor center and parking areas at the south boundary would be designed to blend with the natural landscape. The implementation of a unified architectural theme and buried utility lines would remove some visual intrusion on the natural landscape. Improvements in the condition of facilities, hardened trails, defined parking areas, and rehabilitated impacted areas would improve the quality of the visual resources in the Jenny Lake, Lupine Meadow and String Lake areas.

Concessions

Description. There are five concessioners operating in the planning area -- Grand Teton Lodge Company, Teton Trail Rides, Teton Boat Company, Exum Mountain Guides, American Alpine Club, and several commercial raft floating companies operating on the Snake River -- Barker-Ewing Scenic Tours, Ft. Jackson Float Trips, Grand Teton Lodge, Heart Six Ranch, Jack Dennis Fishing Guides, National Park Float Trips, Osprey Float Trips, Parklands Expeditions, Rivermeadows, Signal Mountain Lodge, Solitude Float Trips, and Triangle X Ranch.

Impacts of the No-Action Alternative. Existing business would remain as is and there would be no effect of this alternative on concessions.

Impacts of Alternative A. Floaters of the Snake would benefit from the complete elimination of conflicting activities (visitor center, housing, maintenance). Visitors using Moose would have three well defined activity areas -- picnic area, raft launch/takeout, and Menor's Ferry.

The Grand Teton Lodge Company's service station, store and snack bar located at

Moose would be removed. This would result in a modest loss of net income for the company, but would not have a significant effect on its profitability. The store at Jenny Lake would be relocated into a new government-constructed building and the company would pay a rental fee. Thus, no company construction costs are anticipated at this site. Seasonal employee trailer sites would be constructed by the company at the proposed south entrance housing area. Preliminary analysis indicates it would be feasible for the company to make the suggested improvements at Jenny Lake Lodge.

The Teton Boat Company would be required to construct new boat docks and storage, and upgrade the fuel system, which a preliminary analysis indicates would be feasible. The American Alpine Club's Climber's Ranch facilities would be improved by the National Park Service. The housing costs proposed for Exum Mountain Guides would be feasible. The new Exum office at Climber's Ranch would be constructed by the National Park Service. Placing the office at this location would result in reduced business due to the loss of walk-in clientele, which is a large percentage of Exum's business. This might have a significant negative financial effect on the company. Clients would also need to drive from the office to Jenny Lake to begin their climbs.

None of the proposed actions are anticipated to have a material effect on concession sales or income, other than for Exum.

Impacts of Alternative B. The proposed facade upgrade at the store and service station at Moose would have an impact similar to the one in the proposal, with the exception that the expanded visitor center could result in a modest increase in income. Additional seasonal concessioner employee trailer sites would be constructed at Beaver Creek. The impacts at Jenny Lake and Jenny Lake Lodge would be the same as in the proposal.

The American Alpine Club housing and operations would be removed from the park, and the concession permit would be cancelled. Exum would be given office space in the Jenny Lake visitor service complex, but housing would be removed from the park, which would result in a loss of efficiency and some potential additional housing costs. The impacts on the Teton Boat Company would be the same as in the proposal.

Impacts of the Proposal. The facade upgrade at the Grand Teton Lodge Company store and service station in Moose would not have an adverse effect on the concessioner, and the seasonal employee trailer sites would be constructed by the company at Beaver Creek. The store at Jenny Lake would be relocated and remodeled and additional space constructed, if needed, at government expense. Any additional space used by the concessioner would be rented from the government. Preliminary analysis indicates it would be feasible for the company to make the suggested improvements at Jenny Lake Lodge.

The Teton Boat Company would be required to construct new boat docks and storage, and upgrade the fuel system, which a preliminary analysis indicates would be feasible. The American Alpine Club's Climber's Ranch facilities would be improved by the National Park Service. The housing costs proposed for Exum Mountain Guides would be feasible. The removal of concession facilities at Jenny Lake would be a National Park Service

expense.

None of the proposed actions are anticipated to have a material effect on concession sales or income.

Visitor Use

Description. Visitation within the park declined in 1982 through 1984. Recreation visitation has remained relatively steady since 1984, although actual use on the Teton Corridor has increased. Figure 1 illustrates total yearly recreation visitation for each year from 1979 to 1988. The park's seasonal visitation pattern is marked, showing about a 900 percent increase from January to July. Figure 2 illustrates recreation visitation for each month in 1988. Traffic counters showed average daily vehicles peaking at 6,550 during July (1984). Average daily traffic during the use season is put at 3,230 vehicles. According to a Visitor Services Study done for the park in 1988, 48 percent of visitors stop at Moose and 55 percent stop at Jenny Lake. Specific estimates of visitor use developed by the park for this project are as follows:

Table 27

| Activities | Three Year Average Units per day | June to August | Peak |
|-----------------------------------|-------------------------------------|----------------|-------|
| Touring-Moose Entrance | Parties | 1,595 | 1,760 |
| Jenny Lake Camping | Parties | 45 | 50 |
| | People | 156 | 170 |
| Backcountry Camping | Parties | 15 | 30 |
| | People | 52 | 85 |
| Climber's Ranch | People | 28 | 40 |
| Exum Climbing | Parties | 2 | 3.5 |
| | People | 7.1 | 12 |
| Exum Climbing School | People | 16 | 24 |
| Horseback Riding | People | 77 | 95 |
| Boating | People | 605 | 740 |
| Hiking - Jenny Lake Dis- trict | Hikers | 1,425 | 1,675 |

Table 28

| Trailheads | June to August - Visitors per Day | Average Vehicles per Day |
|-----------------------|-----------------------------------|--------------------------|
| Lower Granite | 50 | 15-25 |
| Whitegrass | 60 | 40-80 |
| Tagart | 85 | 30-40 |
| Lupine | 105 | 15-35 |
| Jenny Lake SW Shore | 215 | 340-485 |
| Boat Ferry | 605 | |
| String Lake South End | 125 | 95-175 |
| String Lake North End | 165 | |

Average number of persons per vehicle is 3.0 for recreation users. Average length of stay during the summer is 2.56 hours, and the winter, 4.0 hours. For visitors who camp in the park, the average stay is 52.3 hours. For visitors traveling in buses, the average length of stay is 1.97 hours. The number of visitors using tour buses has been increasing in the last three years at about a 10 percent rate - July 1986: 303; July 1987: 352; July 1988: 383. The greatest number of buses that have used the park on a monthly basis was 383 in 1988 (Mr. Newland, personal conversation, DSC-Professional Support, Statistics, 8/8/89).

Impacts of the No-Action Alternative. Visitor experience would probably decrease due to poor condition of facilities, overcrowding of some existing facilities, lack of adequate circulation and separation of uses, and lack of defined use areas. These conditions mean that visitors would have to wait longer to obtain parking or camp sites and may be generally dissatisfied with the experience they had at the park.

