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# Triangle X Ranch Grand Teton National Park

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## Concession Management Plan and Environmental Assessment






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

**Grand Teton National Park**

**Concession  
Management Plan  
and  
Environmental Assessment**



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## SUMMARY OF ALTERNATIVES

Three alternatives provide for the operation of a dude ranch concession in Grand Teton National Park. A fourth alternative would provide for discontinuation of the existing concession operation. If chosen, Alternative A, B, or C would lead to the development of a statement of requirements (SOR) for a new concession contract and form the basis for long-term management of the facilities and land uses associated with the concession contract. If Alternative D is selected, the concession would be discontinued upon expiration of the existing contract December 31, 1992, or plans made for phase out. Alternatives A, B, and C give dude ranch guests an opportunity to view world-renowned scenery and participate in a range of recreational activities in a national park setting. Alternative A reflects a no-action alternative, which is defined as continuation of existing services except for modifications made as required by policy and life/health/safety regulations and concerns; or discontinuation of use of facilities not meeting codes. The current contract provides a year-round operation accommodating eighty guests with dining and cookout facilities, souvenir sales, saddle/pack animal services (120 head) and winter activities compatible with park regulations. Two float trip operations are based on park lands and offer services to park guests and the general public. Alternative B would provide a typical dude ranch seasonal operation that includes many dude ranch activities for registered guests. The alternative would accommodate 80 guests, provide dining and cookout facilities, souvenir sales, saddle animal services (80 head of stock) and would be open from May to November. No float trip operations would be based on park lands. Alternative C reflects a year-round operation and includes those activities typical of a destination dude ranch/resort that fully complies with regulations and policies. Alternative C would provide a year-round concession operation similar to the existing condition, but compatible with use and enjoyment of the park and protection of park resources. It would accommodate 80 guests and provide dining and cookout facilities, souvenir sales, saddle/pack animal services (100 head) and winter activities. One float trip operation could be based on designated park lands providing services to both guests and the general public. Alternative D would discontinue dude ranch services in the park, shifting dude ranch uses to other ranches in the Jackson Hole area outside the park boundary. No alternative has been chosen as a proposal.

The environmental consequences of the alternatives and results of public involvement/consultation/coordination thus far are documented in this draft environmental assessment. All alternatives would eliminate grazing on riparian lands and the overnight camp in the Snake River floodplain to comply with park plans and NPS policy. All alternatives would reduce impacts on wildlife. There would be little or no impact on soils, air quality, cultural resources, threatened and endangered wildlife species, and historic resources.

Estimated costs of Alternatives A, B, and C range from approximately \$900,000 to \$2.4 million. NPS policy requires that to the extent it is economically feasible, the concessioner

undertake all costs relating to the construction of its own facilities as well as utilities, roads, parking, and similar infrastructure. Such feasibility determination has not yet been made, but would be accomplished prior to publication of the statement of requirements for the new contract. The cost associated with these alternatives must therefore be regarded as tentative.

Estimated book value of the concession is between \$250,000 to \$350,000. Under Alternative D, estimated site rehabilitation costs could be as much as \$100,000 depending upon the results of future planning.

**Address Comments to:**

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Grand Teton National Park  
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Moose, Wyoming 83012

# TABLE OF CONTENTS

SUMMARY OF ALTERNATIVES .....	i
PURPOSE AND NEED FOR THE PLAN .....	3
INTRODUCTION .....	3
CONCESSION CONTRACT HISTORY .....	3
PLANNING ISSUES .....	4
Legal and Administrative Considerations .....	4
NPS Organic Act .....	4
Park Legislation .....	5
Management Policies .....	5
SPECIFIC ISSUES .....	5
Services .....	5
Facilities .....	6
Land Use .....	7
ALTERNATIVES .....	9
OVERALL MANAGEMENT OBJECTIVES .....	9
ALTERNATIVES CONSIDERED, BUT NOT IN DETAIL .....	10
ADDITIONAL CONSIDERATIONS .....	10
EXISTING CONCESSION .....	11
Services .....	11
Additional Services and Related Permits .....	12
Facilities .....	12
Land Use .....	13
Agricultural Uses .....	19
Roads and Trails .....	21
Related Land Use .....	21
Snake River Floodplain .....	21
ALTERNATIVE A - NO ACTION .....	22
Services .....	22
Facilities .....	22
Land Use .....	23
ALTERNATIVE B - SEASONAL OPERATION .....	24
Services .....	24
Facilities .....	24
Land Use .....	27
ALTERNATIVE C - DUDE RANCH/RESORT .....	27
Services .....	28
Facilities .....	28
Land Use .....	31

ALTERNATIVE D - DISCONTINUATION OF DUDE RANCH SERVICES . . . .	32
Services . . . . .	32
Facilities . . . . .	32
Land Use . . . . .	32
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES . . . . .	39
INTRODUCTION . . . . .	39
EXISTING CONDITIONS AND CONCESSION . . . . .	39
Existing Conditions . . . . .	39
Concession . . . . .	39
General . . . . .	39
Impacts of Alternative A . . . . .	39
Impacts of Alternative B . . . . .	40
Impacts of Alternative C . . . . .	41
Impacts of Alternative D . . . . .	42
NATURAL RESOURCES . . . . .	43
Vegetation . . . . .	43
General . . . . .	43
Existing Concession . . . . .	43
Impacts of Alternative A . . . . .	45
Impacts of Alternative B . . . . .	47
Impacts of Alternative C . . . . .	48
Impacts of Alternative D . . . . .	49
Soils . . . . .	49
General . . . . .	49
Existing Concession . . . . .	51
Impacts of All Alternatives . . . . .	52
Impacts of Alternative A . . . . .	52
Impacts of Alternative B . . . . .	52
Impacts of Alternative C . . . . .	53
Impacts of Alternative D . . . . .	54
Wildlife . . . . .	54
General . . . . .	54
Existing Concession . . . . .	54
Impacts of All Alternatives . . . . .	55
Impacts of Alternative A . . . . .	55
Impacts of Alternative B . . . . .	56
Impacts of Alternative C . . . . .	56
Impacts of Alternative D . . . . .	56
Endangered Species . . . . .	56
General . . . . .	56
Impacts of All Alternatives . . . . .	57
Water Resources . . . . .	57
General . . . . .	57



Existing Concession . . . . .	58
Impacts of All Alternatives . . . . .	59
Wetlands and Floodplains . . . . .	59
General . . . . .	59
Impacts of All Alternatives . . . . .	59
Air Quality . . . . .	59
General . . . . .	59
Impact of All Alternatives . . . . .	60
Impacts of Alternative A . . . . .	60
Impacts of Alternative B . . . . .	60
Impacts of Alternative C . . . . .	60
Impacts of Alternative D . . . . .	60
CULTURAL RESOURCES . . . . .	60
Archeological Resources . . . . .	60
General . . . . .	60
Existing Concession . . . . .	61
Impacts of Alternative A . . . . .	61
Impacts of Alternatives B and C . . . . .	61
Impacts of Alternative D . . . . .	61
Historic Resources . . . . .	61
General . . . . .	61
Existing Concession . . . . .	62
Impacts of All Alternatives . . . . .	62
SOCIOECONOMIC ENVIRONMENT . . . . .	63
Local Economy . . . . .	63
General . . . . .	63
Existing Concession . . . . .	63
Impacts of Alternative A . . . . .	63
Impacts of Alternative B . . . . .	63
Impacts of Alternative C . . . . .	64
Impacts of Alternative D . . . . .	64
Visitor Use and Experience . . . . .	64
General . . . . .	64
Existing Concession . . . . .	65
Impacts of Alternative A . . . . .	65
Impacts of Alternatives B and C . . . . .	65
Impacts of Alternative D . . . . .	66
Visual Resources . . . . .	66
Impacts of Alternative A . . . . .	66
Impacts of Alternatives B and C . . . . .	67
Impacts of Alternative D . . . . .	67
CONSULTATION AND COORDINATION . . . . .	71

LIST OF PREPARERS .....	75
LIST OF CONSULTANTS .....	77
SELECTED REFERENCES .....	79

## Maps

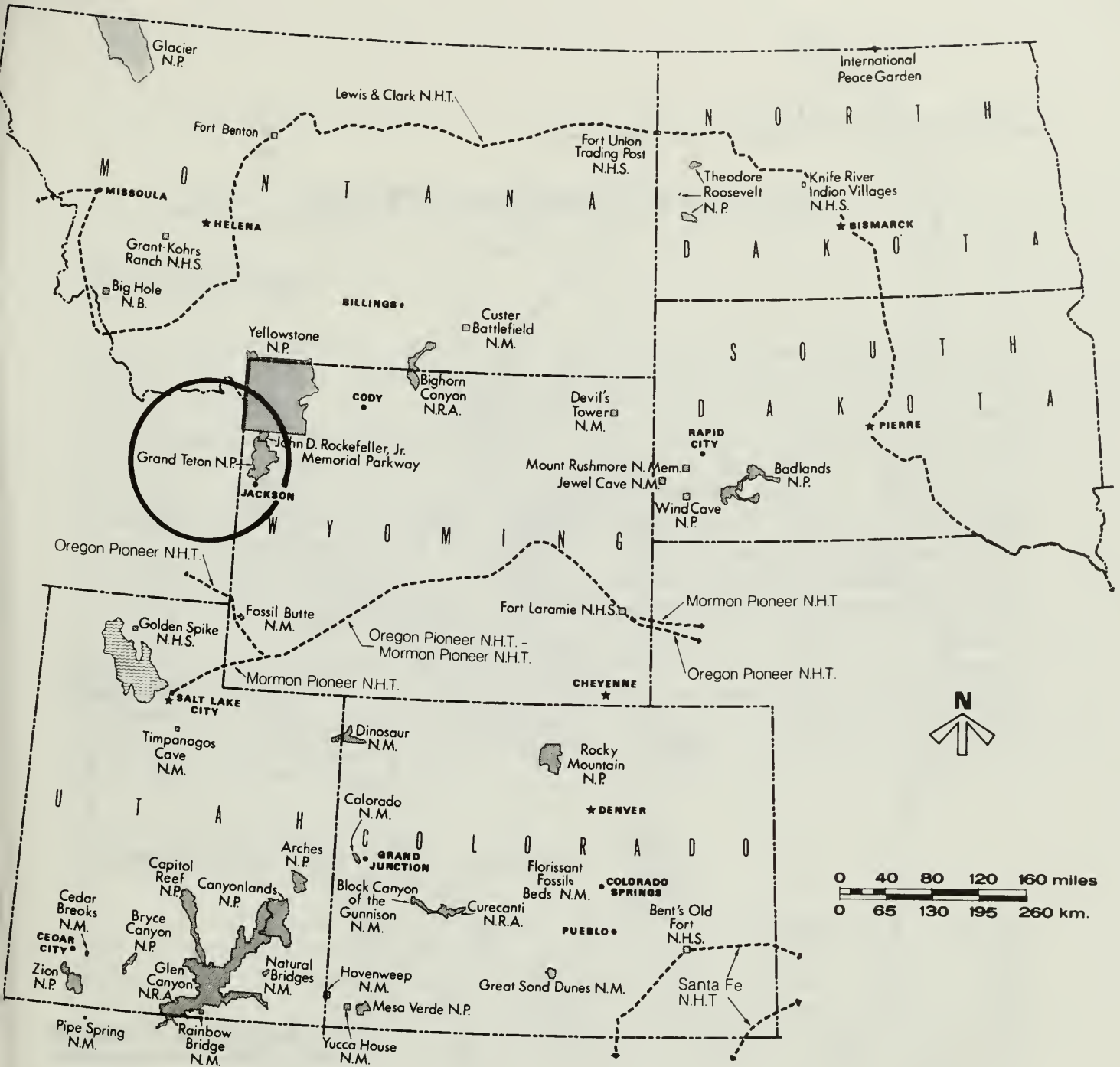
Region (1)
Location Map (2)
Existing Conditions (17)
Land Use (20)
Concept Plan for Alternative B (25)
Concept Plan for Alternative C (29)
Soils/Wetlands/Floodplains (50)

## Tables

Table 1 - Existing Structures (14)
Table 2 - Development Costs (33)
Table 3 - Summary of Alternatives (36)

## Figures

Figure 1 - Triangle X Guest Ranch Use (68)
Figure 2 - Triangle X - Float Trip Visitor Use (68)
Figure 3 - Survey - Visitor Enjoyment (69)



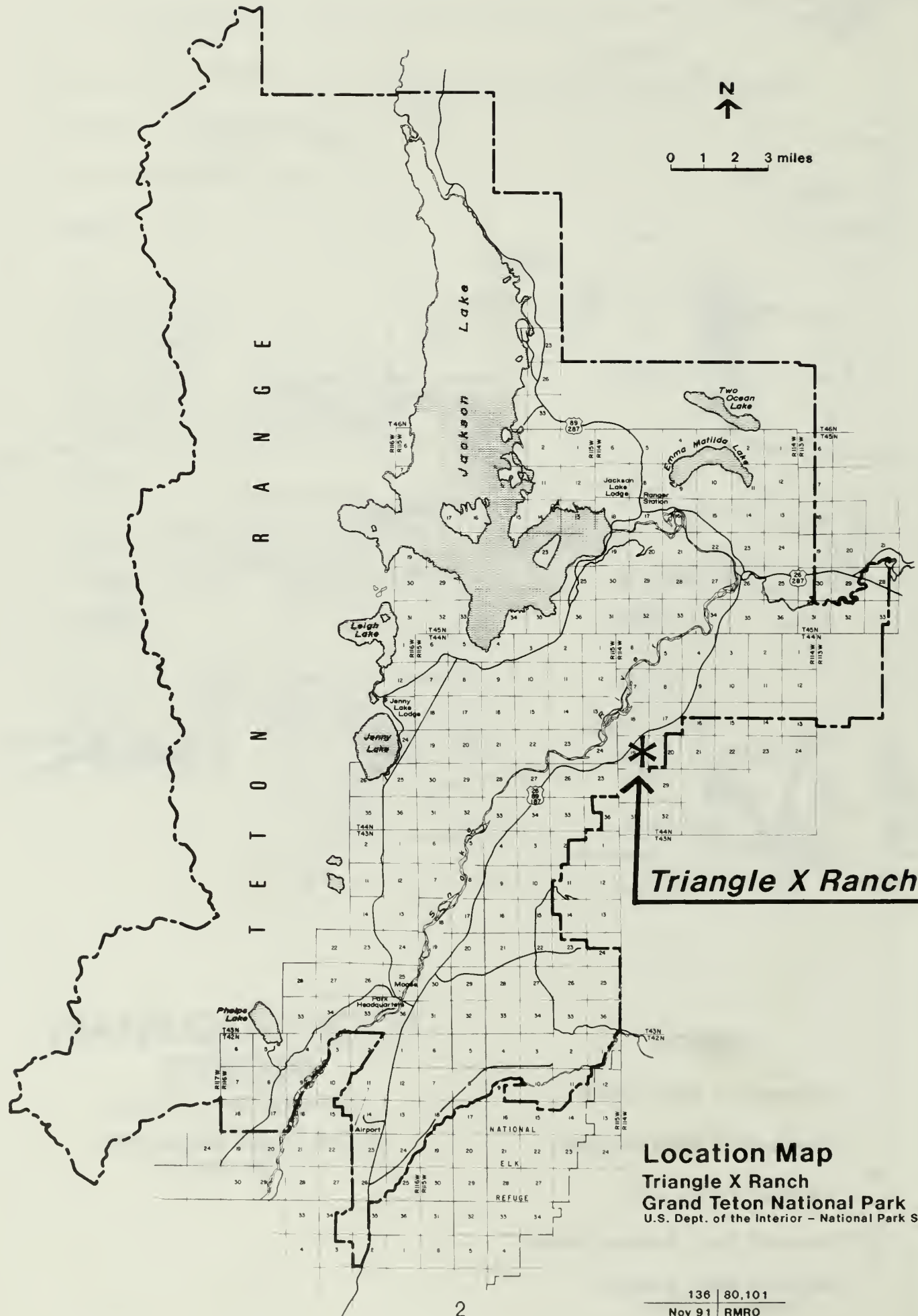
## Legend

- Locations of Major Cities
- ★ Locations of State Capitals
- State Boundary Lines
- ▒ National Park Service Areas
- National Park Service Historical Trails

## ROCKY MOUNTAIN REGION

National Park Service

United States Department  
of the Interior



**Triangle X Ranch**

**Location Map**  
**Triangle X Ranch**  
**Grand Teton National Park**  
 U.S. Dept. of the Interior - National Park Service



## **PURPOSE AND NEED FOR THE PLAN**

### **INTRODUCTION**

The Triangle X Dude Ranch is within Grand Teton National Park (see Region and Location maps, pages 1 and 2, respectively) and operates under a concession contract that expires December 31, 1992. The Concession Policy Act (16 U.S.C. § 20), under which the National Park Service (NPS) authorizes park concession operations, requires that development "be limited to those that are necessary and appropriate for public use and enjoyment . . ." of the national park area in which they are located ". . . and that are consistent to the highest practicable degree with the preservation and conservation of the areas." NPS policy issued since the last contract requires adequate plan preparation for site development and land assignment prior to issuing or renewing concession contracts involving development on park lands. There has never been a formal development plan for the Triangle X Ranch area of Grand Teton National Park; therefore no analysis of impacts and cumulative effects from ranch operations has been done. This concessions management plan/environmental assessment (EA) addresses both the concessions policy criteria and environmental impacts. The plan/EA will lead to the development of an SOR for a new concession contract as well as form the basis for long-term management of facilities and associated land uses.