Impacts of Alternative A, Alternative B, and the Proposal. Impacts from current heavy visitation use such as vegetation trampling, compacted soil, soil erosion, and trailing in the Jenny Lake and String Lake areas would be reduced. Along the river near Moose, impacts to riparian vegetation should be kept to a minimum because shore access would be restricted to hardened trails. Impacts from undefined parking and visitor vehicles would also be reduced. Visitor experience, because of new facilities, better circulation, defined parking and pedestrian access would contribute to an enhanced visitor experience. Visitor resource impacts would be reduced, circulation improved, and use areas defined.

CULTURAL RESOURCES

Archeological Resources

Introduction. Although several archeological surveys have been conducted in the park, most do not meet current archeological methodological and reporting regulations defined

in the Secretary of Interior's Standards and Guidelines for Archeology and Historic Preservation (SGAHP). Few sites have been evaluated for the National Register of Historic Places. It will be necessary to resurvey all areas in the corridor to acquire adequate survey data for such evaluation. For areas that have not been surveyed to date, surveys meeting the SGAHP must be implemented.

To date, 188 prehistoric sites are known to exist within the corridor, 146 of which have not been evaluated for the NRHP. Thirty-eight of these, classified as eligible for nomination to the NRHP, are included in the Jackson Lake Archeological District. Two near Jenny Lake are eligible for NRHP. Four prehistoric sites have been evaluated as ineligible for the NRHP. Very little is understood about the nature of the prehistoric occupations in the corridor due to the lack of information about individual sites. However, changes in some items of material culture have been noted at these locations allowing sites to be attributed to specific time frames. The most recent chronology has divided the prehistoric cultural resources into four periods: Paleo-Indian, Archaic, Late Prehistoric, and Protohistoric. The earliest occupations are associated with the late Paleo-Indian period as surface materials are recovered from sites (48TE509, 48TE700, 48TE1039) at the margins of Jackson and Emma Matilda Lakes. These date from ca 10000 B.P. to ca 6000 B.P. Societies of the Paleo-Indian period are thought to have consisted of loose bands of hunters and gatherers emphasizing the exploitation of now-extinct megafauna for food.

The Archaic period (ca 7500-1000 B.P.) is often considered to have been similar to the Paleo-Indian in social structure, but with a more generalized subsistence base using a wide range of plants and animals for food. At least ten sites have been identified that can be attributed to the Early Archaic (ca 7500-4500 B.P.). Procurement and use of plant foods appears to have expanded rapidly at the beginning of the Middle Archaic (ca 5500-3500 B.P.). About 14 sites around Jackson, 3 sites at Blacktail Butte, and 1 site (48TE701) at Lizard Creek can be attributed to this period. Late Archaic (ca 3500-1000 B.P.) is marked by the appearance of corner-notched projectile points. This period is well represented in Grand Teton National Park, with numerous sites identified in the Jackson Lake area, Moose Basin, and Blacktail Butte.

The Late Prehistoric Period (ca 1500-250 B.P.) is marked by the appearance of small arrow points as well as pottery and steatite vessels. Estimates are that considerable trade was done with areas to the north, west and south. The subsistence emphases appear to remain similar to those practiced during the previous 6,500 years, however. Several sites of this era have been identified at Jackson Lake, Moose Basin, and other areas in the park.

The Protohistoric Period (ca 250 B.P. to 150 B.P.) is marked by the presence of historic trade goods. To date, only one site from this era has been identified in the park (48TE576). Jenny Lake II site is believed to be a post-horse Shoshone hunting camp).

Despite many historic buildings identified in Grand Teton National Park, there have been no historic archeological resources recorded to date. Because of the history of the corridor, historical archeological resources certainly exist. Future archeological surveys in the park need to identify these resources and evaluate their significance. Determination

of eligibility for the NRHP will hinge upon the resource's potential for yielding information important to our understanding of the local, regional, or national history, which cannot be obtained through other sources; i.e., documents, photographs, etc.

The problems of survey coverage, reporting and the lack of documentation for historic sites suggests that many areas scheduled for construction must be surveyed before ground disturbance and each archeological resource be evaluated before construction. Evaluation requires that historic contexts be developed and used to assess significance of each resource and determination of eligibility must be made for each unevaluated site in the corridor on a case by case basis. Archeological resources in the corridor can be broken down as follows:

Moose Description. This area was surveyed during the 1970s resulting in the identification of one archeological site (48TE406) at Moose near the river on the east side of the community. The significance of this "open lithic scatter" has yet to be determined nor has it been evaluated for eligibility to the NRHP. The fieldwork and data recovery methods used in these investigations did not meet the SGAHP and the area must be resurveyed before construction. Resources identified during future archeological surveys must also be evaluated for the NRHP.

Beaver Creek Description. Surveys of this area were conducted in the 1970s with no archeological sites being identified. The fieldwork and data recovery methods used in these investigations did not meet the SGAHP and the area must be resurveyed before construction. Resources identified during future archeological surveys must also be evaluated for the NRHP.

Beaver Creek to Lupine Meadows Description. During surveys in the 1970s, five prehistoric archeological sites (48TE619-624) were identified along Cottonwood Creek near the Taggart Lake Trail parking area and the Cottonwood Creek Turnout. These were all classified as "open lithic scatters." Virtually nothing is known about these sites nor have they been evaluated for eligibility to the National Register of Historic Places. The fieldwork and data recovery methods used in these investigations did not meet the SGAHP and the area must be resurveyed before construction. Resources identified during future archeological surveys must also be evaluated for the NRHP.

Lupine Meadows Description. Surveys of this area were conducted in the 1970s with no archeological sites being identified. The fieldwork and data recovery methods used in these investigations did not meet the SGAHP and the area must be resurveyed before construction. Resources identified during future archeological surveys must also be evaluated for the NRHP.

Jenny Lake Description. Three prehistoric "open lithic scatters" were recorded in the Jenny Lake area during the 1970s. The fieldwork and data recovery methods used in these investigations did not meet the SGAHP and the area must be resurveyed before construction. Resources identified during future archeological surveys must also be evaluated for the NRHP.