### **CONCESSION CONTRACT HISTORY**

In 1926 John S. Turner bought 320 acres in the vicinity of the existing ranch, which was sold to the Snake River Land Company in 1929. Between 1930 and 1952, the Turner family operated a dude ranch under a series of short-term leases from the Snake River Land Company and later, the Jackson Hole Preserve, Inc. The lands involved in these leases came to the United States through a deed of conveyance dated December 16, 1949, and were incorporated into the park by the 1950 Act that established Grand Teton National Park.

In the first NPS concession contract, signed in 1952, lands assigned to the concession (1,029.15 acres) were identical to those that had been described in the last Jackson Hole Preserve, Inc. lease, which expired in 1952. Identical descriptions of assigned lands were in subsequent contracts through 1968. Beginning in 1969, "the lands historically used" were made available to the concession in the contract and no formal land description was made. In 1956 U.S. Highway 89 was rerouted through a portion of the land assigned to the concession, dividing the lands and occupying some 107 acres within the fenced right-of-way. In 1963 a traverse survey indicated some 1,140 acres were being used by the



concession, exclusive of the highway right-of-way and 40 acres of beaver ponds. Range surveys in 1975 and 1977 indicated about 1,500 acres were then within fences enclosing the concession operation. The current land assignment (about 1,566 acres) made in 1978, was depicted on a map but not surveyed or formally described. The current contract will expire on December 31, 1992.

When the existing contract went into effect in 1978, 45 buildings were identified within the assigned area. Seventeen of those were shown as property of the NPS, while the remaining 28 were shown as the property of the concessioner. The concessioner is authorized by Section 4.(b) of the contract to construct or install buildings, structures or other improvements, subject to prior approval by the NPS. No formal site or development plan for the concession has ever been prepared, however, during the term of this contract, approval has been given for five additional buildings to be erected or moved onto the site and a few have been removed. All permanent structures are within a 40-acre development zone (see Existing Conditions map, page 17).

## **PLANNING ISSUES**

### **Legal and Administrative Considerations**

Grand Teton National Park is bordered by two national forests and John D. Rockefeller, Jr., Memorial Parkway. The park occupies a central position in a relatively isolated upland wilderness, known as the Greater Yellowstone Area Ecosystem (GYA). The following is a list of pertinent laws, regulations, policies, and administrative constraints that affect management of the park:

**NPS Organic Act.** The Act of August 25, 1916, as amended, which established the National Park Service, states, ". . . The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." (16 U.S.C. § 1) "The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of high public value and integrity of the National Park System and shall not be exercised in derogation of values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress." (16 U.S.C. § 1a-1)

**Park Legislation.** Grand Teton National Park was established by Congress on February 29, 1929. The park was enlarged to its present size on September 14, 1950 (Public Law 81-787, 16 U.S.C. § 406d-1).

**Management Policies.** The 1988 *NPS Management Policies* provide further direction based on the Concessions Policy Act and 36 CFR 51. The policies require that park management, through the planning process, ensure that:

Any building program or service authorized in a concession contract or permit will be in conformance with the appropriate approved plan(s) for the area in consideration. A decision to authorize a park concession will be based on a determination that the following conditions will be met:

The facility or service is necessary and appropriate for public use and enjoyment of the park in which it is located.

The facility or service will enhance the use and enjoyment of the park without resulting in impairment of park resources and values. . .

The number of sites and the locations and sizes of the tracts of land assigned for necessary facilities will be the *minimum essential for proper and satisfactory operation of the facilities, consistent with proper spacing and preservation of aesthetic value* (emphasis added). Moreover, such developments as are permitted will be constructed so as to be as harmonious as possible with their surroundings. (Chapter 10:1 and 10:2, *NPS Management Policies, 1988*)

NPS Management policy also states:

Because of the fragile natural of the resources involved, grazing in riparian zones will be discouraged. (Chapter 8:15, *NPS Management Policies, 1988*)

## **SPECIFIC ISSUES**

Three primary issues related to the concession operation were identified: 1) services; 2) facilities; and 3) land use.

### **Services**

The 1989 revision of the Teton County Comprehensive Plan defines dude ranching activities: "Typical services provided include horseback trips, day and overnight, hunting

trips, fishing trips, float trips, cookouts, cross-country skiing, snowmobiling and other planned, outdoor recreational activities *for guests only* (emphasis added). A dude ranch shall not operate a public cafe, licensed bar or actively solicit one-night accommodations or trade."

The concession currently uses assigned park lands to provide typical dude ranch services as described above, in addition to providing guided float and fishing trips, pack/hunting trips, and one-night camp-outs to the general public.

This plan analyzes existing services to determine which are necessary and appropriate and what facilities are required to support them. This analysis includes existing land areas used for parking, employee housing, storage, maintenance facilities, utilities, guest accommodations, satellite areas for cookouts and camping, disposal of solid waste, grazing and agriculture.

## **Facilities**

Eighteen buildings are owned by the government and rented to the concession. Thirty-two buildings now exist that are owned by the concessioner. A Facilities Inspection Evaluation, completed in August 1990, indicates that many deficiencies exist in government and concessioner buildings and infrastructure. Recommendations from that evaluation are categorized into four groups: 1) major reconstruction work required if use is to be continued; 2) incompatible building occupancies; 3) demolition or removal; and 4) rehabilitation work required. See Existing Conditions map (page 17) for recommendations of removal or rehabilitation. Several of these deficiencies relate to housing provided for the 60 concession employees.

Significant deficiencies in fire protection, heating, plumbing, and electrical utilities exist. General development deficiencies include building structures, water source, primary electrical service, solid waste disposal, heating systems using LP gas, gasoline storage, grading and drainage. Few buildings are winterized to NPS standards. Some buildings are in such poor condition that replacement appears to be the only effective alternative. Building appearance, maintenance areas, guest housing, employee housing and storage areas all need rehabilitation.

Guests are generally lodged in small cabins. Employees are housed in a variety of units including log cabins, trailers, small cabins, the top floor of a service building, the upstairs bedroom of the main lodge, and three relatively new units. Some of the housing does not comply with federal codes for public health and safety.



The movement of ranch vehicles, float trip buses and boat trailers, horses, and private autos creates congestion near the lodge and detracts from a quiet and peaceful "dude ranch scene." The visibility of the public float trip parking and several major horse trails from the main park road impacts the visual quality of the area.

Traffic circulation is poor and trucks, buses, boat trailers and vans are mixed with guest and employee vehicles. Parking for guests, public float operations, and employees is poorly defined and inadequate. Proposed site plans for the area address circulation, provide adequate parking of vehicles, and minimize visual impacts from the main park road and the guest area.

In fulfillment of the terms of the existing concession contract, NPS constructed an \$850,000 water/sewer system in 1986. The domestic water is obtained from a surface supply and its watershed is unprotected from contamination by horses and wildlife. Subsequent EPA regulations require that a filtration system to protect the water supply be added or an alternative water source be developed. The sewer system is adequate to support the operation for the foreseeable future. Some electrical and telephone lines are above ground, impacting the visual quality of the area. The LP heating system should be evaluated for possible conversion to electricity to enhance guest and employee safety. A fire alarm system is needed.

## **Land Use**

Most of the lands now assigned to the concession are used for livestock maintenance. Existing land uses are displayed on the Land Use map (page 20). The number, location, and size of the tracts of land used are assessed to determine the minimum essential for satisfactory operation. Existing summer grazing and winter feeding operations are examined and the number of livestock necessary to support the concession operation are determined.

The concession's current exclusive use areas (including an overnight camp, cookout site and launch site on the Snake River floodplain, and a cookout site south of the developed zone) are analyzed to determine whether they are necessary and appropriate uses in a national park.

Land used is impacted by numerous informal and undefined roads and horse trails. There are often parallel horse trails crossing the ranch that lead to various areas on the park and the national forest. Several of these trails have been used for decades and are rutted and in need of rehabilitation. In the area of the river cookout site and other high-use areas, the trails often run parallel and/or are crossed by other trails. Trails throughout the domestic supply watershed pose a threat of contamination to that supply.





## ALTERNATIVES

The following alternatives were developed after careful consideration of the previously noted regulations and policies that govern park management and the specific issues that are inherent in operating a dude ranch business in a national park. The Overall Management Objectives represent the goal against which each alternative is measured.

This *Concession Management Plan/EA* is intended to guide the NPS in developing a statement of requirements for a new concession contract for dude ranch services within Grand Teton National Park if Alternative A, B, or C is selected. The SOR will detail the required services to be provided by the concession, as well as the facilities and assigned lands available for use in operating the concession. The SOR will be published (as required by Public Law 89-249) and interested parties will have an opportunity to submit proposals. In order to continue operating, an existing operator is required to also submit a proposal that is responsive to the SOR. A satisfactory operator is entitled to match a better proposal. The contract that results will authorize the successful bidder to provide services and use NPS facilities and assigned lands within the framework of the approved concession plan.

## OVERALL MANAGEMENT OBJECTIVES

Based on the planning criteria identified in the "Purpose and Need" section, the following management guidelines are addressed in each of the alternatives considered:

- 1) Facilities will be constructed or rehabilitated to meet federal standards. Fuel storage will comply with EPA standards.
- 2) Land use that does not comply with NPS regulations and policies will be phased out or eliminated.
- 3) 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. Solid waste disposal will comply with federal, state, and local regulations.
- 4) The integrity of the viewshed and vistas of the prime resource will be retained.

- 5) All development will comply with requirements of Executive Order 11988, "Floodplain Management," Executive Order 11990 "Protection of Wetlands," and approved park plans (*Resource Management Plan* and the *Snake River Management Plan*).
- 6) All new and renovated facilities will conform to a unified architectural theme, which will emphasize rustic log architecture or incorporate architecture that is traditionally common to the area. Guidelines that insure visually compatible construction will be provided.
- 7) Roads and trails will conform to standards and locations identified in a formal transportation plan.
- 8) All utility services will be underground.
- 9) Concession livestock operations will be managed to avoid conflicts with wildlife.
- 10) Concession development will be limited to that necessary and appropriate for public use and enjoyment of the national park area in which they are located (P.L. 89-249 and 36 CFR 51.2).
- 11) Impacted areas (borrow pits, unnecessary roads, trails, irrigation ditches, and dump sites) will be rehabilitated.

## **ALTERNATIVES CONSIDERED, BUT NOT IN DETAIL**

A full range of alternatives was considered by the interdisciplinary planning team. An alternative to expand the concession land base for agricultural operations was considered, but rejected, because it was considered unnecessary to support the services authorized and in conflict with other park objectives (e.g., protection of natural stream flows; reduction of livestock/wildlife conflicts; and protection of riparian zones and wetlands).

## **ADDITIONAL CONSIDERATIONS**

The current concessioner has used the lands where the ranch headquarters are, for approximately 65 years. The use of the area has grown beyond the scope of the original dude ranch concession contract through acquisition of other permits. These include USDA-Forest Service permits for hunting/outfitting trips and NPS float trip permits that serve the general public. The concession has been allowed to use lands and facilities

assigned to the dude ranch to conduct these operations. Should the existing concessioner fail to successfully compete for the new dude ranch contract, the new concessioner would be required to purchase all possessory interest in the buildings that the current concession might hold. The current concessioner would lose the use of the facilities and be required to operate the outfitting and float trip business from facilities outside the park.

## **EXISTING CONCESSION**

The existing concession operation offers a variety of services to "dude" guests and the general public. A Statement of Operation prepared by the concessioner states in part, ". . . the Triangle X hosts guests from throughout the United States and from around the world to enjoy in-depth experiences of the unsurpassed resources of the park and the Old West." For a weekly rate, guests receive lodging, meals, cookouts, and saddle horse services. For additional fees other activities are available to guests and the general public. These include pack trips on national forest lands, floating and fishing trips, and tepee camp-outs on the Snake River floodplain. Guided hunting trips on forest lands are offered during the fall.

Winter operations including snowmobiling, cross-country skiing, and rental of winter sports equipment to guests is also authorized. There appears to be no significant need for this service as visitor-use figures reported to the NPS by the concessioner show only two overnight winter guests in the past 13 years (Visitor-Use Statistics, NPS).

### **Services**

Triangle X is authorized by Concession Contract No. CC-GRTE-004-78, as amended, to provide the following basic services:

- 1) Dude ranch accommodations, with a maximum pillow count of 80;
- 2) Dining and cookout facilities;
- 3) Small merchandising facilities for the sale of souvenirs (limited to guests);
- 4) Saddle and pack animal service for guests of the ranch (120 head of livestock are authorized);



5) Winter activities that are compatible with existing and/or future park rules and regulations, including snowmobiling and cross-country skiing. Rental of winter-use equipment is reserved for concession guests.

**Additional Services and Related Permits.** A base camp for hunting and wilderness pack trips is authorized under the contract and supports the concessioner's USDA-Forest Service permits for summer pack trips and fall hunting outfitting camps on national forest lands. The additional stock to support outfitting services are maintained on park lands at various times during the year, causing peak-season livestock numbers to fluctuate. Generally, hunters and pack trip clients are housed at the concession facility for various lengths of time prior to or following their backcountry trip.

Permits are held by the current concessioner but are not a part of the Triangle X Dude Ranch concession contract that will expire in December 1992. Float trips on the Snake River are currently authorized by three separate concession permits and serve registered ranch guests and the general public. Triangle X Float Trips and Osprey Float Trips are based on assigned park lands. National Park Float Trips is based off the park. Triangle X Float Trips provides an overnight camp to the general public on the Snake River floodplain.

## **Facilities**

The buildings at the Triangle X Ranch range from rustic log structures dating back to 1926, to modular dormitory units. Although the majority of structures are of log construction, the presence of modern-looking buildings, trailers, and a variety of siding treatments causes a lack of architectural continuity. There has never been a formal site plan for the development and it has grown on an "as needed" basis for 65 years. Existing conditions of the Triangle X Ranch are presented on the Existing Conditions map (page 17). The main lodge is the center of activity with most guest lodging to the west and maintenance, administrative functions, and employee housing to the east.

The public float trip parking and the corrals are immediately north of the lodge on the entrance road and the float trip office is adjacent to the lodge. The location of these facilities mixes guest and public functions. The movement of ranch vehicles, float trip buses and boat trailers, horses and private autos creates congestion near the lodge and detracts from a quiet and peaceful "dude ranch scene." The visibility of the public float trip parking lot and several major horse trails from the main park road impacts the visual quality of the area, which is classified in the *Master Plan* as a natural environment and is important to the mountain foreground and park setting.

Twenty guest units accommodate a maximum of 80 guests, and 13 structures support maintenance and administrative functions for the dude ranch, outfitting, and float operations. Approximately 60 employees are housed in 17 single or multi-occupancy units. Eighteen buildings are owned by the government and rented to the concessioner and 32 buildings are owned by the concessioner. (See Table 1, page 14.)

A 1990 Facilities Inspection Evaluation indicates that many deficiencies exist in both government and concessioner buildings and infrastructure. The recommendations of the report must be implemented to bring the facilities into compliance with health and safety regulations. The recommendations of the report are categorized into four groups: 1) major reconstruction work required if use is to be continued; 2) incompatible building occupancies; 3) demolition or removal; and 4) rehabilitation work required (see Table 1 - Existing Structures, page 14 and Existing Conditions map page 17). Several of these deficiencies relate to housing provided for concession employees.