FIGURE 1

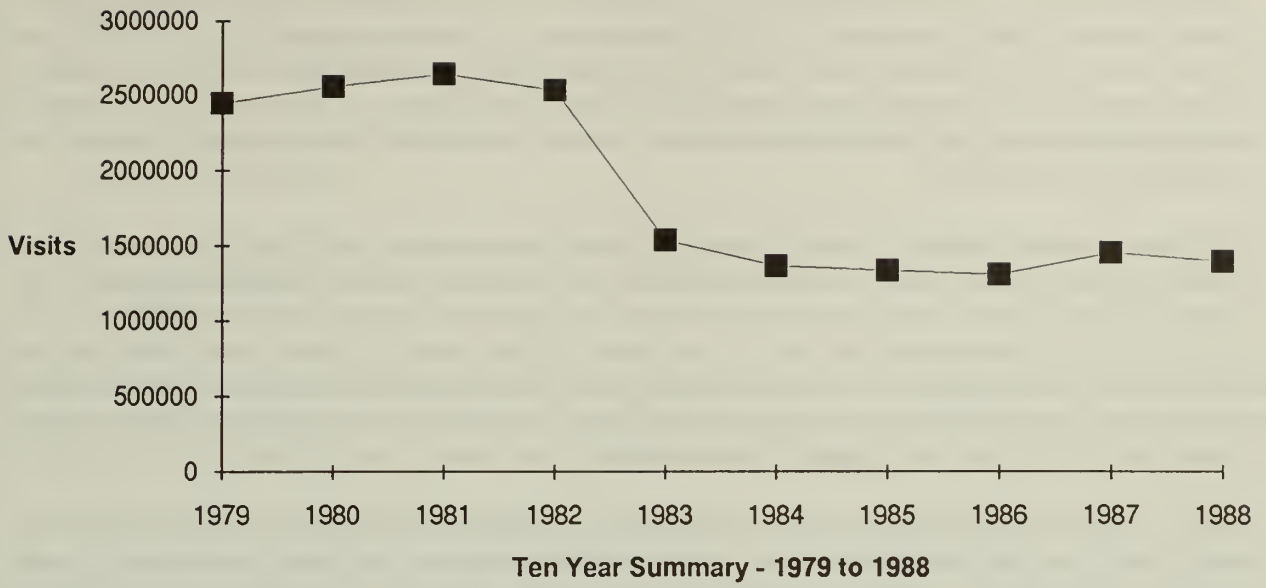
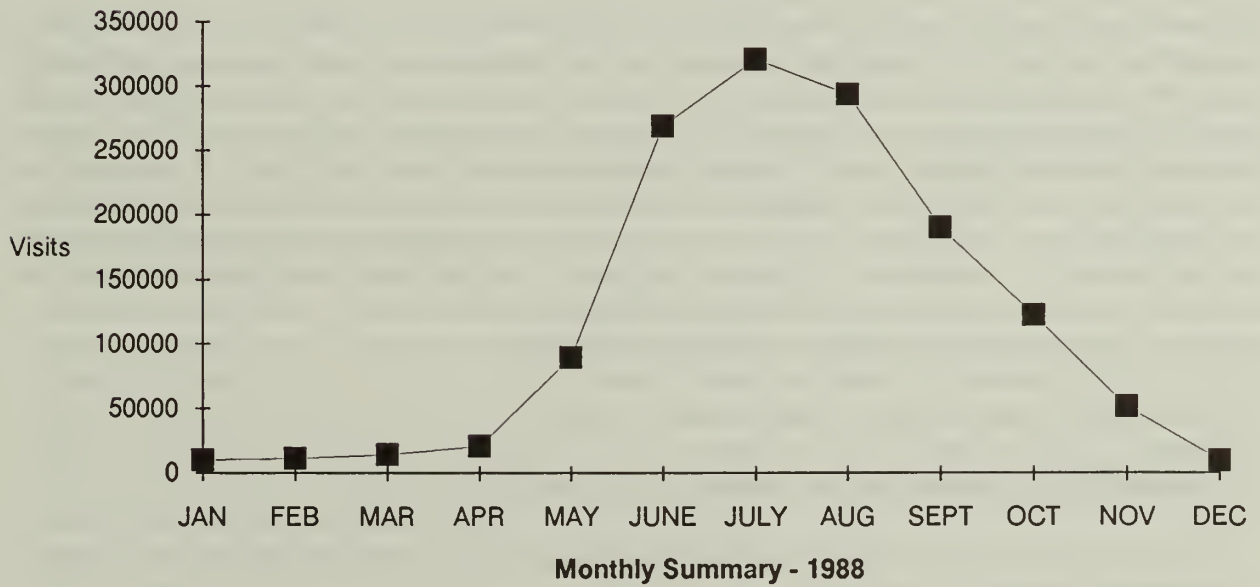


FIGURE 2



Grand Teton National Park

The best known of these sites is the Jenny Lake II site (48TE576), a protohistoric Shoshone site dating to ca. A.D. 1800. The site has not been evaluated for the NRHP and extensive subsurface testing must be done to this end. Two sites at the southern margin of the Jenny Lake Campground are 48TE411 and 48TE414. Almost nothing is known about the resources at these sites and they must be evaluated for the NRHP before any construction in this area.

String Lake Description. One prehistoric "open lithic scatter" (48TE412) was recorded in 1976 approximately 300 meters to the west of the Jenny Lake Lodge complex at the outlet of String Lake. Virtually nothing is known about this site and its eligibility for the NRHP must be determined before construction in this area. Further, the fieldwork and data recovery methods used in these investigations did not meet the SGAHP and the area must be resurveyed before construction. Resources identified during future archeological surveys must also be evaluated for the NRHP.

Jenny Lake Lodge Description. No archeological sites have been identified within the Jenny Lake Lodge complex to date. Although the area around Jenny Lake Lodge was surveyed during the 1970s, the fieldwork and data recovery methods used in these investigations did not meet the SGAHP and the area must be resurveyed before construction. Resources identified during future archeological surveys must also be evaluated for the NRHP.

Impacts for the No-Action Alternative. For the no-action alternative, there could be impacts to archeological resources because of undefined trail systems and the likelihood that lithic scatters would be susceptible to collection by uniformed visitors.

Impacts for Alternative A, Alternative B, and the Proposal. For the proposal and all alternatives except the no-action alternative, construction of buildings, campgrounds, picnic areas, parking lots, and trails could impact archeological resources. Before any ground-disturbing project or activity, a survey meeting the Secretary of the Interior Standards for Archeology and Historic Preservation will be completed. A copy of the survey will be sent to the Wyoming State Historic Preservation Officer (SHPO). If any sites are identified and cannot be avoided, the procedures stipulated under 36 CFR Part 800 will be followed. In addition, a rigorous program of ranger patrol and general education would be implemented to discourage vandalism and inadvertent destruction of cultural remains. Known sites would be impacted as follows:

Site 48TE406 would be avoided and not affected.

Sites 48TE619-624 would be avoided and not affected.

Planned construction areas in Lupine Meadows will be resurveyed before any ground-disturbing work.

Site 48TE414 will be affected. Trails are planned that will affect site integrity. Before construction. The site needs to have more subsurface testing done to obtain information regarding the materials in the areas to be disturbed. A data recovery plan

will be developed and submitted to the Wyoming SHPO for review and comment.

Site 48TE576 would be avoided and not affected.

Site 48TE412 would be affected by road and parking lot removal, but long-term effects would be reduced.

Planned construction areas in the Jenny Lake Lodge area will be surveyed before any ground-disturbing work. If any sites are identified, then the procedures stipulated in 36 CFR Part 800 will be followed.

By providing a system of hardened and defined trails and keeping visitors confined to these areas, the proposal and alternatives would reduce the impacts associated with use of recreational facilities described under the no-action alternative.

The probability of wear and vandalism would be less for archeological resources in the natural zone and wilderness area because of the decreased visitor use owing to the lack of motorized access. However, the restriction on motorized vehicles would hamper research, inventory, and protection of archeological resources.

In those areas where subsurface remains appear likely, an archeologist would be on hand to monitor ground-disturbing actions.