Significant deficiencies in fire protection, heating, plumbing, and electrical utilities exist. General development deficiencies include building structures, water source, primary electrical service, solid waste disposal, heating systems using LP gas, gasoline storage, and grading and drainage. Some buildings are in such poor condition that replacement appears to be the only effective alternative.

Parking for guests, public float operations, and employees is ill defined and inadequate. Park lands assigned to the concession have been used for solid waste dump sites, disposal, and long-term storage of unneeded equipment and materials in areas adjacent to the developed zone. There are numerous and often parallel horse trails crossing the ranch and leading to various areas on the park and the national forest.

## Land Use

About 1,566 acres of park land currently used by the concession consist of two parcels divided by U.S. Highway 89 (see Land Use map, page 20). The 619-acre parcel east of the highway includes the following land uses:

40 Acres - Development Zone. Includes approximately 50 structures, utility systems, corrals, parking areas, hay storage and a livestock feeding area. Most dude ranch guest facilities are located here, as are a float trip office, parking, employee housing, equipment storage, and maintenance facilities. An old borrow pit used for highway construction is used for disposal of waste soil materials.



**TABLE 1 - EXISTING STRUCTURES**

BUILDING #	USE	OCCUPANTS	CONSTRUCTION	CONDITION	OWNERSHIP
691	Main Lodge	7	Log	A,B	NPS
695	Guest Cabin	2	Log	A	NPS
339	Guest Cabin	6	Log	A	NPS
693	Guest Cabin	2	Log	D	Concession
697	Guest Cabin	2	Log	D	Concession
700	Guest Cabin	5	Log	D	Concession
701	Guest Cabin	5	Log	A	Concession
702	Guest Cabin	4	Log	D	NPS
703	Guest Cabin	5	Log	A	NPS
771	Guest Cabin	2	Log	A	NPS
772	Guest Cabin	2	Log	A	Concession
773	Guest Cabin	2	Log	A	NPS
774	Guest Cabin	5	Log	D	Concession
775	Guest Cabin	5	Log	D	NPS
776	Guest Cabin	3	Log	D	Concession
777	Guest Cabin	2	Log	D	Concession
T20	Guest Cabin	6	Log	A	Concession
T21	Guest Cabin	5	Log	A	Concession
T22	Guest Cabin	4	Log	A	Concession
T23	Guest Cabin	2	Log	A	Concession
325	Employee Housing	2	Log	C	NPS
327	Employee Housing	1	Log	C	NPS
689	Employee Housing	4	Rustic Wood	A	Concession
690	Employee Housing	1	Log	C	NPS
694	Employee Housing	1	Rustic Wood	A	Concession
696	Employee Housing	1	Log	C	NPS
710	Employee Housing	2	Log	D	NPS
1144	Employee Housing	6	Stick-built	D	NPS
T24	Employee Housing	1	Rustic Wood	C	Concession
Hotel Six	Employee Housing	26	Modular multi-unit	D	Concession
Ft. Dodge	Employee Housing	16	Modular multi-unit	D	Concession

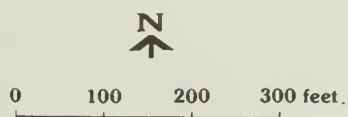
**TABLE 1 - EXISTING STRUCTURES**

BUILDING #	USE	OCCUPANTS	CONSTRUCTION	CONDITION	OWNERSHIP
Wranglers	Employee Housing	1	Modular single-unit	D	Concession
Horseshoe 699	Employee Housing	0	Frame	C	Concession
708	Manager's Res-1 Family		Log	Unknown	Concession
T10	Manager's Res-1 Family		Boise Cascade	Unknown	Concession
T11	Manager's Res-1 Family		Log	Unknown	Concession
T12	Manager's Res-1 Family 2 Guest Bedrooms	4	Log	A	Concession
Cook Shed T28	Float/Pack Cooking		Frame	C	Concession
704	Float Trip Office		Log	A	NPS
705	Laundry		Log	D	NPS
706	Offices		Log	D	NPS
707	Barn		Log	C	NPS
T14	Metal Shop		Prefab Metal	D	Concession
T15/T16	Wood Shop		Frame/Log	D	Concession
T18	Pack Shed		Log	D	Concession
T19	Leather Shop/Wood Shed		Log	D	Concession
T25	Saddle Shop/Dorm	3	Frame/Log	D	Concession
Pole Barn T32	Hay Storage		Pole	B,D	Concession
Gas shed T29	Oil Storage		Frame	C	Concession
T26	Float Shed		Pole	D	Concession





- 694 existing building with number
- X existing building to be removed  
(all others to be rehabed, see Table 2)
- existing condition



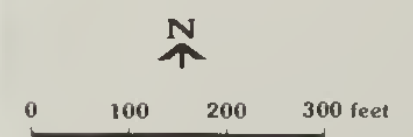
## Existing Conditions Triangle X Ranch Grand Teton National Park

U.S. Department of the Interior - National Park Service





- 694 existing building with number
- X existing building to be removed (all others to be rehabed, see Table 2)
- existing condition



**Existing Conditions**  
**Triangle X Ranch**  
**Grand Teton National Park**  
U.S. Department of the Interior - National Park Service



28 Acres - Irrigated Haylands. This field has a gravity-fed sprinkler system. The source of water is Brush Creek. The field is used to grow hay and it provides some livestock grazing in late summer.

307 Acres - Woodland Pasture (132 acres), and Coarse Upland Pasture (175 acres). These areas support some livestock grazing, but are only moderately productive. They also provide areas for horseback trail riding and a cookout site.

244 Acres - Rangeland Pasture. This area is immediately adjacent to the highway. It supports some livestock grazing although water is limited.

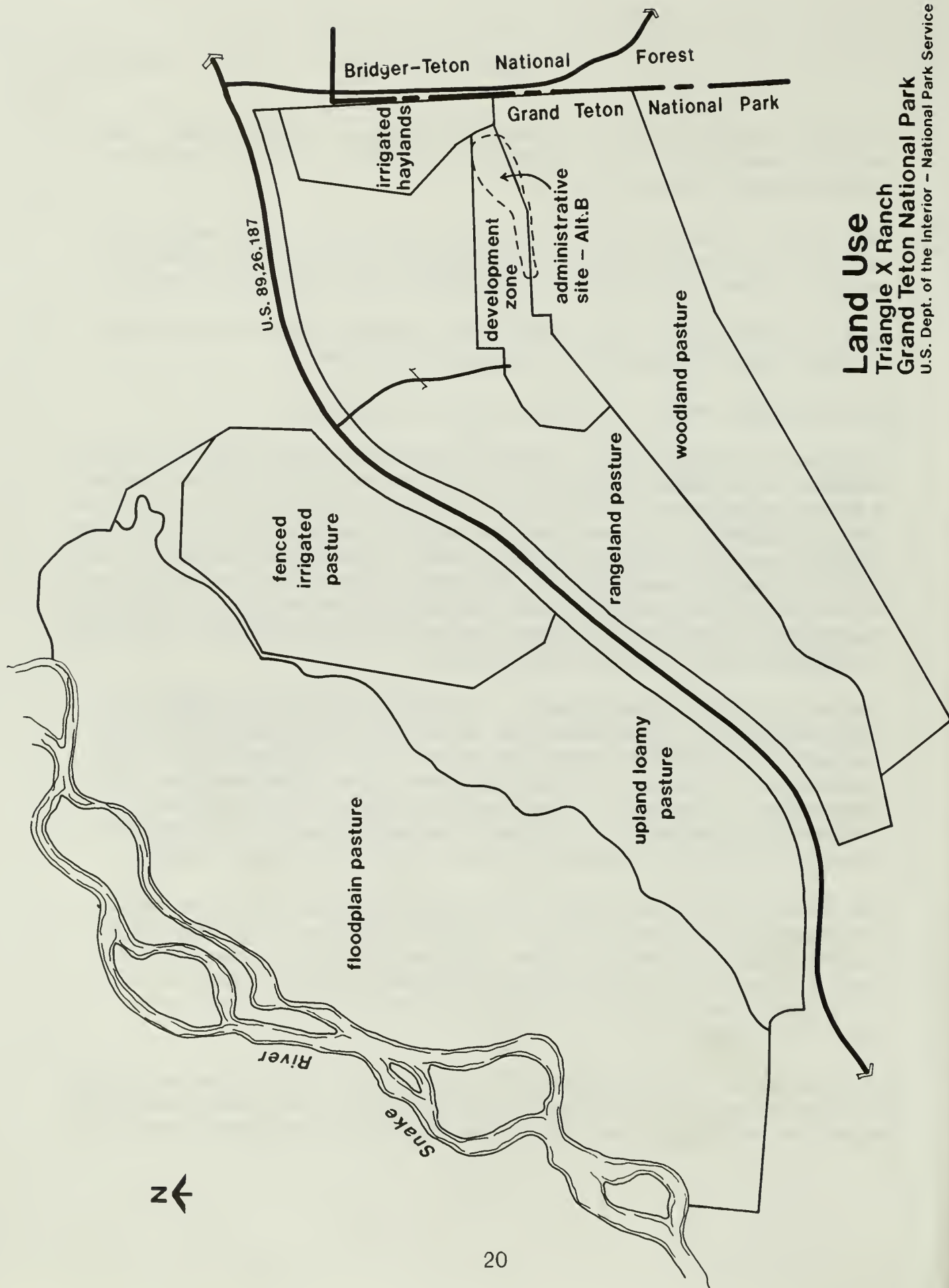
The 947-acre parcel west of the highway consists of the following:

604 Acres - Floodplain Pasture. This area is a mixture of riparian lands, river islands, wetlands, and subirrigated rangelands. It supports the majority of the concession's summer grazing activity and has a history of heavy use (65 percent or more of the annual production). The concession has exclusive use of a float trip launch site, overnight camp, and cookout site, all in this area. Access to this area and the Snake River is by a single, unimproved road. Only NPS or concession vehicles are permitted to use the road, although the general public can walk into the area. In addition to livestock grazing and float trip activities, there are numerous informal trails used by the concession for horse rides and fishing access.

144 Acres - Fenced Irrigated Pasture. This consists of 108 acres of fields under flood irrigation from Spread Creek and 36 acres of subirrigated willow/sedge rangeland. Until 1979 the fields were haylands, which produced most of the concessioner's winter feed. The area also served as the winter feeding area for their livestock. To permit the concessioner to make improvements to the fields and irrigation ditches, the area was converted to late summer pastureland in 1979. The winter feeding operation was temporarily relocated to another area of the park.

199 Acres - Upland Loamy Pasture. This consists of dry land south and west of the irrigated pasture. Isolated areas to the south are subirrigated, but the majority is dry and only moderately productive. This area is unfenced from the floodplain pasture and receives considerable grazing use in early summer. The access road to the Snake River crosses the area and an unauthorized gravel extraction site is next to the access road.

**Agricultural Uses.** The concession is authorized to graze and produce hay on park lands as part of their existing contract. Section 4 of the concession contract states, "(a) The Secretary will assign for use by the concession during the term of this contract such



# Land Use

## Triangle X Ranch

### Grand Teton National Park

U.S. Dept. of the Interior - National Park Service

pieces and parcels of land and government improvements as may be, in his judgement, necessary and appropriate for the operations authorized hereunder including lands for grazing of stock (excluding cattle) consistent with the conservation of park resources." The concession does not have a water right to Spread Creek or Brush Creek for irrigation. Water is provided under NPS water rights after prior water rights needs are met.

The concession currently feeds 20-25 horses during the winter at a site immediately northeast of the ranch buildings. To support this, a new barn was erected in 1989 for hay storage. In the past, the concession has fed 75-90 horses and mules in winter months on other park lands that were also used for fall grazing and summer hay production. Prior to the use of these other park lands, the concession raised hay and fed most of its livestock at the Triangle X Ranch.

**Roads and Trails.** There are three primary and several minor roads on the ranch. The primary roads consist of the main entrance road from Highway 89, the historic access from the forest access road (Cunningham Cabin Junction), and the Snake River access road. The minor roads are associated with the developed zone, the pastures, and the Spencer's Mountain cookout site.

The horse trail system is described in the concession's Statement of Operation as "Over one hundred miles of trails . . .". These trails begin in the developed zone and radiate to all parts of the assigned land, onto the national forest lands, and to various parts of the park. These trails are not maintained as part of the park trail system and are not generally considered open for public use.

## **Related Land Use**

**Snake River Floodplain.** The concessioner currently holds three separate concession permits for float operations, Triangle X Float Trips, National Park Float Trips and Osprey Float Trips. Triangle X and Osprey float trips are based on park land. Triangle X Float Trips is also allocated an exclusive launch site, cookout site, and the only overnight camp on the Snake River. Other float trip operators and the general public are not permitted to camp along the river anywhere in the park. This camp is within the 100-year floodplain and is, therefore, inconsistent with E.O. 11988, the *Resource Management Plan*, and the *Snake River Management Plan*. Public vehicular access is not permitted to the float launch or cookout site in the Snake River floodplain.



## **ALTERNATIVE A - NO ACTION**

The No-Action Alternative is defined as an alternative that continues existing services with some improvements made as required by policy and life/health/safety regulations and wildlife concerns. This alternative provides a year-round concession operation with a full range of recreational experiences. The existing access would be retained under this plan but could be altered during the reconstruction of Highway 89 for safety reasons. The overnight camp on the Snake River floodplain would be eliminated, as would grazing of the river bottomlands. Lands used in support of the concession would consist of approximately 619 acres east of Highway 89 and 343 acres west of the highway.

### **Services**

Basic services would be the same as described under the "Existing Concession" section: dude ranch accommodations for 80 guests; dining and cookout facilities; small merchandising facility for sales of souvenirs to guests; saddle/pack animal services (limited to 120 head of stock).

Float trips could continue to be provided to ranch guests and the general public from park lands through two existing concession permits. The overnight camp on the Snake River floodplain would be eliminated to comply with E.O. 11988, and approved park plans (*Resource Management Plan* and the *Snake River Management Plan*).

Hunting/pack trip service would be authorized; however, facilities to support these services would not exceed those necessary to support the overall dude ranch operation. At no time would stock in excess of 120 head be permitted on park lands.

Winter activities including snowmobiling, cross-country skiing, and rental of winter use equipment would be authorized. Winter activities would be compatible with park rules and regulations. These services would be restricted to registered ranch guests.

### **Facilities**

Facilities shown on the Existing Conditions map (page 17) and described in Table 1 (page 14) would either be upgraded to meet building and health and safety codes, or use of non-conforming facilities discontinued. This includes the existing fuel storage tanks and protection of the domestic water supply by drilling a deep well or fencing domestic livestock and wildlife. No new or additional facilities would be constructed, however, a considerable amount of rehabilitation or reconstruction would be required to bring facilities up to minimum standards. All guest facilities require reconstruction or rehabilitation. Currently approximately 60 employees are housed on the ranch and all employee units



require some level of upgrading. This ranges from the addition of smoke detectors to major reconstruction or replacement. Guests and employees are housed in the upstairs of some buildings that do not meet minimum exit or occupancy separation requirements and/or do not have adequate fire escapes.

Current access from U.S. Highway 89 would be maintained unless safety requirements dictate modification. No changes would be made to improve parking, circulation, or separation of guest, maintenance, or employee uses of the developed area.

Table 2 (page 33) outlines needed rehabilitation of existing facilities and costs for each alternative.

## Land Use

Under this alternative, some uses are not consistent with current NPS Management Policies. Lands assigned to Triangle X Ranch are in a zone classified by the park's *Master Plan* as a natural environment. As such, agricultural uses, like irrigation and hay production, should not be permitted. Implementation of the No-Action Alternative would continue these nonconforming uses.

The developed zone (approximately 40 acres) would encompass facilities to support visitor use and administrative needs at existing levels. Pasture, corrals and facilities to support 120 head of stock would be provided for summer/fall use. Additional stock needed to support off-park activities would not be permitted on park lands, but winter livestock feeding would continue only to the 120-head limit.

Current summer access to cookout and float launch sites in the Snake River floodplain would be continued. The extent of future use of this site would be determined by a revised Snake River management plan. No winter operations are authorized in the riparian areas of the Snake River.

Lands used for concession operations include those lands shown on the Land Use map (page 20) except the floodplain pasture. This would provide for most of the current operations and would reduce resource impacts on the Snake River floodplain and riparian areas through elimination of grazing. Riparian area grazing is being systematically eliminated throughout the park as other grazing permits are renewed. Hay production would be authorized on the two irrigated pastures. Prior to continued use of the 144-acre fenced irrigated pasture, the irrigation system would need to be brought up to SCS standards. The small borrow pit west of Highway 89 would be used for reconstruction of the irrigation system and then recontoured and revegetated. Grazing would be authorized on approximately 922 acres of land. A range and pasture management

program would be updated prior to issuance of the concession contract to guide livestock use of the assigned lands.

This alternative meets Overall Management Objectives 1, 3, and 5 on pages 9 and 10.

## **ALTERNATIVE B - SEASONAL OPERATION**

This alternative provides typical dude ranch services on a seasonal basis, to registered ranch guests only. Approximately 90 acres on the east side of U.S. Highway 89 would be provided to the concession for operations. This alternative conforms with NPS policies, except that irrigation would be permitted.

### **Services**

Basic services would be limited to dude ranch accommodations for 80 guests; dining and cookout facilities; small merchandising facility for sales of souvenirs to guests; saddle animal services (limited to 80 head of stock), offered on a seasonal basis from May to October. No services for the general public would be authorized.

To conform with requirements of P.L. 89-249, authorization to serve as a base for off-park activities would not be granted. The concession could arrange float/fishing or hunting/pack trips for their registered ranch guests, but these services would not be based at the Triangle X Ranch. Livestock maintained on park lands would be used solely for horseback riding and would be limited to 80 head. Winter operations would not be authorized under this alternative.

### **Facilities**

The map for Alternative B (page 25) shows changes to be made in existing facilities to support seasonal operations. Existing guest housing would be upgraded to meet health and safety codes. New housing for 11 guests would be required to replace vacated space in the upstairs of the main lodge and a manager's residence. The main lodge could be expanded to provide additional space for guest activities and the existing barn could be rehabilitated to provide multi-purpose space. Employee housing needs would be reduced to 46 spaces and could be met with existing facilities, if upgraded. The overnight camp on the Snake River and all float trip support facilities would be eliminated. As no winter services would be offered, no winterization of facilities would be required and no winter maintenance of livestock on park lands would be authorized.

The historic access from the forest access road would be restored and parking areas defined. This would provide an introduction to a ranch-like environment and the feeling





- 694 existing building with number
- x existing building to be removed (all others to be rehabed, see Table 2)
- existing condition
- proposed action



0 100 200 300 feet

## Alternative B Triangle X Ranch Grand Teton National Park

U.S. Department of the Interior - National Park Service





- 694 existing building with number
- X existing building to be removed (all others to be rehabed, see Table 2)
- existing condition
- proposed action



0 100 200 300 feet

### Alternative B Triangle X Ranch Grand Teton National Park

U.S. Department of the Interior - National Park Service



of remoteness, and would eliminate existing impacts to the visual aesthetics of the area both from the ranch and Highway 89. This action also would eliminate a safety hazard created by poor sight distance at the existing entrance. The elimination of float trip facilities and the restored access would enhance circulation and separation of guest functions from those of maintenance and administration. With the elimination of public facilities and the reduction in the number of employees, no additional parking would be required. The historic barn (707) would remain where it is. The two old borrow pits and unneeded roads and horse trails would be recontoured and revegetated to park standards. Domestic water supply would be protected from contamination by drilling a deep well or fencing domestic livestock and wildlife.

Table 2 (page 33) shows the needs and estimated costs for this alternative.

### **Land Use**

Approximately 90 acres (shown on the Land Use map, page 20), including a 40-acre developed zone, 28-acre pasture, and a 22-acre administrative site would be made available to the concession. The 28-acre hayland would be used as sprinkler-irrigated summer pasture to supplement a full feeding operation for livestock. An annual pasture management plan would be developed to guide livestock use of the 28 acres. The irrigation of the pasture does not conform to NPS Management Policies, but is considered important to maintaining the productivity of the pasture. Limited grazing on this pasture would enhance the dude ranch scene. Only certified weed-free hay is permitted in the park.

This alternative meets the Overall Management Objectives on pages 9 and 10, except for number 2, because of continued irrigation.

## **ALTERNATIVE C - DUDE RANCH/RESORT**

This alternative provides the changes needed to bring the operation into compliance with federal law, regulations, Executive Orders, NPS policies, and approved park plans.

This alternative provides a year-round concession operation with a full range of recreational experiences similar to the existing concession, but which are compatible with both the use and enjoyment of the park and protection of park resources and values. Some facilities could be winterized to support winter operations; the historic access would be restored and lands used to support the concession would consist of approximately 619 acres east of Highway 89. Overnight use of the Snake River floodplain and all irrigation would be eliminated.

## Services

The basic services are essentially the same as those outlined under the "Existing Concession" section. These services include dude ranch accommodations for 80 guests; dining and cookout facilities; small merchandising facility for sales of souvenirs to guests; saddle/pack animal services (limited to 100 head of stock); and winter activities for ranch guests. A single Snake River float trip/guided fishing operation could be based on designated park lands and could provide services to registered ranch guests as well as the general public. These services would be subject to the same conditions and operating requirements as other commercial float concessioners. Hunting/pack trip service would be authorized, but livestock and facilities in excess of those needed to support the dude ranch operation would not be based on park lands.

Winter activities compatible with park rules and regulations, including snowmobiling, cross-country skiing, and rental of winter use equipment would be authorized for ranch guests.

## Facilities

Changes in facilities are shown on the map for Alternative C (page 29). These would provide a safe and healthy work environment and quality visitor services. Vehicular circulation would be defined, guest and employee housing would be separated, and defined parking would be provided. Facilities would be constructed or rehabilitated to meet federal codes for public health and safety. Current access is from U.S. Highway 89 would be rerouted to the forest access road (Cunningham Cabin Junction), which is the historic entrance to the development. This would screen float trip parking and improve the visitor entrance to the ranch by separating business functions serving guests from those serving the general public. Alternative C preserves existing views, improves aesthetics of the area, provides for adequate and safe housing for guests and employees, improves safety and circulation and provides adequate parking for guest and ranch vehicles.

Table 2 (page 33) outlines needed rehabilitation of existing facilities and estimated costs. Additional facilities include an expanded main lodge, 50-car parking for guest and ranch vehicles, additional employee housing for about 6 employees, 20-car employee parking, fuel storage tanks that meet EPA standards, and a well to provide domestic water that meets current health standards. The historic barn (707) would be retained and a new barn/activity building constructed to provide for ranch activities and screen the new visitor parking area from view of the highway.





- 694 existing building with number
- X existing building to be removed (all others to be rehabed, see Table 2)
- existing condition
- proposed action



0 100 200 300 feet

## Alternative C Triangle X Ranch Grand Teton National Park

U.S. Department of the Interior - National Park Service







A road and trails plan would be developed to determine the need and location of roads and trails. All unneeded trails, roads, and irrigation ditches would be rehabilitated to park standards, as would the west side borrow pit.

Facilities for a float operation would be relocated to the old borrow pit in the development zone and include a float office, parking for up to 30 cars and 3 buses for the general public, a 20-car parking area for employees, and boat and trailer storage facilities.

The developed zone (approximately 40 acres) would encompass facilities to support visitor use and administrative needs. Pasture, corrals and facilities to support 100 head of stock would be provided for summer/fall use. Additional stock and facilities (for example, parking for stock trucks, outfitting equipment storage, employee housing) needed to support off-park activities would not be permitted on park lands. Winter livestock feeding would be limited to that necessary for support of authorized winter guest activities and would be confined to corrals in the developed zone. Only certified weed-free hay is permitted in the park.

## **Land Use**

Summer access to cookout and float launch sites in the Snake River floodplain would be continued. The extent of future use of this site would be determined by a revised Snake River management plan. No winter operations are authorized in the riparian areas of the Snake River. Acreage used for concession operations includes all of the land east of Highway 89 (619 acres - The Development Zone, Irrigated Haylands, Woodland Pasture, and the Rangeland Pasture) shown on the Land Use map (page 20). This provides for essential operations, consistent with proper spacing and preservation of aesthetic values and would reduce resource impacts west of U.S. Highway 89. Additional feed required to maintain livestock would be purchased by the concession from outside the park, as no hay would be harvested on park lands. Grazing would be authorized on approximately 579 acres east of Highway 89. A range and pasture management program would be developed prior to issuance of the concession contract to guide livestock use of park lands. This program would provide resource protection for the areas, maintain productivity of the lands, and preserve the aesthetic values of the "dude ranch scene."

This alternative meets all of the Overall Management Objectives listed on pages 9 and 10.

## **ALTERNATIVE D - DISCONTINUATION OF DUDE RANCH SERVICES**

Dude ranch services at the Triangle X would be discontinued when the existing contract expires on December 31, 1992. The concessioner would be compensated for possessory interests in accordance with the terms of the contract.

### **Services**

The traditional dude ranch services provided by the existing concession contract would be discontinued. These same services are available at dude ranches throughout the valley, including ranches immediately adjacent to the park boundary. Several of these ranches hold concession permits to provide services within the park including horseback riding, guided floating and fishing, and off-park pack/outfitting trips. In-park winter activities are also provided by concessioners based outside the park.

### **Facilities**

The future use of the facilities would be addressed in a separate planning effort, if this alternative were adopted. The use of this area as a dude ranch concession would not be readdressed.

Limited employee housing, float office, raft storage shed, public parking, the tepee camp, and the exclusive float trip launch support Triangle X Float Trips. These facilities could be used until the Triangle X float trip permit expires in December 1993. Future river operations would be defined in the statement of requirements for the renewal of the float trip permit, Osprey Float Trips shares the Triangle X facilities and this use would also be discontinued in December 1992.

The base facilities used for hunting and outfitting are assigned by the current dude ranch contract and their use would be discontinued upon expiration of the dude ranch contract in December 1992. The extensive horse trail system would be allowed to revert to natural conditions and the more severely impacted areas would be rehabilitated.

### **Land Use**

The land used for irrigated hay production and the impacted areas would be restored to natural conditions, were this alternative adopted.

TABLE 2 - DEVELOPMENT COSTS

BUILDING #s	USE	MAXIMUM OCCUPANCY	ALTERNATIVE A			ALTERNATIVE B			ALTERNATIVE C			ALTERNATIVE D
			HEALTH/SAFETY	RECONSTRUCTION OR EXT/INT REHAB	REMOVAL	HEALTH/SAFETY	RECONSTRUCTION OR EXT/INT REHAB	REMOVAL	HEALTH/ SAFETY	RECON- STRUCTION EXT/INT REHAB	WINTERIZATION	REMOVAL
691	Main Lodge	7	\$100,000			\$100,000	\$100,000		\$100,000	\$100,000	\$100,000	
695	Guest Cabin	2	\$15,000			\$15,000	\$15,000		\$15,000	\$15,000		
339	Guest Cabin	6	\$16,000			\$16,000	\$18,000		\$16,000	\$18,000		
693	Guest Cabin	2	\$15,000		\$2,000				\$15,000			
697	Guest Cabin	2	\$15,000			\$15,000	\$15,000		\$15,000	\$15,000		
700	Guest Cabin	5	\$10,000			\$10,000	\$15,000		\$10,000	\$15,000		
701	Guest Cabin	5	\$10,000			\$10,000	\$15,000		\$10,000	\$15,000		
702	Guest Cabin	4	\$15,000			\$15,000	\$20,000		\$15,000	\$20,000		
703	Guest Cabin	5	\$15,000			\$15,000	\$20,000		\$15,000	\$20,000		
771	Guest Cabin	2	\$15,000			\$15,000	\$15,000		\$15,000	\$15,000		
772	Guest Cabin	2	\$15,000			\$15,000	\$15,000		\$15,000	\$15,000		
773	Guest Cabin	2	\$10,000			\$10,000	\$15,000		\$10,000	\$15,000		
774	Guest Cabin	5	\$10,000			\$10,000	\$15,000		\$10,000	\$15,000		
775	Guest Cabin	5	\$10,000			\$10,000	\$20,000		\$10,000	\$20,000		
776	Guest Cabin	3	\$10,000			\$10,000	\$15,000		\$10,000	\$15,000		
777	Guest Cabin	2	\$15,000			\$15,000	\$15,000		\$15,000	\$15,000		
T20	Guest Cabin	6	\$34,000			\$34,000	\$20,000		\$34,000	\$20,000	\$25,000	
T21	Guest Cabin	5	\$25,000			\$25,000	\$11,000		\$25,000	\$11,000	\$20,000	
T22	Guest Cabin	4	\$25,000			\$25,000	\$11,000		\$25,000	\$11,000	\$20,000	
T23	Guest Cabin	2	\$15,000			\$15,000	\$15,000		\$15,000	\$15,000		
325	Employee Housing	2	VACATE			REMOVL	0	\$2,000	REMOVE			\$2,000
327	Employee Housing	1	VACATE			REMOVE		\$2,000	REMOVE			\$2,000
689	Employee Housing	4	\$30,000			REMOVE		\$2,000	REMOVE			\$2,000
690	Employee Housing	1	VACATE			REMOVE		\$2,000	REMOVE			\$2,000
694	Employee Housing	1	VACATE			REMOVE		\$2,000	REMOVE			\$2,000
696	Employee Housing	1	VACATE			REMOVE		\$2,000	REMOVE			\$2,000
710	Employee Housing	2	\$15,000			\$15,000	\$20,000		\$15,000	\$20,000	\$10,000	

TABLE 2 - DEVELOPMENT COSTS

BUILDING #s	USE	MAXIMUM OCCUPANCY	ALTERNATIVE A			ALTERNATIVE B			ALTERNATIVE C			ALTERNATIVE D
			HEALTH/SAFETY	HEALTH/SAFETY	RECONSTRUCTION OR EXT/INT REHAB	REMOVAL	HEALTH/SAFETY	RECONSTRUCTION OR EXT/INT REHAB	RECONSTRUCTION EXT/INT REHAB	WINTERIZATION	REMOVAL	
1144	Employee Housing	6	\$5,000				\$5,000	0	\$5,000			
T24	Employee Housing	1	VACATE	REMOVE		\$1,000			REMOVE		\$1,000	
Hotel Six	Employee Housing	26	\$5,000	\$5,000	\$10,000		\$5,000	\$10,000	\$10,000	\$20,000		
Ft. Dodge	Employee Housing	16	\$10,000	\$10,000	\$30,000		\$10,000	\$30,000	\$30,000			
Wranglers	Employee Housing	1	\$1,000	\$1,000	\$5,000		\$1,000	\$5,000	\$5,000			
Horseshoe	Employee Housing	0	VACATE	REMOVE		\$1,000			REMOVE		\$1,000	
708	Manager's Res-1 Family				0		0	0	0			
T10	Manager's Res-1 Family				\$10,000		\$10,000	\$10,000	\$10,000			
T11	Manager's Res-1 Family				0		0	0	0			
T12	Manager's Res-1 Family 2 Guest Bedrooms	4	\$10,000*	*\$10,000	0		*\$10,000	0	*\$10,000			
Cook Shed	Float/Pack Cooking		\$2,000		0	\$2,000	\$2,000		\$2,000			
704	Float Trip Office		\$15,000			\$6,000	\$15,000		\$36,000			
705	Laundry		\$1,000	\$1,000			\$1,000		\$1,000		\$2,000	
706	Offices		\$1,000	\$1,000	\$25,000		\$1,000	\$25,000	\$25,000			
707	Barn								0			
T14	Metal Shop				\$5,000			\$5,000	0			
T15/T16	Wood Shop		\$10,000	\$10,000	\$20,000		\$10,000	\$20,000	\$20,000			
T18	Pack Shed					\$2,000						
T19	Leather Shop/Wood Shed		\$2,000	\$2,000	\$15,000		\$2,000	\$15,000	\$15,000			
T25	Saddle Shop/Dorm	3	*\$5,000	*\$5,000	\$20,000		*\$5,000	\$20,000	\$20,000			
Pole Barn	Hay Storage		\$35,000	\$35,000			\$35,000		\$35,000			
Gas shed	Oil Storage		VACATE	REMOVE		\$100			REMOVE		\$100	
T26	Float Shed			CONVERT USE					RELOCATE		\$6,000	
NEW WELL /CHLORINATOR			\$115,000	\$115,000			\$115,000		\$115,000			
BURY ELEC.					\$50,000		\$50,000		\$50,000			
LP HEATING			\$50,000	\$50,000								



TABLE 2 - DEVELOPMENT COSTS

ALTERNATIVE A												ALTERNATIVE B			ALTERNATIVE C			ALTERNATIVE D	
BUILDING #s	USE	MAXIMUM OCCUPANCY	HEALTH/SAFETY		HEALTH/SAFETY		RECONSTRUCTION OR EXT/INT REHAB		REMOVAL		HEALTH/SAFETY		RECON-STRUCTION EXT/INT REHAB		WINTERIZATION		REMOVAL		
WATER DIST. SYSTEM			\$20,000		\$20,000							\$20,000							
BEAR-PROOFING			\$5,000		\$5,000		\$60,000					\$5,000		\$60,000					
GRADING/ DRAINAGE																			
UST (FUEL TANKS)			\$150,000		\$150,000							\$150,000							
NEW CABINS		Replacement for 12 guest spaces					\$100,000							\$100,000					
LAND RECLAMATION		Developed areas, trails, roads, borrow pits					\$40,000							\$30,000				\$100,000	
NEW ROADS AND PARKING		New access and defined parking					\$200,000							\$260,000					
NEW EMPLOYEE HOUSING		New dorm for 6 employees												\$90,000					
**IRRIGATION SYSTEM - Fenced Irrigated Pasture			\$50,000																
IRRIGATION SYSTEM - Irrigated Haylands							\$25,000												
NEW BARN														\$200,000					

Note: Costs shown in this table include the approximate net cost for each item. NPS policy requires that to the extent it is economically feasible, the concession undertake all costs relating to the construction of its own facilities as well as utilities, roads, parking, and similar infrastructure. Such feasibility determination has not yet been made, but would be accomplished prior to publication of the statement of requirements for the new contract. The costs associated with these alternatives must therefore be regarded as tentative. Improvements made by the government would require an additional 56 percent of the net cost shown to cover costs of advance planning and contract administration. (However, no government contributions are anticipated.)