Historic Resources

Introduction. The Teton Corridor, Moose to North Jenny Lake, encompasses several areas of historic buildings and structures. The cultural resources of Grand Teton National Park were surveyed and evaluated for inclusion on the National Register of Historic Places. The cultural resources of the Teton Corridor were evaluated under the following historic contexts: Dude Ranching and Tourism 1908-1965; Homesteading 1885-1927; Architecture 1915-1955; and Conservation 1890-1964. These contexts were organized by either historic association with the broad patterns of history or by architectural design for inclusion on the National Register.

Dude Ranching and Tourism 1908-1965 incorporated the patterns of development of ranch complexes to accommodate the visiting public. Many of the ranchers that had established areas for raising livestock were unable to make a liveable income. They began to accept paying overnight guests, which yielded more income. Many of these dude ranches were little more than cabins added to the defunct cattle operations. Improvement of the roads and a growing fascination to visit the west encouraged the growth of the dude ranch industry.

Homesteading 1885-1927 involved the settlement and evolution of uncultivated land into developed and irrigated habitats. Permanent settlement began in the mid-1880s, with permanent dwellings and, in some cases, established irrigation systems.

Architecture 1915-1955 is organized into three sub-groups: National Park Service Rustic,

General Rustic, and Vernacular Architecture. The associated buildings and structures were grouped according to the degree of design and the date of construction.

Conservation 1890-1964 encompasses those buildings and structures associated with the leaders of the wilderness preservation efforts. In Grand Teton National Park, one of the forerunners of the Conservation Movement was Olaus Murie, Executive Director of the Wilderness Society. Murie purchased a former guest ranch in the Moose area to pursue his naturalist studies and wilderness preservation work.

Impacts on historic resources are associated with their *restoration, stabilization, natural deterioration, demolition, adaptive use and reconstruction*. *Restoration* is a major intervention and is the process of recovering the general historic form and details of an object or structure through the removal of incompatible accretions and the replacement of missing elements, as appropriate. *Stabilization* reestablishes structural stability in such a manner that it detracts as little as possible from a structure's appearance and significance. *Natural deterioration* involves the gradual disintegration of the resource through lack of maintenance, exposure to climatic conditions, etc. The policy of neglect would result in the eventual loss of the significant resource, affecting the historic setting and those aspects that qualified those features for National Register status. *Demolition* of a historic structure, or destruction of the distinguishing qualities or character of a structure and its environment, constitutes an adverse effect that must be mitigated by a thorough documentation of the structure before the adverse action. *Adaptive use* usually calls for the preservation or restoration of a building facade and the conversion of the interior to a modern, functional space. Original fabric is retained wherever possible. Adaptive use could result in changes in quality or understanding of those aspects that qualified the resources for entry on the National Register. The Service does not endorse, support or encourage *reconstruction* of historic structures, but will allow them, providing they meet certain criteria outlined under *NPS-28*. The alternatives and the proposal contain a reconstruction proposal that meet this criteria.

The adaptive use, restoration, and maintenance of the buildings and their setting would retard normal deterioration and inhibit vandalism by providing staff to protect and preserve the resources. Continued deterioration would result from nonoccupancy and the associated problems, such as vandalism, roof leaks, and lack of continual maintenance. Moving a historic structure has the adverse effect of destroying its site integrity and also the integrity of any groupings of buildings or landscape it helps to compose. This effect would be mitigated by one or more of the following means: documenting the original site, maintaining the original orientation of the building, or relocating the building to a site with similar terrain, vegetation, and neighboring buildings.

When any project affects historic buildings and structures that have been determined eligible for listing on the National Register of Historic Places, the work must meet the Secretary of the Interior's Standards for Rehabilitation and any other constraints mandated by NPS-28, Cultural Resource Management Guideline. This includes actual stabilization projects as well as new construction in or adjacent to an historic district. Before such project can start, the plans and drawings must be reviewed and approved by the Regional Historical Architect. Removal of historic buildings or structures will have an adverse effect

on the cultural qualities that qualify them for listing on the National Register of Historic Places. This impact can be mitigated by recording the buildings or structures to the standards of the Historic American Building Survey or the Historic American Engineering Record.

The historic structures in The Teton Corridor can be broken down as follows:

Moose Description. Five areas in Moose have been evaluated for inclusion on the National Register of Historic Places.

Menor's Ferry Historic District. Menor's Ferry Historic District includes twelve structures, nine of which are contributing under the Homesteading context, the remaining two are non-contributing.

Murie Ranch. Murie Ranch includes twenty-one buildings (main house, studio, cabins, storage, and outbuildings), two of which are contributing under the Conservation context, nineteen are non-contributing.

Moose Entrance Kiosk. The Moose Entrance Kiosk, a contributing resource under the Rustic Architecture context, is used as a fee station north of Moose Visitor Center.

The 4 Lazy F Dude Ranch. The 4 Lazy F Dude Ranch contains twenty-one buildings and structures (cabins, storage, barns, a tack room, and garages), evaluated under the Dude Ranching context, seventeen of which are contributing resources, four are non-contributing.

The Chapel of the Transfiguration. The Chapel of the Transfiguration is a private inholding and on the National Register of Historic Places (4/10/80).

Beaver Creek Description. This area includes one historic district.

The Old Administrative Area. The Old Administrative Area includes twenty-four structures (residences, administrative, and maintenance/storage buildings), fifteen of which are contributing under the Rustic Architecture context, nine of which are non-contributing.

Beaver Creek to Lupine Meadows Description. This section of the corridor includes six areas evaluated for inclusion on the National Register of Historic Places.

Manges Cabin (Taggart Creek). The Manges Cabin (Taggart Creek) is potentially eligible for listing on the National Register of Historic Places under the Vernacular Architecture context. A Determination of Eligibility is to be prepared for this property.

Bar BC Dude Ranch. The Bar BC Dude Ranch includes forty buildings and structures (main house, lodge, barns, cabins, storage, generator building), thirty-one of which are contributing under the Dude Ranching context, three of which are non-contributing.

Highlands Ranch. The Highlands Ranch includes twenty-three buildings and structures (main lodge, cabins, dormitory, and fire cache) that are potentially eligible for listing on the National Register of Historic Places. A Determination of Eligibility is being prepared for this property.

Fabian Place. Fabian Place (Fabian Vacation Home) includes eleven buildings (cabins, storage, powerhouse). Some may be eligible for listing on the National Register of Historic Places under the Vernacular Architecture context. A Determination of Eligibility is being prepared for this property.

Lupine Meadows Description. There is one property in this area.

Kimmel Kabins. The Kimmel Kabins consist of eighteen buildings currently used by the park for seasonal housing, thirteen of which are contributing resources under the Dude Ranching and Tourism context.

Jenny Lake Description. The Jenny Lake Ranger Station Historic District. The Jenny Lake Ranger Station Historic District includes nineteen structures evaluated under the Rustic Architecture context. Four of the structures are contributing, the remaining fifteen structures are non-contributing.

Jenny Lake Lodge Description. The Jenny Lake Lodge area includes forty-three non-contributing structures.

String Lake Description. The comfort station on String Lake is a contributing resource within the Rustic Architecture context.

Impact of the No-Action Alternative. Under the no-action alternative, buildings and structures would continue to be managed under existing conditions.