\*Eliminate incompatible building occupancies.

\*\* Estimated cost if system is upgraded to raise hay.

\*\*\*Costs for Alternative D associated with purchase of concessioner's possessory interest are estimated to be between \$250,000 to \$350,000 in addition to approximately \$100,000 for land reclamation.

TABLE 3 - Summary Comparison of Existing Conditions and Alternatives

ISSUE	EXISTING CONDITION	ALTERNATIVE A - No Action	ALTERNATIVE B - Seasonal Operation	ALTERNATIVE C - Dude Ranch/Resort	ALTERNATIVE D - Discontinuation of Dude Ranch Services
<b>Services</b>					
Number of guests	80	80	80	80	None
Dining/cookout facilities	Yes	Yes	Yes	Yes	No
Small retail outlet	Yes	Yes	Yes	Yes	No
Saddle/pack animal services	120 head of stock with seasonal fluctuations for off-park outfitting	Maximum 120 head of stock to support saddle/pack services	Maximum of 80 head of stock to support saddle service only	Maximum 100 head of stock to support saddle services	No
Winter activities compatible with regulations	Yes, guests only	Yes, guests only	No	Yes, guests only	No
Operational season	Year-round	Year-round	May-October	Year-round	None
Float/fishing trips	Floating and fishing for guests/public	Floating and fishing for guests/public	None. Trips provided off-site	Floating and fishing for guests/public	No park land assigned
Hunting/outfitting on National Forest	Yes, based on park lands	Yes, based on park lands	No	Yes, outfitting base located off-park	No park land assigned
Overnight camp - Snake River floodplain	Tepee camping for guests, general public, Violates E.O. 11988	Maintained	Eliminated	Eliminated	Eliminated
<b>Facilities</b>					Facilities removed and area reclaimed.
Rehab to meet H&S standards	Needed	Rehab or discontinue use	Rehab	Rehab	None required
Bear-proofing	Needed	Required	Required	Required	Access reclaimed
Primary access	Unsafe intersection	May be modified for safety considerations	Reconstruct historic access and rehab existing access	Reconstruct historic access and rehab existing access	
Public float trip parking	Informal	Maintain existing	None	Upgrade and separate public parking from guest facilities	Reclaim area
Guest parking	Informal	Maintain existing	No additional construction required	Provide upgraded facilities sufficient parking for guests and ranch vehicles	Reclaim area
Employee parking	Informal	Maintain existing	No additional construction required	Upgrade parking for a total of 40 cars	Reclaim area
Circulation	Informal	Maintain existing	New access route would improve circulation and separation of functions	Improve circulation and separation of functions	Not applicable
Winterization	4-5 cabins heated	Maintain existing	None required	Upgrade based on winter use requirements	Not applicable
Historic barn	Retain	Retain	Retain	Retain and construct new barn/activity building	Subject to future planning
Spencer's Mt. cookout site	Used for weekly breakfast rides	Maintain existing	Move back from edge of terrace so that cooking facilities and vehicles are not visible from Hwy. 89	Move back from edge of terrace so that cooking facilities and vehicles are not visible from Hwy. 89	Reclaim
Snake River cookout site	Used for weekly dinner rides	Maintain existing parking	Maintain and define parking	Maintain and define parking	Reclaim
Ranch cookout site	Used for weekly cookouts	Maintain existing site	Maintain existing site	Maintain existing site	Reclaim
Winter stock feeding	Some in park	Maintained and limited to 120 head of stock	None	Limited to support winter services	Not applicable

TABLE 3 - Summary Comparison of Existing Conditions and Alternatives

ISSUE	EXISTING CONDITION	ALTERNATIVE A - No Action	ALTERNATIVE B - Seasonal Operation	ALTERNATIVE C - Dude Ranch/Resort	ALTERNATIVE D - Discontinuation of Dude Ranch Services
<b>Land Uses</b>					
40 ac. Development Zone-east side	Guest accommodations and support facilities	Maintain existing conditions	Increase by 12 acres to provide a connection with the 28-acre pasture	Maintain existing uses	Remove facilities and reclaim area
28 ac. Irrigated Haylands-east side	Hay production for TX stock	Maintain existing use	Sprinkler irrigated pasture	Dry pasture for grazing	Reclaim
307 ac. Woodland Pasture-east side	Grazing	Maintain existing use	Discontinue use	Maintain existing use	Discontinue use
244 ac. Rangeland Pasture-east side	Grazing	Maintain existing use	Discontinue use	Maintain existing use	Discontinue use and rehabilitate area
604 ac. Floodplain Pasture-west side	Grazing	Discontinue use	Discontinue use	Discontinue use	Discontinue use and rehabilitate area
144 ac. Fenced Irrigated Pasture-west side	Grazing	Upgrade irrigation system required if hay is raised.	Discontinue use	Discontinue use	Discontinue use and rehabilitate area
199 ac. Upland Loamy Pasture-west side	Grazing	Maintain existing use	Discontinue use	Discontinue use	Discontinue use and rehabilitate area
Pasturing of outfitting stock	Total stock fluctuates by season	Only to a maximum of 120 head	Not authorized	Only 100 head of stock based on park lands	Not applicable
Range and Pasture Plan	Expires 12/31/91	Update	Terms to preclude adverse impacts to 28-acre pasture	Terms to preclude adverse impacts to east side pastures	Not applicable
Road and Trail Plan	None	Plan prepared. No Rehab.	Plan prepared. All roads and trails brought into conformance. Unneeded trails and roads rehabilitated.	Plan prepared. All roads and trails brought into conformance. Unneeded trails and roads would be rehabilitated.	Not applicable
Stock feeding operations	Graze and feed hay grown on TX	Maintain existing	Full feed operation with minor grazing of 28-acre irrigated pasture	Feeding operation with supplemental grazing of east side pastures	Not applicable

Note: Under Alternative D, land would be returned to natural conditions and the future use of the developed facilities would be evaluated under a separate planning effort.





## **AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

### **INTRODUCTION**

The Triangle X planning area is within Grand Teton National Park in northwestern Wyoming. The park consists of 309,994.05 acres in Teton County, northwestern Wyoming, and in the At-Large Congressional District. The Triangle X Dude Ranch borders the Black Rock Ranger District of the Bridger-Teton National Forest. Although lands occupied by the Triangle X Dude Ranch are within the park, permitted uses and operations of the Triangle X Dude Ranch may affect the Bridger-Teton National Forest.

### **EXISTING CONDITIONS AND CONCESSION**

#### **Existing Conditions**

The existing conditions and concession are described in the Proposal and Alternatives chapter of this document.

#### **Concession**

**General.** The concession is authorized to operate year-round, however, visitor statistics reported to the NPS indicate that overnight guests are generally accommodated during the months of May through October.

Table 2 (page 33) displays a range of improvements needed under various alternatives and their estimated costs. If costs of necessary improvements exceed those that can be supported by business operations, costs could be shared by the concession and the government.

A comparison of livestock maintenance costs reported by the concession, with costs provided by vendors was conducted by the park. These data indicate that the concession business operations could net \$10,000 to \$11,000 more per year if horses were fed on-site, and hay production by the concession were to be phased out, or if stock were leased. (1991 park study)

**Impacts of Alternative A.** The number of guests and support facilities required would remain the same. Rehabilitation of guest and employee accommodations to meet federal and state codes, if implemented, would result in the expense for labor, supplies and materials. Continued irrigation of the 144 acres of pasture on the west side of Highway

89 would require upgrading the irrigation system. There would be a greater demand for hay purchased from outside sources were irrigation discontinued. Discontinuation of grazing in riparian zones would increase the need for supplemental feed (total land assigned would be reduced from approximately 1,566 acres to 962). Elimination of the riparian grazing would bring concession activities closer to conformance with NPS and park policies. Elimination of the overnight tepee camp would reduce the potential revenue earned. The effect on visitor experience would be minimal since the camp accommodates only 250 people a year.

The requirement to bring facilities up to an acceptable standard would call for a substantial financial investment, or the discontinuation of use of those facilities not in conformance. This could affect the number of guests and employees that could be accommodated, and reduce revenues.

Float trip activities would remain the same and confusion and congestion resulting from mixed functions and associated pedestrian and vehicular traffic would continue. The base for outfitting onto USDA-Forest Service lands would continue, maintaining use of park lands for services occurring outside the park, which is inconsistent with the public law authorizing concession operations.

**Impacts of Alternative B.** The maximum authorized number of guests would remain the same, but the number of employees would be reduced. The extent of rehabilitation of facilities would be reduced because of the seasonality of the operation. Fewer support services would be needed and associated overhead costs would be reduced, because of the elimination of on-site float/fishing operations and the base for the outfitting activities.

Elimination of the riparian grazing and the overnight camp would bring concession activities closer to conformance with NPS and park policies. Effects would be the same as under Alternative A.

The change in the primary access would enhance safety because vehicular and horse traffic would enter Highway 89 at an intersection that has adequate sight distances.

The alternative would improve the visual quality and enhance the feeling of remoteness experienced upon entering the dude ranch complex.

The new access would greatly improve circulation and separation of functions.

Rehabilitation of the old barn or acquisition of a new one would provide a space for the concession to have square dances, display old wagons, equipment, and other activities.

The authorized number of stock would be reduced to 80 from the currently authorized 120. The reduction in land assignment from the current 1,566 acres to approximately 90 acres would have a significant effect and require a full feeding program for livestock. The 28-acre irrigated pasture would remain for aesthetics, but grazing would be regulated to minimize the impacts on the land. Corral space would probably need to be increased to reduce crowding and possible injuries to stock. When 80 head of stock share a small area, the area becomes denuded of vegetation, a situation that already exists in the corral areas. This could result in a reduction in the number or variety of rides available to guests. This may decrease the level of service and guest experience and subsequently reduce the concessioner's business. Since there would be no winter operation, winter feeding on park lands would not be permitted. This would decrease levels of service and may decrease business slightly.

Livestock feeding would probably improve overall profitability of current business operations by approximately \$10,000 annually. (1991 park study)

**Impacts of Alternative C.** Under Alternative C, rehabilitation of facilities would require a more substantial investment than under Alternatives A or B. Support facilities and employee housing needs would continue at current levels. Impacts from discontinuation of the overnight tepee camp would be the same as previously stated.

The alternative would provide a better quality ranch environment, enhance guest experience, and could increase the concessioner's business slightly within capacity limits of 80 guests.

Float operations would be staged from the ranch at a new site accessed from the historic road. This would improve the aesthetics of the site by removing public parking from the main dude ranch complex. The public would not need to drive to the main dude ranch complex. Guests would continue past the new float trip location as they would enter the area from the historic access road. This road has outstanding mountain views and winds through the treed area, past corrals to the ranch complex. This new access would separate the employee housing/maintenance areas from those used by guests. Profits from the public float trip operation could be enhanced, but additional costs would be incurred to move existing operations from the core ranch area.

Parking would be defined and upgraded to accommodate ranch, guest, and employee vehicles. This would improve the traffic circulation and aesthetics of the area.



The historic barn would be retained and a new building constructed to provide space to display old equipment and wagons (and for activities like square dancing).

A roads/trails plan would be developed and unnecessary roads/horse trails would be recontoured and revegetated. This would improve the aesthetics of the area and reduce dust; however, the concession would be restricted to specific paths of travel.

Winter operations would continue to be authorized for guests (within park regulations and in accordance with approved planning documents). Expansion of this operation might result in increased revenues.

Winter feeding of livestock would be permitted only to the extent that the livestock supported winter guest activities (for example, 8-10 horses for sleigh rides). Other stock would be wintered outside the park, requiring the concession to use winter pasture outside the park. This could increase the cost to concession business.

Pack trips and outfitting services could still be made available to guests of the ranch, but only 100 head of stock (also needed to support the dude ranch) would be permitted on park lands. This reduction could decrease the level of off-park business.

Irrigation on the 28-acre pasture would be discontinued, but limited grazing would continue. The pasture would lose productivity. Lands used would be restricted to those on the east side of Highway 89, a reduction in land from 1,566 acres to 619 acres, increasing the need for supplemental feeding. A range and pasture management plan would guide the use of park lands to minimize adverse impacts. Livestock feeding and the elimination of equipment needed to maintain the irrigated pasture could improve overall profitability by approximately \$10,000 annually. (1991 park study)

**Impacts of Alternative D.** This alternative would eliminate all dude ranch services currently operated out of Triangle X. Renewed float trip permits would require that float trip operations be based on non-park lands. The hunting/outfitting operations would also be based outside the park and the overnight tepee camp would be eliminated.

In general, rehabilitation of facilities would not be required, and the final disposition of the developed area would be the subject of a future planning effort. Based on the terms of the contract, the concession would be compensated for its possessory interest at book value.

Estimated book value of the concession is between \$250,000 and \$350,000. Estimated rehabilitation costs could be as much as \$100,000.

All grazing on lands currently assigned to the concession would be discontinued, as would irrigation and haying. The area would be reclaimed to natural conditions.

## **NATURAL RESOURCES**

### **Vegetation**

**General.** Over 920 species of vascular plants and 200-plus species of fungi are found in the park, including 85 alien species of vascular plants--plants that have become established in the past 50-75 years, or plants known to have been established by agriculture. General vegetation has not been classified or mapped. Several studies have been done of local areas, however, providing classified and mapped information on specific sites. (*RMP*, 1986:15).

National Park Service Management Policy (8:14) states "The National Park Service will determine the significance of the impacts from grazing activities based upon the Organic Act, the park's enabling legislation, other applicable legislation, and the values and purposes of the park . . . to protect park resources, restrictions may be placed on class and numbers of animals and locations and periods of use. Because of the fragile nature of the resources involved, grazing in riparian zones will be discouraged."

A three-year University of Wyoming (UW) study, now in its second year, is under way to determine the effects of domestic livestock grazing and native wildlife grazing in Grand Teton National Park. The results are not available, but preliminary estimates and reconnaissance survey to map use patterns have been included in the impact analysis.

**Existing Concession.** (Refer to the Land Use map, page 20, for pasture discussion.)

The UW study conducted a utilization transect on the Triangle X floodplain pasture. The UW study's preliminary indications from a range management perspective are:

- 1) Utilization summaries through late August indicate the following amounts of 4 common species: Kentucky bluegrass (*Poa pratensis*), 52 percent, sedges (*Carex sp.*) 41 percent, clover (*Trifolium sp.*) 40 percent, and thickspike wheatgrass (*Elymus lanceolatus*), 65 percent. These use levels are within generally acceptable ranges for riparian sites.
- 2) Highest use occurred in subirrigated perimeters of wet areas dominated by Kentucky bluegrass and clover.

3) The Triangle X pasture (Floodplain Pasture) "had received light to moderate use overall. Few areas of intensive use were evident."

These conclusions are provisional and future analysis of species composition will be more useful in evaluating effects of past grazing.