Impacts of the Alternative A, Alternative B, and the Proposal. Modern buildings, roads, trails, or utilities will have an impact on nearby historic buildings or structures. These impacts can be mitigated by designing the new facilities to be compatible with the scale, texture, and continuity of the affected historic structures. Modern structures would be designed to meet the *Secretary of the Interior Standards for Rehabilitation and NPS-28* whether the new construction is in or adjacent to a historic district. Proposed work on historic buildings or structures will also have to meet the *Secretary of the Interior's Standards for Rehabilitation and NPS-28*. Removal of historic buildings or structures will have an adverse effect on the cultural qualities that qualify them for listing on the National Register of Historic Places. This impact can be mitigated by recording the buildings or structures to the standards of the Historic American Building Survey or the Historic American Engineering Record.

Increased visitor use of historic structures can lead to excessive deterioration and eventual damage of the resources. Increased interpretive programs would improve the visitor's opportunity to understand those historic structures and stimulate cooperation with preservation-oriented policies.

Reconstruction of a ferry at Menor's Ferry would provide the essential ingredient for the public understanding of the site, the Homesteading theme, and early river crossing methods.

The actions under this plan would not affect the Moose Entrance Kiosk or the Manges Cabin.

Impact of Alternative A. Under alternative A, stabilization would be done at Menor's Ferry, Bar BC Ranch, Highlands Ranch and Beaver Creek. Relocation of buildings would occur at Murie Ranch, and Jenny Lake. Demolition of buildings and structures would be done at Moose, Highlands Ranch, 4 Lazy F Dude Ranch, Fabian Place, and the Kimmel Cabins (Lupine Meadows NPS Housing).

Murie Ranch, 4 Lazy F Dude Ranch, Highlands Ranch, Jenny Lake, and the Kimmel Cabins would be affected. Fabian Place may be affected depending upon the outcome of the Determination of Eligibility.

Impact of Alternative B. For alternative B, stabilization would occur at Menor's Ferry, Murie Ranch, Bar BC Ranch, and Beaver Creek and would enhance the resource by retaining the historic scene. Relocation would occur at Jenny Lake. Adaptive use or relocation would occur at 4 Lazy F Dude Ranch and Jenny Lake. Natural deterioration would occur at Kimmel Cabins (Lupine Meadows NPS Housing) and Fabian Place. Adaptive use would occur at Beaver Creek. Demolition would occur at Highlands Ranch, 4 Lazy F Dude Ranch, and Fabian Place.

Highlands Ranch and Jenny Lake would be affected. Bar BC Ranch would be affected if building and structures were removed. The 4 Lazy F Dude Ranch may be affected if buildings and structures were to be relocated. Fabian Place may be affected depending upon the outcome of the Determination of Eligibility.

Impact of the Proposal. For the proposal, stabilization would occur at Menor's Ferry, Murie Ranch, Bar BC Ranch, Highlands Ranch and Beaver Creek and would enhance the resource by retaining the historic scene. Relocation would occur at Jenny Lake, and Highlands Ranch. Adaptive use would occur for Beaver Creek. Demolition would occur for the 4 Lazy F Dude Ranch, Fabian Place, and the Kimmel Cabins (Lupine Meadows NPS Housing).

The 4 Lazy F Dude Ranch, Kimmel Cabins, and Jenny Lake would be affected. Building relocated at Highlands Ranch would be affected. Bar BC Ranch would be affected if building and structures were removed. Fabian Place may be affected depending upon the outcome of the Determination of Eligibility.

A detailed list of contributing properties, their NRHP status, the impact the proposal would have on them, protective measures outlined in the DCP, and the rationale for the actions outlined in the proposal are provided within Appendix A - Historic Structures.

The following table summarizes the environmental consequences for the alternatives.

SUMMARY COMPARISON OF ENVIRONMENTAL CONSEQUENCES

| IMPACT | PROPOSAL | ALTERNATIVE A (Significant Change) | ALTERNATIVE B (Minimal Change) | NO-ACTION |
|-----------------------------------|--|---|--|---|
| Geology/Earthquakes | Structures/utilities located away from fault zones. | Same as proposal. | Same as proposal. | No change in present conditions. |
| | New facilities constructed to minimize damage from earthquakes. | Same as proposal. | Same as proposal. | No change in current conditions. |
| | Brick maintenance building susceptible to earthquake damage. | New maintenance building not susceptible to earthquake damage. | Same as proposal. | No change in current conditions. |
| Soils/Vegetation | Reduced soil erosion and compaction through provisions for defined/paved trails, deck overlook structures, and paved roads. | Same as proposal. | Same as proposal. | Continued erosion in high use areas. Increased compaction of soils in Jenny Lake, Lupine Meadows and String Lake. |
| | 19 acres of trees, shrub, and grassland removed, 8 acres within the park (gross loss) or .0025% of the total park area.* | 53 acres of trees, shrub, and grassland removed (gross loss) or .016% of the total park area.** | 8 acres of trees, shrub and grassland removal (gross loss) or .016% of the total park area. | No areas affected. |
| | 217.3 acres of abandoned roads, trails, ditches, and impacted areas rehabilitated. | Same as proposal. | Same as proposal. | No areas rehabilitated. |
| | 50,600 linear feet of electric lines and 3,350 linear feet of telephone buried. | Same as proposal. | 30,600 linear feet of electric lines and 3,350 linear feet of telephone lines to be buried. | No electric or telephone lines buried. |
| | | | | |
| Wildlife | No change from present levels. | No change from present levels. | No change from present levels. | No change from present levels. |
| Threatened and Endangered Species | No effect on T&E species. | No effect on T&E species. | No effect on T&E species. | No effect on T&E species. |
| Water Resources | Reduction in sediment produced near water by visitor use along roads and trails through hardened trails. | Same as proposal. | Same as proposal. | Continued sedimentation from gravel roads and trails near lakes and the Snake River. |
| | Increased water quality at Jenny Lake from upgraded dock. Limit on the use of boat motors. | Same as proposal. | Same as proposal. | Continued turbulence from boat motors and dock configuration cause decreased water quality in Jenny Lake. |
| | Improvements of water quality would occur along the Snake River, Cottonwood Creek, Beaver Creek, Taggart Creek, Jenny Lake, and String Lake. | Same as proposal. | Same as proposal. | No projected improvement in water quality because sedimentation sources from visitor use would remain uncontrolled. |
| Floodplains | No effect from 100-year flood. Moose in major flood area of Jackson Lake Dam failure. Time for evacuation: 4.6 hours. Evacuation plan prepared. Requires fuel storage mitigation. No effect from 100-year flood or flood if Jackson Lake Dam failed. | Same as proposal. | Continued presence of Highlands Ranch, Kimmel Cabins, Lupine Meadows NPS Housing and fuel storage at Beaver Creek. | |