Except for a few non-native weed species, the vegetation of the floodplain pasture at Triangle X appears to be relatively intact. This pasture has a history of heavy grazing (65 percent utilization or more) but has recently improved under reduced grazing use (40-65 percent utilization). The floodplain vegetation is dominated by blue spruce-cottonwood in forested areas, various willow species on abandoned river channels and snowberry and red osier dogwood on loamy soils. Primary native forage species include tufted hairgrass, Nebraska sedge and slender wheat grass. In an average year the yield is about 4,500 pounds of air dry herbage per acre (Young, 1982:48). According to the 1977 Soil Conservation Service (SCS) recommendations, this pasture should provide 644 AUMs (animal unit months) of grazing use. Vegetation has been eliminated on many of the multiple stock trails, on the access road, picnic area and campsite area.

Low-level aerial photography obtained in 1974 revealed that the density of unvegetated trails on this pasture far exceeded that of adjacent areas of the floodplain. Ground inspection suggested many of these had been created by, and were primarily used by horses. No recent photography is available for comparison or to evaluate the effect of reduced grazing. Considerable grass, forbs and shrubs have also been eliminated at the picnic site, overnight campsite, and float trip parking area. Some of these have been established since 1974 and no recent photography exists for comparison or to quantify vegetation impacts.

The vegetation on the terrace has been modified through cultivation and grazing. In the 108-acre irrigated pasture, smooth brome, alfalfa, and red clover have replaced the native Nebraska sedge, tufted hairgrass and slender wheat grass. Approximately 80 acres just south of this pasture were formerly cultivated, but since about 1930, have essentially reverted to native dry land vegetation. Condition of the dry areas on this terrace show evidence of heavy grazing in the past (70 percent utilization in 1981; park files), while productivity of the irrigated pasture has declined considerably. Multiple stock trails cross the drier areas where animals have been moved back and forth between the floodplain and the ranch headquarters.

Native vegetation on the Leavitt-Youga soils of the Brush Creek alluvial fan is similar to that on the terrace lands. Shrubby cinquefoil is more dominant in wet areas, however. Smooth brome, alfalfa, and red clover have replaced native vegetation on the 28-acre irrigated pasture. Smooth brome is a variable component on an additional 40 acres west



of this pasture, which was formerly irrigated. Where water is not available, annual forage production is 2,000 pounds per acre and where irrigated, about 4,000 pounds per acre (Young 1982). Vegetation around the ranch headquarters (about 30 acres) has been either eliminated by roads, parking areas, buildings, corrals and pedestrian/horse trails or has been converted to bluegrass lawns. Aerial photographs show a web of roads and horse trails radiating out from the headquarters on which no vegetation occurs. Vegetation is also lacking on several sloping areas to the west, close to the highway. They appear to be associated with wrangling activities on steep dry sites. Vegetation has been eliminated from a series of horse trails to the east that access the irrigated pasture. No attempt has been made to quantify these bare areas, but their extent is estimated to cover 3-4 acres. Sagebrush was mechanically removed by the concession west of the irrigated field, to improve forage. The potential exists to extend the sprinkler irrigation system to at least a portion of this area. Several cross fences are needed to better control grazing on some of the more impacted areas, particularly east of the access road and west of the ranch headquarters. At present, the unirrigated portions of this area will support only about 55 AUMs.

Only minimal grazing use has occurred in the Taglake (forested) and Sebud (grass-shrub) soils south and southwest of the ranch buildings and the vegetation there is relatively intact. Past estimates (1981) of grazing use varied from 10-20 percent (park files). Roads and trails in this area appear to have impacted vegetation more than past and present livestock grazing. The reason for such low levels of livestock use in this area is unknown, but variable topography and vegetation may constrain wrangling activity there. The area is a mosaic of forest and rangeland on steep to level soils. Lodgepole pine with an understory of lupine and whortleberry dominate the forested portions, while bluebunch wheatgrass, spike-fescue, needlegrass and bitterbrush occur in the more level areas. Because of slopes and low water availability, only about 55 AUMs of grazing are available annually. Young (1982) estimated productivity of this area to be 1,500-2,000 pounds of dry herbage per year.

**Impacts of Alternative A.** Under this alternative, grazing by 120 head would continue on 922 acres, which include areas showing the greatest impact from past livestock use. To mitigate this, a range and pasture management plan would be developed using SCS guidelines to maintain pasture, range and hayland productivity. The raising of hay would be authorized on the Brush Creek field and, following reconstruction of the irrigation system and renovation of the field, in the west irrigated pasture. Both fields need to be cultivated, reseeded and fertilized to restore productivity. It is anticipated that full productivity would be restored in 3-5 years. At that time, both fields should produce 2 tons of hay per acre for a total of 272 tons per season.

As part of the range and pasture management plan, 1.25 miles of fence would be required along the top of the terrace to exclude livestock from the Snake River floodplain. A 1.5-mile fence to exclude livestock from the Brush Creek hayfield would also be needed. Some cross fences are also needed to better distribute grazing use east of the highway. Strict compliance with the range and pasture management plan would be required to avoid impacting the forage base. Winter feeding of 120 head would result in loss of vegetation on 15-20 acres northeast of the ranch buildings. A portion of this area has already been impacted by winter feeding and the holding corrals. A fence around the feeding area that is adequate to exclude moose would be required.

According to the concessioner's annual financial reports for the years 1986 through 1990, annual expenses for the dude ranch livestock operation (livestock maintenance, livestock replacement, agricultural supplies and materials, livestock and agricultural equipment) have varied from \$51,000 to \$72,000 and have averaged \$59,000.

On an average year, the Triangle X pastures are not ready for grazing until mid-June although this can vary up to 10 days earlier. For 120 horses, the ranch would need 480 AUMs of available grazing during a 4-month season (June 15 to October 15). Based on the combined data of Young (1982) and the Soil Conservation Service in 1977, Triangle X presently should have 190 AUMs available from the unirrigated lands proposed in this alternative and 602 AUMs from the irrigated pastures. It is concluded that this alternative provides adequate grazing capacity even if grazing were to be extended through November, but *only* if the irrigated lands are used as pastureland *not* to raise hay.

Calculations also suggest that the Triangle X Ranch's winter feeding operation (assuming an 8-month feeding season from October 15 to June 15) would require at least 360 tons of hay. If purchased at \$60 to \$90 per ton, this hay would cost between \$25,200 and \$36,000 (including hauling costs at \$0.50 per ton per mile). Conversion of all the irrigated pastures available in this alternative to hay raising would reduce the amount of available summer grazing from 792 AUMs to 326 AUMs. This would be inadequate and would require supplemental feeding of 155 tons of hay during summer at a cost of between \$9,300 and \$13,950 (hauling costs not included).

Present hay production from the 28-acre irrigated field is estimated to be 20-30 tons, with a potential of 56 tons after completion of field renovation. The estimated one-time contract cost of renovating this field is \$2,500 and the field would be unavailable for at least one year. Field renovation (disking, fertilizing, replanting) should be repeated every 5-8 years thereafter. Bringing the 108-acre west irrigated pasture back into hay production would take several years and is estimated to cost \$20,000 (even under an ASCS cost-sharing arrangement). It should eventually produce 216 tons of hay per year. Maximum annual hay production at the Triangle X will then be 272 tons. Cost of raising



and harvesting this hay each year will vary from \$8,000 to \$12,000 (about half the cost of purchasing it). Since about 243 tons of additional hay will be needed from outside sources, total annual cost of raising and purchasing hay will vary from \$22,600 to \$33,900. It is concluded that there is little advantage to raising hay over purchasing it, particularly when the initial costs are factored in.

No livestock grazing on the floodplain would be authorized under this alternative. It is anticipated that this would result in improvement of this area as wildlife habitat due to increased forage availability and reduced disturbance from livestock and wrangling activities. The immediate result of this is to increase the potential for grazing impacts on the remaining pastures, thus emphasizing the importance of following a range and pasture management plan. Under this alternative supplemental feeding would increase. Under an updated range and pasture management plan, better distribution of livestock would be obtained reducing impacts. Productivity of haylands would increase were the fields improved and the west irrigation system rebuilt.

**Impacts of Alternative B.** Under this alternative, summer feeding of up to 80 head of horses would be necessary. Up to 98 AUMs of grazing would be available after mid-June on the 28-acre irrigated pasture. About 28 head of horses could graze there during the growing season (June 15 - August 15), but only 7 head should be permitted after August 15. All livestock must be fed prior to June 15 or when the NPS determines the pasture is ready. Calculations suggest that it would require about 145 tons of hay to feed those horses not on pasture. The cost of this hay would be approximately \$8,700 to \$13,000, not including the cost of hauling.

This alternative requires the concession to take all livestock off the park during winter (November 1 to May 1). To accomplish this, there are at least two options.

- 1) The concession owns the livestock and pays a private entity to provide winter pasture. Recent charges for boarding horses have ranged from \$25 to \$35 per animal per month or \$150 to \$210 for 6 months. For 80 head, this amounts to \$12,000 to \$16,000. Cost of hauling, shoeing and veterinary services are estimated to be \$7,000 annually. Cost of replacing animals and tack is estimated to be \$2,000 per year. Total annual costs for livestock maintenance under this set of assumptions varies from \$29,700 to \$38,000.

- 2) The concession leases the horses between May 1 and November 1 and has no maintenance cost during winter. Current volume-discount charges for leasing newly shod horses is about \$270 per animal (May 1 to September 1). It is assumed that rental for an additional 2 months would be \$100 per animal and that half the horses would be returned on September 1. For 80 head, costs are calculated to be \$25,000.



Additional annual costs for veterinary services, shoeing and tack replacement are estimated to be \$2,000 and hauling costs are estimated to be \$3,000. Total annual costs (including cost of hay) for livestock maintenance under these assumptions varies from \$38,700 to \$43,000.

Some expansion of the feeding area northeast of the ranch buildings would be needed and as a result it is estimated that vegetation would be eliminated from an additional 5-10 acres there. These bare areas would persist as long as the dude ranch is operated under this alternative, but vegetation would recover in 5-10 years should the use terminate. No significant soil losses are anticipated that could compromise recovery of the plant community. This alternative would permit the irrigated pasture west of the highway to eventually revert to native vegetation. As with Alternative A, livestock grazing on the floodplain would cease. It is anticipated that this would improve that area as wildlife habitat by increasing forage availability and reducing disturbance by livestock and wrangling activities.

The purpose of continuing irrigation on the 28-acre pasture is to protect the pasture without loss of productivity. Without irrigation, this small field would provide less than 30 AUMs of use and probably could not support more than 8-10 horses for the entire season. A range and pasture management plan would be developed to increase productivity of the pasture and to prevent impacts to the plant community there. An additional benefit of irrigating this pasture would be the offset of some hay costs (between \$3,000 and \$4,600 annually).

Reclamation of the present access road, west borrow pit, ditch systems no longer on lands used by the concession, and unnecessary trails, would accelerate revegetation of the areas. It is anticipated that the NPS would do this work on about 15 acres of land. Reclamation includes reseeding with appropriate native plants and follow-up weed control for 3-5 years.

**Impacts of Alternative C.** Under this alternative, the concessioner would be authorized some grazing for up to 100 animals on about 579 acres east of the highway. No grazing use west of the highway or hay raising and/or irrigation of pastures would be authorized on either side of the highway. Winter feeding would be restricted to the number of animals needed to support winter guest activities (approximately 10 head).

Available grazing land east of the highway would only provide about 160 AUMs between June 15 and October 1. The concessioner would need at least 500 AUMs for livestock maintenance between May 1 and October 31, which would require feeding of about 157 tons of hay during that period. Cost of this hay would be between \$9,400 and \$14,100 counting hauling costs.

As in Alternative B, winter maintenance of livestock could be accomplished by boarding the animals out of the park at annual costs calculated to be from \$15,000 to \$21,000. Total annual maintenance costs are calculated to be between \$34,400 and \$45,100 using similar assumptions. Another option would be to lease 90 animals between May 1 and October 31 (calculated to cost \$35,100 annually) and maintain 10 animals on the park year round. Total annual livestock costs of this option were calculated to be between \$49,500 and \$54,200.

A range and pasture management plan would be developed to insure that grazing does not impact vegetation. Otherwise, there is high potential for adverse impacts to vegetation, particularly on steep slopes and a few areas presently in poor or fair condition. Additional pasture fencing and cross fencing would be required to better control grazing use. Productivity of the Brush Creek pasture would decline by at least 50 percent following the termination of irrigation. All presently irrigated fields should eventually revert to native vegetation. This is the only alternative that conforms to NPS policy concerning irrigation.

As with Alternatives A and B, livestock grazing on the floodplain would cease. It is anticipated that this would improve that area as wildlife habitat by increasing forage availability and reducing disturbance by livestock and wrangling activities. It is also anticipated that wildlife use of the terrace land between the highway and the floodplain would increase due to reduced disturbance there. The south and west fences enclosing the 144-acre irrigated pasture west of the highway would be removed, which should benefit the movement of wildlife. Productivity of the irrigated lands would decline, however, and some loss of forage there would be unavoidable. Reclamation of the present access road, west borrow pit, ditch systems and unnecessary trails would accelerate revegetation of these areas. It is anticipated that the NPS would do this work on about 15 acres of land.

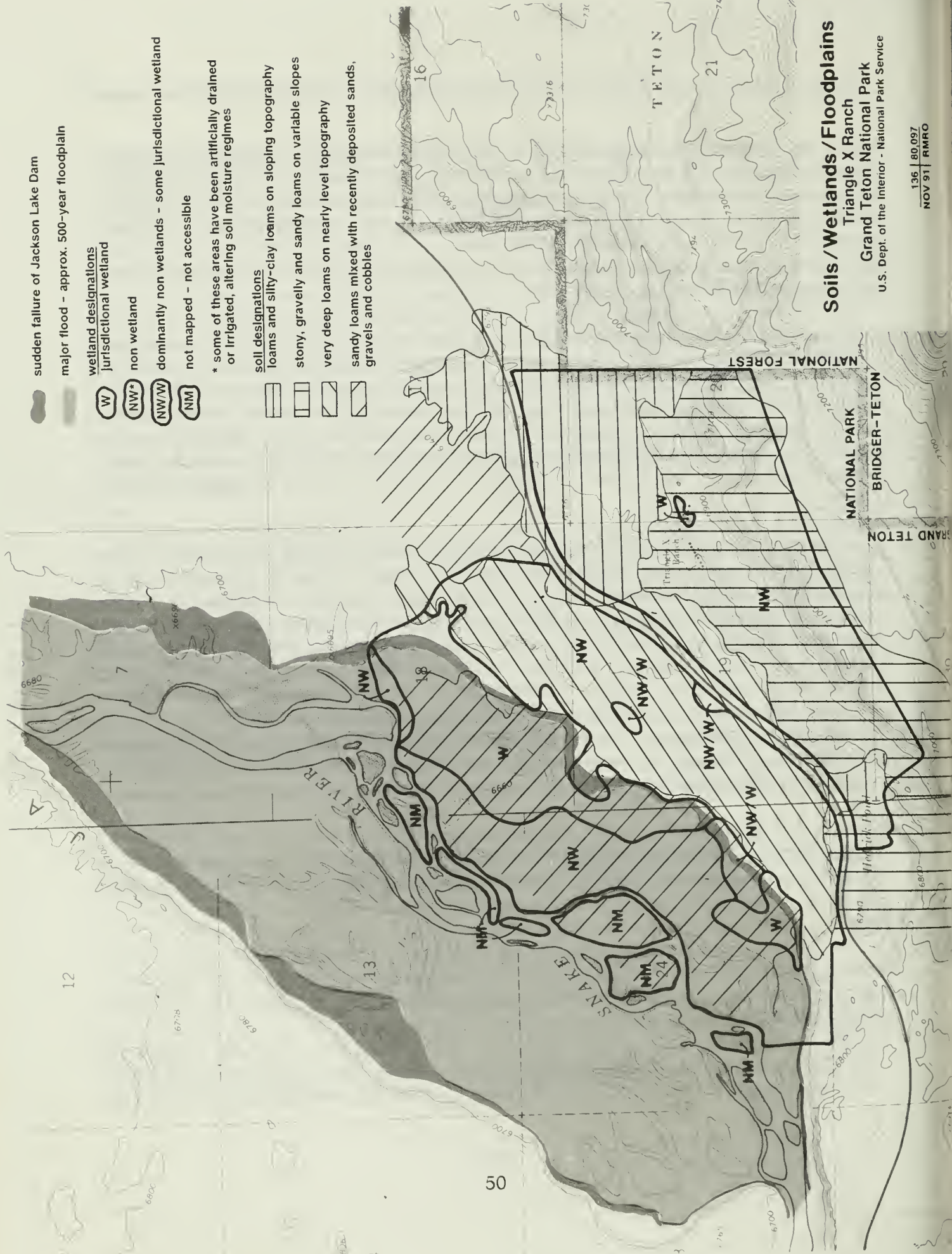
**Impacts of Alternative D.** Under this alternative, no future use of the land for grazing livestock would be permitted. With the reduction in livestock use, the natural regime of vegetation would eventually return. The area would be maintained solely for wildlife use.

## **Soils**

**General.** Four major soil groups occur on park lands presently used by the Triangle X Ranch concession (see the Soils/Wetlands/Floodplains map on page 50). The map shows four categories of soils:

- 1) The Leavitt-Youga Complex of deep loams and silty-clay loams covers the Brush Creek alluvial fan. These occur on 3-6 percent slopes, are moderately permeable and





sudden failure of Jackson Lake Dam

major flood - approx. 500-year floodplain

wetland designations  
jurisdictional wetland

non wetland

dominantly non wetlands - some jurisdictional wetland

not mapped - not accessible

\* some of these areas have been artificially drained  
or irrigated, altering soil moisture regimes

soil designations

loams and silty-clay loams on sloping topography

stony, gravelly and sandy loams on variable slopes

very deep loams on nearly level topography

sandy loams mixed with recently deposited sands,  
gravels and cobbles

# Soils/Wetlands/Floodplains

Triangle X Ranch

Grand Teton National Park

U.S. Dept. of the Interior - National Park Service



have a relatively high available water capacity. Erosion hazard is normally slight except in active stream or ditch channels situated downslope where gullying occurs. Trails and roads also tend to be muddy and subject to soil loss unless located on a contour.

2) The Slocum-Silas loams occur primarily on the alluvial terrace west of U.S. Highway 89 and a portion of the highway crosses this soil type. These nearly level soils were formed in alluvium, have moderate permeability and high available water capacity. Surface runoff is slow and erosion hazard is slight. During periods of high water, active stream and ditch channels tend to gully this soil type where oversteepened.

3) The Taglake-Sebud Association soils (both level and steep) are formed on glacial moraines and are located along the variable slopes south and southwest of the ranch buildings. These sandy and stony deep loams are moderately permeable with low available water capacity. Surface runoff is rapid and erosion hazard is high where slopes are steep. The Taglake soil is forested and the Sebud soil has grass-shrub cover.

4) The Tetonville-Wilsonville sandy loams and Tetonville-Riverwash Complex are soils of the Snake River floodplain. Other soil types make up about 10 percent of the floodplain. These nearly level soils are in old braided channels or are recently deposited sand, pebbles and cobbles in newly abandoned channels. Floodplain soils have rapid permeability and low available water capacity. The water table is less than 3 feet during the growing season and erosion is slight. (Young, 1982).

**Existing Concession.** Irrigation has resulted in deep gully formations in Leavitt-Youga soils, following diversion and conveyance of water from Brush Creek to the northwest down 5-6 percent slopes. Use of these ditches has been discontinued within the past 10 years, but the gullies remain. Similar problems have developed in the more level Slocum-Silas soils northwest of the highway, which are now irrigated from Spread Creek. In this case, lateral east-west ditches on 3 percent slopes have also experienced downcutting. This ditch system shows symptoms of excessive water flows, which have washed out culverts and diversion structures. According to Young (1982:37), heavy application of irrigation water causes both soil and soil nutrient loss in these soil types. That this has apparently already occurred as indicated by a substantial (50-65 percent) decline in productivity observed in these irrigated fields. A complete redesign and relocation of the ditches north and west of the highway was recommended by the Soil Conservation Service (park correspondence, 1983), but no action has been taken by the concession or the park.

Extensive reclamation of the eroded ditches in Leavitt-Youga soils needs to be completed. Similar reclamation is required on the two gravel pits that have been developed on the

lands used by the Triangle X Ranch. Minor soil erosion has also occurred along the main ranch access road, on some horse trails near the ranch buildings and on some horse trails on steep slopes above the floodplain.

**Impacts of All Alternatives.** Any construction site where soil is disturbed would undergo erosion, at least temporarily. 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 in order to conserve available organic matter. Buildings, roads, and other impervious structures would collect and divert precipitation to adjacent areas.

**Impacts of Alternative A.** Under this alternative, expansion of the winter feeding area in the Leavitt-Youga soils northeast of the ranch buildings would impact both soil and vegetation. Some enlargement of the present feeding area (20-25 animals fed) would be required to accommodate 120 animals. It is likely that a total of 15-20 acres would be required for winter feeding. Soil loss is not likely as long as the stock watering facilities are maintained so as to avoid any overland flow of water across the feeding area.

Sprinkler irrigation of the 28-acre Brush Creek field would continue, but should not adversely affect soils if contour cultivation practices are followed. Some expansion of this field is possible and this too would require contour cultivation. A range and pasture management plan would be developed to insure these activities follow SCS guidelines to protect soils. Continued flood irrigation of the fields west of the highway is possible under this alternative. This would not be permitted unless the ditch system had been upgraded to SCS standards. Until that time, only minimal flows for stock water would be permitted in the upper portion of the ditch system, which would be insured through systematic monitoring.

Existing soil impacts on the floodplain (which are minor) would be confined to the access road and picnic site since livestock grazing of the area would not be permitted. To insure this, a 1.25-mile fence extension would be required along the top of the terrace south of the irrigated west pasture. In general, this alternative should improve the condition of these soils west of the highway, but may impose additional impacts on soils east of the highway. To minimize and mitigate this, reclamation of gullies and adherence to best management practices for grazing and cultivation/irrigation would be required.

**Impacts of Alternative B.** Expansion of the feeding area in the Leavitt-Youga soils northwest of the ranch buildings would impact both soils and vegetation over an additional 5-10 acres. As relatively little grazing would be available under this alternative (98 AUMs between June 15 and August 15), supplemental feeding would be required for 80 head between May 15 and June 15 and for 66 head between September 1 and



October 15, depending on the seasonal productivity and forage availability of the pasture. Improved productivity of the Brush Creek pasture following cultivation, reseeding, and fertilizing could double the amount of allowable grazing in 3-5 years. Soil loss in the feeding area is not likely as long as the stock watering facilities are maintained so as to avoid any overland flow of water.

As all livestock would be wintered outside the park, no winter feeding would be necessary or permitted. Sprinkler irrigation of the Brush Creek field would continue, but should not adversely affect soils as long as contour cultivation practices are followed. A range and pasture management plan would be developed to insure that these activities follow SCS guidelines to protect soils. In general, this alternative would improve the condition of soils east and west of the highway, except the 90 acres used by the concession. Such impacts would be less and far more localized than under Alternative A.

Existing impacts on floodplain soils would be confined to the access road and picnic site, since livestock grazing west of the highway would not be authorized. Reclamation of some horse trails, ditches on both sides of the highway, and the present access road would improve soil conditions over those possible under Alternative A. Adherence to best management practices for grazing and cultivation/irrigation would be required.

Realignment of the access road to a historical approach and elimination of approximately ½-mile of access roads, although in already impacted areas, would create additional impacts. Elimination of excess roads would have a beneficial effect.

This alternative would also require the improvement of site drainage around the guest cabins with intercept drainage to carry water away from the buildings.

**Impacts of Alternative C.** Five hundred seventy nine acres are available for livestock grazing (160 AUMs). Supplemental feeding of 100 head would be needed between May 15 and June 15, and for 30 head between September 1 and October 15 (assuming the remainder of the stock would be on USDA-Forrest Service lands during hunting season). Winter feeding would involve only those animals needed to support winter activities and the remainder would be wintered off the park. No irrigation for pasture or hay crops would be authorized. Expansion of the feeding area in the Leavitt-Youga soils northeast of the ranch buildings would impact soils and vegetation over an additional 5 acres. Soil loss in the feeding area is not likely as long as the stock watering facilities are maintained to avoid any overland flow of water.

A range and pasture management plan would be developed to insure that this activity follows SCS guidelines to protect soils and avoid the potential for adverse impacts to vegetation and soils in areas of steeper soils. Additional fencing may be needed to



protect these areas. Reclamation of some horse trails, ditches on both sides of the highway, and the present access road would improve existing impacted soils and prevent further soil loss there. Existing soil impacts on floodplain soils would be confined to the access road and picnic site since livestock grazing west of the highway would not be authorized.

In general, this alternative would improve the condition of soils west of the highway, but may impose additional impacts east of the highway. However, control of grazing use and reclamation of gullies on the east side should minimize this.

Realignment of the access road to a historical approach, elimination of approximately ½-mile of access roads, rehabilitation of a borrow site, and the addition of facilities, although in already impacted areas, would create few additional impacts to soils. Elimination of excess roads and the use and rehabilitation of a borrow site for float parking and facilities would have a beneficial effect by restoring natural conditions and stabilizing the area.

This alternative would also require the improvement of site drainage around the guest cabins, with intercept drainage to carry water away from the buildings.

**Impacts of Alternative D.** This alternative precludes future impacts to soils. Restoration projects would be necessary to correct past soil erosion in the irrigated fields west of the highway. Soil compaction caused by livestock concentrations would eventually decrease and infiltration rates and aeration would increase over time.

## Wildlife

**General.** The park's 1986 *Resource Management Plan* briefly described the major wildlife features of the park (pages 16 and 17). These include 16 species of fish, 9 species of reptiles and amphibians, over 300 species of birds, and 54 species of mammals. In addition to the spectacular scenery, wildlife diversity and abundance is one of the chief assets and attractions of the park. Not all of these animals were or are found in the Triangle X Ranch area since it includes only a few of the variety of habitats in the park. However, the ranch's central location is within major migration corridors for many species and includes a portion of the Snake River floodplain that is the most productive and varied of all habitats in the park.

**Existing Concession.** Conflicts between livestock and wildlife have been observed since 1954 when concession operations expanded onto the Snake River floodplain (park correspondence/observation). Estimates are that the floodplain provides about 70 percent of the grazing use to the current concession operation. An early report on the progress of the UW study observed that wildlife use of the floodplain across the Snake

River (west of the floodplain pasture) was heavier than total use in the Triangle X floodplain pasture. Fencing affects wildlife movement, particularly that of elk and deer. Considerable damage to wire fences occurs at the ranch and in areas south of the ranch that are also in migration routes. Animals that knock down the fences can be injured and damaged fences contribute to an increase in the number of stray livestock. Bison also use the areas west and north of the ranch and are responsible for considerable damage to fences and often are injured in such encounters. Bison have also been involved in several incidents that resulted in injury or death of Triangle X horses.

A number of articles in the scientific literature have reported displacement of wildlife by livestock on upland grazing allotments, but there are no known reports concerning riparian habitats.

Moose are attracted to winter livestock feeding areas. This has resulted in several being killed by vehicles, particularly when the feeding area was just west of the highway. Since 1979 limited winter feeding (20-25 animals) has occurred northeast of the ranch buildings, which has reduced vehicle collisions with moose. A number of moose are still attracted to the new feeding area however, and additional fencing to keep moose out would be required for future operations. Access to artificial food sources for any wildlife species is an undesirable situation in national parks because animals become dependent on them.

The potential for human conflicts with bears exists. This potential conflict could include injury to visitors and the displacement or destruction of bears. While no bear problems at Triangle X have developed thus far, all activities within the park require compliance with recommendations of the Bear Management Plan and the Interagency Grizzly Bear Management Guidelines. At present, Triangle X operations do not comply with either.

**Impacts of All Alternatives.** All alternatives would result in a net benefit for wildlife species in the park. Benefits to wildlife and riparian wildlife habitat would result from elimination of floodplain use by livestock and implementation of a range and pasture management plan, when updated. This would reduce wildlife conflicts described in the above section. Modifications, relocation, or removal of fences should also benefit some wildlife species by providing managed separation of domestic livestock and wildlife.

All building rehabilitation and construction would occur within the existing developed zone. No additional wildlife impacts are anticipated.

**Impacts of Alternative A.** The construction of a moose-proof fence around the feeding area should result in a reduction of conflicts with moose.

**Impacts of Alternative B.** Direct control of livestock, summer feeding, and elimination of winter feeding would have the most benefit in reducing wildlife conflicts. Realignment of the access road and horse crossing would help reduce the potential for livestock/vehicle accidents by increasing sight distance.

**Impacts of Alternative C.** Livestock fencing and minimized winter feeding would benefit wildlife by reducing conflicts. Relocation of the access road and horse crossing would help reduce the potential for livestock/vehicle accidents by increasing sight distance.

**Impacts of Alternative D.** Alternative D would have the greatest benefit, as the entire area would revert to natural conditions. Conflicts between livestock and wildlife would be eliminated on approximately 1,566 acres.

### Endangered Species

**General.** Based on correspondence with the U.S. Fish and Wildlife Service (5/7/90), four animal species protected by the Endangered Species Act of 1973 inhabit the park. The grizzly bear (*Ursus arctos horribilis*) is listed as threatened and the bald eagle (*Haliaeetus leucocephalus*), whooping crane (*Grus americana*), and peregrine falcon (*Falco peregrinus anatum*) are listed as endangered. There are no known threatened or endangered plant species within the park. The grizzly bear and the bald eagle are the only listed species that are of concern in the area affected by Triangle X concession operations.

Lands used by the concession are outside the designated grizzly bear recovery zone. The concession headquarters is approximately 6 miles from the southwestern edge of the Buffalo/Spread Creek Bear Management Unit. Transient bears have been observed within 5 miles of the ranch in 1990 and 1991. Bear 178 and bear 179, both relocated from Yellowstone National Park to the Glade Creek of John D. Rockefeller, Jr., Memorial Parkway, were seen in the Shadow Mountain area of the Bridger-Teton National Forest in May 1991, and both were observed in June and July in the northern section of the park.

The bald eagle resides year-round along the Snake River within the park. One eagle territory overlays the general area of the concessioner's float trip launch site, cookout, and overnight campsite. The currently active nest is on the west bank of the river, approximately -mile north of the camp and cookout site and ½-mile north of the low water float launch. An inactive (alternate) nest is located on the east side of the river, about 1 mile north of the cookout site.



Bald eagles are sensitive to human disturbance from late winter through summer and areas within ½-mile of active nests are closed to foot traffic in the park. Float trips are required to proceed through the closed area at the same rate as the current in the main channel. The closures are in effect from April 1 through August 15 each year.

Peregrine falcons and whooping cranes migrate from the area by late fall and do not return until late spring, after the end of the winter-use season. 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. Peregrine falcons use the Snake River mainly for periodic overflight. There are no peregrine or whooping crane nests in or near the concession's assigned lands.

A description of procedures being taken to comply with the Endangered Species Act is contained in the "Consultation and Coordination" section of this document.

**Impacts of All Alternatives.** Modification, removal, or addition of facilities would not adversely affect any listed species. All garbage facilities would be brought up to bear-proofing standards, to eliminate grizzly bear conflicts. Implementation of a park roads and trails plan would eliminate parallel trails and reduce overall human disturbance in the riparian area. This action would benefit eagle use in the area. Cessation of grazing on riparian lands and river islands would improve vegetative productivity and could result in greater concentrations of bald eagle prey.

Under Alternatives A and C, the total number of float trips launched or landed at the Triangle X launch site would remain the same as is currently authorized. Under Alternatives B and D, use of this site would be discontinued.

*Based on current indications and actions outlined in the alternatives, the park biologist has determined that these alternatives would have no effect on the bald eagle, peregrine falcon, grizzly bear, or whooping crane.* Pursuant to Section 7 of the Endangered Species Act of 1973, The National Park Service would seek concurrence with the U.S. Fish and Wildlife Service on this finding of no effect.

## **Water Resources**

**General.** The surface and ground waters in the park are of exceptionally high quality. "Area waters are noted for pristine quality and are extremely important to both the natural environment and the regional economies of downstream areas." (RMP, 1986) All surface waters are designated Class I (Ablondi 1978) and meet or exceed these standards. Both the quality and quantity of water in several streams in the park are adversely affected by

diversion and return of irrigation flows. In some cases (for example, Granite Creek and Gros Ventre River) this consumptive use is mostly for private land outside the park that is protected by the park's enabling legislation (Section 1, 64 Stat. 849). In other cases (Spread Creek and Ditch Creek) the water is used on lands inside the park that are mostly owned by the United States. Although generally precluded by NPS policy, the consumptive use of water continues from these streams to meet legislative and contractual commitments. Problems with this continued use include dewatering of natural stream channels, sedimentation from return water due to excessive flows and failure of ditches and irrigation structures (RMP, 1986:48).