SUMMARY COMPARISON OF ENVIRONMENTAL CONSEQUENCES

| IMPACT | PROPOSAL | ALTERNATIVE A (Significant Change) | ALTERNATIVE B (Minimal Change) | NO-ACTION |
|-------------------------|---|---|---|---|
| Air Quality | Small increase in auto pollution if visitation rises. | Same as proposal. | Same as proposal. | Same as proposal. |
| | Paving road will reduce dust. | Same as proposal. | No change in dust levels-gravel roads. | No change in dust levels-gravel roads. |
| Regional Economy | Increases availability of seasonal housing to concession and NPS employees. | Same as proposal. | Same as proposal. | No change in current conditions. |
| | Visitor center at the south boundary would have a positive effect on the economy of Jackson and would capture approximately 1/3 of the visitors to the GYA. | Same as proposal. | No change. | No change. |
| Visual Resources | A unified architectural theme, buried utility lines, and improvements in conditions of facilities would improve the quality of the visual resource. | The effects would be the same as the proposal, but the housing proposed at the south boundary would intrude on the natural landscape. | Same as proposal. | Existing facilities would continue to intrude on the natural landscape and conditions of trampled vegetation, soil erosion, undefined visitor parking and trail-ing would continue to scar the landscape. |
| Concessions | None of the proposed actions are anticipated to have a material effect on concession sales or income. | Same as proposal. | American Alpine Club would be removed from the park. Exum would incur a loss of efficiency. | No change in current conditions. |
| Visitor Use | Visitor use would remain the same or increase because of improvements in facilities, better circulation, defined parking and pedestrian access. Visitor experience would be enhanced, with the addition of a new interpretive facility. | Same as proposal. | Same as proposal. | Visitor use would eventually decrease because of poor facility conditions, inadequate circulation separation of uses, defined use areas & overcrowding. No change in current facility. |
| Archeological Resources | 48TES76 would be affected. | Same as proposal. | Same as proposal. | No effect to known sites. |
| | Increased control of visitors unrestricted access to archeological resources though hardened defined trails and paved roads. | Same as proposal. | Same as proposal. | Lithic scatters may be susceptible to collection by un-informed visitors because of the lack of a defined trail system. |

SUMMARY COMPARISON OF ENVIRONMENTAL CONSEQUENCES

| IMPACT | PROPOSAL | ALTERNATIVE A (Significant Change) | ALTERNATIVE B (Minimal Change) | NO-ACTION |
|--------------------|--|---|---|---------------------------------|
| Historic Resources | 4 Lazy F, Jenny Lake, & Kimmel Kabins would be affected. | Murie Ranch, 4 Lazy F, Highlands Ranch Jenny Lake, Kimmel Kabins would be af- fected. | Highlands and Jenny Lake would be af- fected. | No change in current status. |
| | Buildings relocated at Highlands Ranch would be affected. | ---- | | |
| | Bar BC Ranch would be affected if re- moved. | ---- | Same as proposal. | |
| | Fabian Place may be affected depending upon the outcome of the Determination of Eligibility. | Same as proposal. | Same as proposal. | |
| | ----- | ----- | 4 Lazy F may be af- fected if buildings and structures were to be relocated. | |
| | No effect to other known sites. | No effect on other known sites. | No effect to other known sites. | |
| | *** | | | |

* Includes estimation for visitor center at South Boundary.

** Includes estimation for housing and visitor center at South Boundary.

*** For a list of contributing properties, their NRHP status, the impact the proposal would have on them, protective measures outlined in the DCP, and the rationale for the actions outlined in the proposal, see Appendix A-Historic Structures.

CONSULTATION

During the preparation of this document the National Park Service consulted with the following organizations and individuals:

Advisory Council on Historic Preservation

Bureau of Reclamation

Regional Office, Division of Geo-Technical Engineering and Geology, Denver, Colorado

Mr. Jim Mumford, Chief of Dam Safety Branch, Jackson Hole, Wyoming

Chamber of Commerce, Jackson Hole, Wyoming

Environmental Protection Agency

Mr. Jack Farlow, Hazardous Waste Engineering Laboratory, Edison, New Jersey

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Wyoming State Highway Department
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Wyoming State Recreation Commission
Mr. Joe Bonds

Pursuant to the Endangered Species Act, the National Park Service requested a list of threatened and endangered species that might be affected by the plan from the U.S. Fish and Wildlife Service. Impacts have been analyzed and *concurrence with the determination of no adverse effect will be sought from The Fish and Wildlife Service.*

The NPS is also consulting with the state historic preservation officers and the Advisory Council on Historic Preservation in the preparation of this plan pursuant to a programmatic memorandum of agreement. These agencies were invited to participate during the project initiation stage and have received copies of all documents published for the plan.

A scoping brochure listing planning issues was distributed to agencies, organizations and individuals for public review and comment during March 1989. An open meeting and workshops were held Jackson and Moose in March 1989. Comments were received and used to help develop alternatives and refine planning issues.

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APPENDIX A
HISTORIC STRUCTURES

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Historic Properties General Description

Moose: Menor's Ferry Historic District. Menor's Ferry Historic District includes twelve buildings and/or structures, nine of which are listed on the National Register of Historic Places (04/16/69). The remaining three are noncontributing. The following is a list of the contributing properties, their NRHP status, the impact the proposal would have on them, protective measures outlined in the DCP, and the rationale for the actions presented in the proposal:

| Historic Property Description | NRHP Status | Impact/Proposed Action | DCP Protective Measures | Rationale for Action |
|--|--|--|---|---|
| 109-Maude Noble Cabin 110-Transportation Shed 111-Maude Noble Storage Shed 114-Menor's Smokehouse 114A-Menor's Outhouse 115-Menor's Storehouse 116A-Menor's Well 110A-Menor's Ferry | Listed on National Register (4/16/69). | No effect-DCP retains historic properties. | The DCP prescribes annual O & M costs necessary to implement the DCP, which includes maintenance of these structures. | Increased visitor services, the replica of Menor's Ferry, and exhibits would increase visitor awareness of human history (pre-history to dude ranching), the "Old West" and Homesteading. |
| 116-Menor's Homestead | | Same as 109 and also prescribes upgrading furnishings according to the furnishing plan for the building. | | |

Historic Properties General Description

Moose: Murie Ranch. Murie Ranch area includes twenty-one buildings and/or structures (main house, studio, cabins, storage, and outbuildings), two of which are contributing under the Conservation context, the remaining nineteen are noncontributing.

| Historic Property Description | NRHP Status | Impact/Proposed Action | DCP Protective Measures | Rationale for Action |
|-----------------------------------|---|--|--|--|
| 972-Studio 973-Murie Residence | Potentially eligible - Currently under nomination to the National Register. | No Effect-Pending the acquisition of these properties, the DCP prescribes retention and maintenance the integrity of the contributing buildings. | The plan prescribes O&M costs necessary to implement the DCP, which includes maintenance to these structures and/or buildings. | The DCP provides increased visitor awareness of the importance of the Wilderness Conservation Movement by preserving these historic structures and/or buildings. |

Another alternative considered in detail and included in Alternative A was relocation of the studio and residence to the Teton Science School. All other buildings and/or structures removed. This action was proposed because it fit within the general emphasis of the alternative, which called for consolidating development areas outside of the prime resource area (the area between the Teton Park Road and the Teton Range), while addressing the major issues of visitor services, concessioner visitor services, park operations, circulation, housing and historic structures, as defined in Chapter 1 of the.

Historic Properties General Description

Moose: 4 Lazy F Dude Ranch. The 4 Lazy F Dude Ranch and associated area contains twenty-one buildings and/or structures (cabins, storage, barns, a tack room, and garages), evaluated under the Dude Ranching context, seventeen of which are contributing resources, four of which are noncontributing.

| Historic Property Description | NRHP Status | Impacts/Proposed Action | DCP Protective Measures | Rationale for Action |
|---|---|--|--|---|
| 399-4 Lazy F Lodge 400-4 Lazy F Cabin 400A-4 Lazy F Curing House 401,402-4 Lazy F Cabin 404-4 Lazy F Cabin 404A-4 Lazy F Smokehouse 406-4 Lazy F Icehouse 407-4 Lazy F Cabin 408-4 Lazy F Cabin 409-4 Lazy F Cabin 410-4 Lazy F Cabin 412-4 Lazy F Caretaker House 412A-4 Lazy F Outhouse 412B-4 Lazy F Garage 413-4 Lazy F Barn 414-4 Lazy F Tack Room 415-4 Lazy F Chicken Coop | Potentially eligible-Currently under nomination to the National Register. | Would be affected- Under the proposal, once private interests are relinquished, the buildings and/or structures would be removed, and the site would be rehabilitated. | No protective measures would be provided under the proposal other than documentation of properties prior to their removal. | The ranch is a life estate. If retained, it would further elongate public access to the river. Also existing developments encroach on foraging and roosting habitat for bald eagles. The ranch is located between two overlapping nesting territories. This action was chosen for the proposal because it resolves the above and is the least costly alternative. |

Another alternative considered in detail and included in Alternative B was retention and adaptive use of the structures or relocation. This action was proposed because it fit within the general emphasis of the alternative, which called for retention of existing management to the extent practicable while attempting to solve the major issues of visitor services, concessioner visitor services, park operations, circulation, housing and historic structures as defined in Chapter 1 of the DCP.

Historic Properties General Description

Moose: The Chapel of the Transfiguration. The Chapel of the Transfiguration is a private inholding and on the National Register of Historic Places (04/10/80).

| Historic Property Description | NRHP Status | Impact of Proposal | DCP Protective Measures | Rationale for Action |
|-----------------------------------|--|---|---|---|
| 762-Chapel of the Transfiguration | Listed on the National Register (4/10/80). | No effect-The proposal calls for the improvement of circulation in Moose and the improvement of Chapel parking area by segregating it from other functions. | The property is a private inholding. Current O&M costs necessary for maintenance of this structure are the responsibility of the owner. | Retention of the chapel preserves and exemplifies rustic architecture. The parking area serves a dual role by providing parking for the chapel and Menor's Ferry. |

Historic Properties General Description

Beaver Creek: The Old Administrative Area. The Old Administrative Area includes twenty-four buildings and/or structures (residences, administrative, and maintenance/storage buildings), fifteen of which are contributing under the Rustic Architecture context, and nine of which are noncontributing.

| Historic Property Description | NRHP Status | Impact/Proposed Action | DCP Protective Measures | Rationale for Action |
|--|---|---|---|--|
| 1-Superintendent's Residence 2-Residence 6-Log Residence 7-Log Residence 8-Residence 10-Resource Management Office 16-Equipment Shed 17-Equipment Shed and Sign Shop 18-Carpenter Shop and Storage 21-Garage 22-Garage 23-Garage 24-Garage 26-Garage 32-Guests' Bath House | Potentially eligible-Currently under nomination to the National Register. | No effect-The DCP calls for the preservation and maintenance of these properties according to Guideline NPS-28, Cultural Resources Management. It calls for adaptively using buildings and/or structures within district boundaries for storage, administration, and housing. | The plan prescribes O&M costs necessary to implement the DCP, which includes maintenance to these structures and/or buildings. It also provides for the upgrading of some properties. | Retention and use of this area for housing serves to preserve historic properties and provides cost effective housing and storage. |

Historic Properties General Description

Beaver Creek to Lupine Meadows: Bar BC Dude Ranch. The Bar BC Dude Ranch includes forty buildings and/or structures (main house, lodge, barns, cabins, storage, generator building), thirty-seven of which are contributing under the Dude Ranching context, three of which are noncontributing.

| Historic Property Description | NRHP Status | Impacts/Proposed Action | DCP Protective Measures | Rationale for Action |
|--|---|--|---|--|
| 1365-Main House 1366-Lodge 1367-Barn 1367A-Bridge 1368-Storage Shed 1369-Cabin 1370-Cabin 1371-Cabin 1372-Small Stable 1373-Double Cabin 1374-Cabin 1375-Cabin 1376-Cabin 1377-Cabin 1378-Cabin 1379-Cabin 1380-Cabin 1382-Cabin 1383-Cabin 1384-Cabin 1385-Tack Room 1386-Cabin 1388-Cabin 1389-Cabin 1391-Cabin 1392-Cabin 1393-Cabin 1394-Cabin 1395-Cabin 1396-Cabin 1397-Cabin 1398-Cabin 1399-Cabin 1400-Cabin 1401-Generator Building Outhouse Corral | Potentially eligible-Currently under nomination to the National Register. | No Effect if buildings remain/Would be affected if removed-The DCP calls for either the preservation and retention of properties as abandoned structures and/or buildings or eventual removal depending on the outcome of evaluation for historical significance and physical condition. | No protective measures are provided under the proposal. | Retention as abandoned buildings and/or structures or removal was chosen because the structural integrity of most buildings is unsound, and the site encroaches on wildlife habitat for whooping crane, moose and eagles. If retained, provisions for access and utilities would be difficult because of the steep grade of the existing road (60%). |

Another alternative considered in detail and included in Alternative A was to preserve and maintain this area as a historic district. This action was proposed because it fit within the general emphasis of the alternative, which called for consolidating development areas outside of the prime resource area (the area between the Teton Park Road and the Teton Range.), while addressing the major issues of visitor services, concessioner visitor services, park operations, circulation, housing and historic structures as defined in Chapter 1 of the DCP.

Historic Properties General Description

Beaver Creek to Lupine Meadows: Highlands Ranch. The Highlands Ranch area includes twenty-three buildings and/or structures (main lodge, cabins, dormitory, and fire cache) that are potentially eligible for listing on the National Register of Historic Places. A Determination of Eligibility is to be prepared for this property.

| Historic Property Description | NRHP Status | Impact/Proposed Action | DCP Protective Measures | Rationale for Action |
|--|---|---|---|--|
| 1031-Shed 1032-Main Lodge 1034-Dormitory 1035-Cabin 1036-Cabin 1037-Cabin 1038-Cabin 1039-Cabin 1046- Cabin 1048-Storage Shed 1049-Cabin 1050-Cabin 1051-Cabin 1052-Cabin 1053-Cabin 1054-Cabin | A determination of eligibility is to be prepared. | No effect-The DCP calls for the retention of these structures and/or buildings. | The DCP calls for approximately \$500,000 to be spent on upgrading structures and/or buildings and supporting facilities in Highlands. The DCP also prescribes O&M costs necessary to implement the DCP, which includes maintenance to these structures and/or buildings. | Retention, relocation of properties in the 100-year floodplain, and use of this area for housing serves to preserve potential historic properties, provide cost effective housing, and consolidate NPS search and rescue operations in one area. |
| 1041-Cabin 1042-Cabin 1043-Cabin 1044-Cabin 1045-Cabin 1047-Cabin | | Would be affected-The DCP calls for the relocation of the properties that have been identified as to be within the 100-year floodplain. | | |

Another alternative considered in detail and included in Alternatives A and B was to remove all buildings and/or structures and rehabilitate the site. The action for Alternative A was proposed because it fit within the general emphasis of the alternative, which called for consolidating development areas outside of the prime resource area (the area between the Teton Park Road and the Teton Range.), while addressing the major issues of visitor services, concessioner visitor services, park operations, circulation, housing and historic structures as defined in Chapter 1 of the DCP. The action for Alternative B was proposed because it also fit within the general emphasis of the alternative, which called for retention of existing management to the extent practicable while attempting to solve the major issues of visitor services, concessioner visitor services, park operations, circulation, housing and historic structures.

Historic Properties General Description

Beaver Creek to Lupine Meadows: Fabian Place. Fabian Place (Fabian Vacation Home) includes eleven buildings and/or structures (cabins, storage, powerhouse), potentially eligible for listing on the National Register of Historic Places evaluated under the Architecture, Homesteading, and Conservation contexts. A Determination of Eligibility is being prepared for this property.

| Historic Property Description | NRHP Status | Impact/Proposed Action | DCP Protective Measures | Rationale for Action |
|---|--|---|--|---|
| 746-Main Cabin 746A-Pump Shed 747-Lucas Cabin 748-Naomi's Cabin 749-Storage Shed 749A-Fabian Outhouse 750-Garage 751-Guest House 752-Power House 752A-Auto Bridge 752B-Low Water Bridge | Potentially eligible - A Determination of eligibility is being prepared. | May be affected depending on the outcome of the evaluation. The DCP calls for the removal all buildings and/or structures including bridge abutments. | No protective measures would be provided under the proposal. | Several structures are in colliapsible condition. The existing water system has been condemned. The bridge accessing the property is unsafe. An eagle nest is located within 1/4 mile of the property. The site is within a prime summer elk and fall bald eagle and roosting area. Removal and adaptive use elsewhere was considered and determined to be impractical in view of access, potential environmental impacts, and cost of removal, resiting, and renovation. |

Another alternative considered in detail and included in Alternative B was retention of the homestead cabin as an abandoned building and removal of all buildings and /or structures. This action was proposed because it fit within the general emphasis of the alternative, which called for retention of existing management to the extent practicable while attempting to solve the major issues of visitor services, concessioner visitor services, park operations, circulation, housing and historic structures as defined in Chapter 1 of the DCP.

Historic Properties General Description

Lupine Meadows: Kimmel Kabins. The Kimmel Kabins consist of eighteen buildings and/or structures currently used by the park for seasonal housing, thirteen of which are contributing under the Dude Ranching and Tourism context.

| Historic Property Description | NRHP Status | Impact/Proposed Action | DCP Protective Measures | Rationale for Action |
|--|---|--|--|---|
| 656-Cabin 657-Cabin 658-Cabin 659A-Pedestrian Bridge 660-Cabin 661-Cabin 662-Cabin 663-Cabin 664-Cabin 665-Cabin 666-Cabin 667-Cabin 668-Cabin | Potentially eligible-Currently under nomination to the National Register. | Would be affected. The DCP calls for the removal of NPS and concession structures and/or buildings. The option exists to put the buildings up for sale outside the park. | No protective measures would be provided for under the proposal. | Some structures and/or buildings are within the Cottonwood Creek 100-year floodplain and have had a record of flooding in previous years. The buildings are small (less than 420 sf), lack insulation, have no plumbing, and have foundations that are unsound. Current use as housing is inappropriate because of these factors and the overall size of the buildings. The site is within a prime viewing area for the mountain range. Building condition for removal and adaptive use elsewhere, was considered and determined to be impractical in view of access, potential environmental impacts, and cost of removal, resiting, and renovation. |

Another alternative considered in detail and included in Alternative B was to retain the structures as abandoned buildings and/or structures for historic values. The action for Alternative B was proposed because it also fit within the general emphasis of the alternative, which called for retention of existing management to the extent practicable while attempting to solve the major issues of visitor services, concessioner visitor services, park operations, circulation, housing and historic structures.

Historic Properties General Description

Jenny Lake: Jenny Lake Ranger Station Historic District. The Jenny Lake Ranger Station Historic District and surrounding area includes nineteen buildings and/or structures evaluated under the Architecture context. Four of the properties are contributing, one within the district is noncontributing, and the remaining fourteen resources are noncontributing.

| Historic Property Description | NRHP Status | Impact/Proposed Action | DCP Protective Measures | Rationale for Action |
|--|---|---|--|--|
| 36-Ranger Station Jenny Lake Store 298-Crandall Studio | Potentially eligible-Currently under nomination to the National Register. | Would be affected. The DCP calls for relocation of properties to the Visitor Service Complex. | The plan prescribes O&M costs necessary to implement the DCP, which includes maintenance to these structures and/or buildings. | The DCP calls for approximately \$780,000 to be spent on restoration and relocation of these properties. The building have already been moved from their original location. The relocation and consolidation of facilities will help reduce visitor impacts (soil compaction and loss of vegetation) from random pedestrian circulation. Poor circulation as a result of placement of facilities near Jenny Lake Shoreline have pulled visitors toward the shoreline on undefined paths and is the primary cause of resource damage. |
| 39-Comfort Station 40-Comfort Station | | Would be affected. The DCP calls for the relocation of properties to north end of the campground. | | |

Another alternative considered in detail and included in Alternative A was to build a new visitor service complex and relocate these structures. This action was proposed because it fit within the general emphasis of the alternative, which called for consolidating development areas outside of the prime resource area (the area between the Teton Park Road and the Teton Range.), while addressing the major issues of visitor services, concessioner visitor services, park operations, circulation, housing and historic structures as defined in Chapter 1 of the DCP. It also reduced the costs of implementation of the visitor services complex.

Historic Properties General Description

String Lake: String Lake Comfort Station. The comfort station on String Lake is a contributing structure evaluated under the Architecture context.

| Historic Property Description | NRHP Status | Impact of Proposal | DCP Protective Measures | Rationale for Action |
|-------------------------------|--|--|--|---|
| 43-Comfort Station | P o t e n t i a l l y eligible. Currently under nomination to the National Register. | No effect-the DCP calls for the retention of comfort station for historic value. | T h e p l a n prescribes O&M costs necessary to implement the D C P , w h i c h i n c l u d e s maintenance to this structure. | Retention serves to preserve this historic property and is consistent with the use of the area. |