**Existing Concession.** Brush Creek and Fee Brush Creek cross park lands assigned to the Triangle X Ranch concession from south to north. These are perennial streams that originate on National Forest lands and discharge into wetlands on the Spread Creek alluvial fan or the Snake River floodplain. There is little evidence that these streams ever flowed directly into the Snake River and both have been extensively modified by irrigation since the early 1900s. Water from Fee Brush Creek irrigates the 28-acre east pasture through a sprinkler system. At one time Brush Creek was used as the original source of irrigation water for 160 acres on both sides of the highway, but was inadequate for the purpose. Brush Creek now provides stock water for Triangle X and the remaining water is intercepted by the supply ditch from Spread Creek (Antler Ditch) and contributes to the flow into the west pasture. A strip of wetlands or subirrigated lands is along the perimeter of the Brush Creek alluvial fan where it overlaps other soils. There are a few seeps within and adjacent to the concession developed area where wetland-like conditions exist. One of these has been developed to provide potable water for the concession and is currently unprotected from livestock and wildlife use.

The 144-acre Triangle X irrigated pasture (formerly haylands) west of the highway obtains water from Spread Creek through the Antler Ditch. This ditch conveys the water some 4½ miles from the point of diversion to the irrigated lands, which include, in addition to Triangle X, the 158-acre Cunningham pasture and 48 acres at the privately owned Moosehead Ranch. A continuing problem is the lack of adequate water to irrigate both the Triangle X and Cunningham pastures. The park is obligated to irrigate the Cunningham pasture to increase forage as part of four grazing permits, which are to continue under Section 4(c) of Public Law 81-787. Because of use of water by Triangle X, irrigation of the Cunningham pasture has been inadequate in recent years. Any continued irrigation of the west Triangle X pasture would require water scheduling and a reduction in use by Moosehead Ranch.

The Antler Ditch has water rights (NPS and Moosehead) totalling 4.48 cubic feet-per-second. The ditch also loses about 50 percent of its flow to percolation between the point of diversion and the areas of use. Increasing capacity of the ditch and diverting



more water would violate Wyoming water laws. Closing the Triangle X portion of the system potentially could reduce present diversions by only one-third. Discontinuing irrigation at the Cunningham pasture cannot be addressed until the present grazing permits expire in 1994. Use of water on the Moosehead Ranch would continue until that property is acquired by the United States. In accordance with NPS policy, the park's objective is to discontinue irrigation as grazing permits expire and as private lands and interests are acquired (*RMP*, 1986:226).

**Impacts of All Alternatives.** None of the alternatives would have measurable or significant adverse impacts on the water quality of the area. The quality of the domestic water for operation of the concession would improve upon completion of work needed to bring the existing water source up to federal standards or discontinued use in Alternative D. Proper management of livestock grazing, implementation of an agriculture and grazing management plan, cultivation practices and water use practices are all important to maintenance of water quality standards.

Depletion of flows in Spread Creek and problems in other pastures would be reduced by eliminating irrigation of the west fields as proposed in Alternatives B, C, and D. A waiver of NPS policy on consumptive water use would be required to continue irrigation as proposed in Alternatives A and B. Alternatives C and D conform to NPS policy in terms of consumptive water use.

## **Wetlands and Floodplains**

**General.** The Soils/Wetlands/Floodplains map (page 50) depicts the wetlands floodplain areas currently used by the concession. These areas are used primarily for grazing and no permanent structures are situated so as to impact these areas.

**Impacts of All Alternatives.** None of the described alternatives proposes development of any new or rehabilitated facilities in wetlands or on the floodplain. The No-Action Alternative would continue use of the overnight camp in the Snake River floodplain and would not meet NPS or park policy. Grazing in jurisdictional wetlands would be eliminated by the elimination of grazing on the floodplain.

## **Air Quality**

**General.** The park has near pristine air quality as defined in the Clean Air Act of 1977 and as such is a mandatory Class I area, where air quality degradation is unacceptable. Smoke and haze from wood-burning stoves and vehicles are sometimes visible in valleys during temperature inversions. Dust is also a problem where unpaved roads and parking areas are heavily used.



**Impact of All Alternatives.** Significant adverse air quality impacts would not occur due to implementation of any of the alternatives. Concession activities and use of assigned lands or discontinuation of use would not change in any appreciable manner the existing air quality in the park or adjacent forest areas. Use of dust palliatives would be required on all dirt or gravel roads and the roads and trails plan would seek to consolidate and define horse trails, reducing fugitive dust. The concession would be subject to all facets of the Clean Air Act and all Wyoming DEQ regulations concerning maintenance of air quality.

**Impacts of Alternative A.** Under this alternative there would be no change from existing conditions. Most activities that tend to create air quality degradation would continue (for example, farming activities, loose trailing of stock, and use of dirt and gravel roads). Effects from construction activities would be minor and short-term.

**Impacts of Alternative B.** This alternative reduces impacts to a minimum. Impacts would initially be greater than those under Alternative A due to construction of the new access route, but would then be reduced because of the elimination of float trips and support facilities for off-park activities and the subsequent reduction in traffic. Reduction in the number of livestock and the amount of loose trailing would also reduce air quality degradation.

**Impacts of Alternative C.** Impacts would be fewer under this alternative than under Alternative A, but greater than under Alternative B. Public access and parking facilities would be upgraded and either constructed or treated in a manner that would reduce dust. Reduction in the number of stock and amount of land used for stock maintenance would decrease fugitive dust. Short-term impacts would be created by the construction of the new facilities, but then would return to a level less than under Alternative A.

**Impacts of Alternative D.** Under this alternative the impacts would be similar to Alternative C should structures be removed or demolished. Long-term fugitive dust would be reduced due to the elimination of the wrangling operations and rehabilitation of dirt roads.

## **CULTURAL RESOURCES**

### **Archeological Resources**

**General.** Grand Teton shares characteristics of the Plateau-Plains Culture areas. The earliest occupations of the park date to the late Paleo-Indian period, and surface materials found around Jackson Lake and Emma Matilda Lake suggest that the first activities began about 10,000 B.P. (before present). The park was probably used on a seasonal basis,

likely from later spring through early autumn, and native plants, particularly blue camas, were important food sources along with hunting and fishing. Sites can be categorized as either "base camps," where a number of activities were undertaken, or "special activity camps," characterized by particular functions. During the protohistoric and early contact period, the Shoshone, Crow, Blackfeet, Gros Ventres, Flathead, and Nes Perce groups may have used the park for purposes similar to prehistoric peoples.

**Existing Concession.** Both large-scale and site-specific surveys have been completed in various areas of Grand Teton. Much work was done by Dr. Gary Wright in the 1970s, supplemented by more recent investigations by the Midwest Archeological Center and the Rocky Mountain Regional Office. The Wright surveys do not meet the requirements of the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. A reconnaissance level survey of the Triangle X complex was completed in 1975 (Wright, 1975) and additional reconnaissance work was done in 1977 (Wright and Marceau, 1977). An intensive survey of the ranch needs to be completed before any ground-disturbing activity can be initiated.

The Triangle X Ranch has been heavily impacted over the years by various development activities and it is unlikely that intact subsurface archeological resources would be found.

**Impacts of Alternative A.** There would be no impact on possible subsurface archeological material since no ground disturbing activity is proposed in this alternative.

**Impacts of Alternatives B and C.** There could be possible impact to unidentified subsurface archeological material. An intensive survey of the proposed development area was completed and no archeological resources were found. If during construction subsurface archeological resources are uncovered, construction would stop and the Wyoming State Historic Preservation Officer (WYSHPO) would be contacted to determine appropriate mitigation. After completion of mitigation, construction would be resumed.

**Impacts of Alternative D.** Impacts stemming from implementation of this alternative would be similar to those under Alternatives B and C, and associated with the removal or demolition of structures and rehabilitation of roads and trails.

## **Historic Resources**

**General.** Jackson Hole was typical of the pattern of western development, as a succession of people attempted to wrest a living from the often inhospitable land. Trappers, farmers and cattle ranchers failed for somewhat different reasons and it was not until residents discovered "dudes" in the 1920s that a viable commercial activity was established.

**Existing Concession.** In 1926 John Turner purchased a 160-acre tract from William Jump, with the intent of farming the land. By the following year, however, Turner had abandoned farming and decided instead to raise cattle and offer meals and lodging to hunters. Turner added to his holdings by purchasing another 160 acres from John Fee, Jr., in 1928. The Triangle X, as the ranch was known, consisted at that time of a lodge building and six cabins capable of housing 20-25 dudes. In 1929 Turner sold the property and all improvements to the Snake River Land Company for \$20,000. In 1930 Turner leased the land and buildings back to continue dude ranch operation. These lands were donated to the United States in 1949 and incorporated into Grand Teton National Park in 1950. The son, John C. Turner, negotiated a concession contract in 1952 continuing the dude ranch.

The property has been surveyed on four different occasions since 1977. Mr. James Muhn of the National Park Service surveyed the site and developed a summary List of Classified Structures report in 1978. He concluded that the Triangle X "has many historic structures from other parts of the area now located there, however, all of the ranch's buildings have lost their integrity and the ranch is not representative of early dude ranching because of the alteration of structures and the influx of new buildings." In 1981, Dr. Sherry Smith of the WYSHPO, completed a inventory and interviewed a member of the family (Harold Turner). Dr. Smith also felt that the property had lost integrity and recommended against nominating it to the National Register of Historic Places. As part of a parkwide survey in 1987-1988, Drs. Carol and Steve Mehls completed an inventory of the property; they concluded that it was not eligible for nomination under the Dude Ranching context because it did not meet the registration requirements.

The only building retaining historic integrity, the one-and-a-half story log barn (HS-707), was constructed in 1928, using logs from a partially constructed homestead barn, believed to be from the John Fee property. Five tiers of logs were replaced during the historic period. It has been in continuous use as a barn at Triangle X since its construction. It is an example of vernacular architecture in Grand Teton and has been recommended to be eligible for listing on the National Register under Criterion C, local significance. The NRHP has concurred with this recommendation.

**Impacts of All Alternatives.** There would be no impact on the barn, HS-707, with implementation of Alternative A, B, or C. The disposition of the barn in Alternative D would be determined in a future planning effort.



## **SOCIOECONOMIC ENVIRONMENT**

### **Local Economy**

**General.** The planning area is within a few miles of Jackson, Wyoming, in Teton County. The long-term impacts and benefits from federal land and the park to the economy of Teton County is significant. The fact that national parks and national forests provide and encourage much of the economic activity in Teton County is undeniable. "The establishment and expansion of Grand Teton National Park (GTNP) is continuing to have a significant economic impact on Teton County. . . there can be no doubt that its presence and management policies are economically significant." (Executive Summary, Analysis of the Long-Term Impacts and Benefits of Grand Teton National Park on the Economy of Teton County, Wyoming, 1982).

Surrounding forest land also has a direct impact on Teton County. The *1990 Final Environmental Impact Statement for the Bridger-Teton National Forest Plan* includes the area in and adjacent to Jackson in the Jackson Human Resource Unit (HRU). An HRU is used to characterize the unique relationships residents of an area have with one another and surrounding land. According to the *EIS*, the town of Jackson serves as the commercial "hub." The majority of the labor force in the area is employed by the tourism industry, and over 2 million visitors come to Jackson each year.

**Existing Concession.** The services the Triangle X concession provides to visitors is a very small part of the tourism base of Jackson Hole. Tourism is seasonal and employment rates fluctuate widely, being highest in the summer, somewhat less in the winter, and lowest in spring and fall. Employee housing is scarce and expensive in the Jackson area.

**Impacts of Alternative A.** Alternative A would have little effect, as basic services would continue. If facilities are brought up to federal and state codes, some revenue would flow to the community through purchase of construction materials and labor.

The discontinuation of grazing in the riparian areas could result in more feed being purchased by the concession, or in acquisition or rental of land outside the park. Numbers of personnel employed, and purchases of food, fuel and supplies to support operations would remain about the same.

**Impacts of Alternative B.** Housing of float trip employees outside the park would increase the demand for seasonal housing, which is already scarce. The relocation of float/fishing operations from the ranch site would have an insignificant effect on the local economy.

Elimination of the Snake River overnight tepee camp would have no effect on the local economy. The discontinuation of grazing in the riparian areas could result in more feed being purchased by the concession or in acquisition or rental of land outside the park. Numbers of personnel employed, and purchases of food, fuel and supplies to support operations would remain about the same.

Rehabilitation of facilities would be less than required under Alternative A, because the numbers of employees to be housed and support facilities would be decreased through elimination of on-site river operations and outfitting activities. There would be no need to winterize facilities.

**Impacts of Alternative C.** Some increase in construction, labor and materials could be expected as facilities would require replacement or rehabilitation, and some could be winterized. Effects of elimination of the overnight camp and grazing in the Snake River Floodplain would be the same as under Alternatives A and B.

Float operations would have a minimal effect on the local economy, as there would be no decrease or increase in the number of daily launches.

The outfitting base would not be on park lands, leaving the possibility that the concession would seek land outside the park to serve this need. Discontinuation of hay production would result in more purchases of hay from other sources. Limited winter feeding of livestock would result in the concession's need to acquire lands for pasturing/feeding outside the park, unless the concession chooses to lease horses on a seasonal basis.

**Impacts of Alternative D.** This alternative would cause the loss of approximately 60 seasonal jobs and 5 permanent jobs in Teton County. Seasonal housing for the 60 employees would also be lost. The impact on the local economy from the loss of the jobs and the housing associated with the jobs would be insignificant.

The dude ranch services provided by the concession are offered throughout the valley but available accommodations could be limited during peak periods. The loss of services would not be a significant impact to the local tourist industry but would represent a loss of approximately 13 percent of the total guest ranch capacity available in the county (Teton County Chamber of Commerce).

### **Visitor Use and Experience**

**General.** Total visitor use (dude ranch and float trips) for the concession represents 0.5 percent of total park use. Total park visitation in 1991 was 2,865,925. Visitors served by float trips staged from the ranch are shown in Figure 2, page 68. Among all visitors

measured in a 1990 survey, dude ranching ranked last in importance for visitor enjoyment as shown in Figure 3, page 69. Visitors are defined as dude ranch guests and the general public using float trip facilities unless otherwise indicated.

**Existing Concession.** The existing concession has a maximum authorized capacity of 80 guests. Occupancy rate varies by season (May through October) and weather patterns, but generally ranges from 50 to 90 percent of capacity.

Existing services and activities include rustic lodging, dining, horseback riding, guided fishing trips, cookouts, wilderness pack trips, big game hunting, square dances, hiking, tours of Grand Teton and Yellowstone National parks, and a variety of float trips on the Snake River.

Visitor experience has generally been satisfactory over the life of the previous concession contract. The appearance of the structures, health and safety requirements, the entry to the Triangle X Ranch, and building functions create some negative impressions for visitors, however. Ranch structures, some with more than two types of siding, and scattered equipment create an unsightly appearance. The main access from Highway 89 has large adjacent impacted areas of denuded vegetation. The existing float operation and entrance to the concession conflicts with ranch activities. Horses cross the highway in areas with limited sight distance.

**Impacts of Alternative A.** No improvement in visitor experience could be expected under this alternative. Existing functional conflicts, the entrance and access, and building appearance would remain unimproved. Health and safety improvements would be required or some facilities would be removed from service, and the overall service to the visitor would decline.

Visitors would be affected should rates be significantly increased to provide additional revenue.

**Impacts of Alternatives B and C.** An improvement in visitor experience could be expected through elimination of conflicting uses and improved ranch appearance. Rerouting the main entrance to the historic access would improve appearance of the ranch entry by bringing visitors through areas with majestic views of the Teton Range to the west. Safety along Highway 89 would also be improved with the relocation of the access and horse crossing to safer areas. Buildings, grounds, and appearance would be improved with structure rehabilitation, defined parking, and equipment storage areas. Accessibility for persons with disabilities would be improved with the addition of defined handicap parking close to guest cabins and the main lodge facility. The overall effect on



visitor experience resulting from closing the overnight camp in the Snake River floodplain would be minimal since the camp can accommodate only about 250 people a year.

For Alternative B, conflicting uses of float and ranch operations would be resolved with the relocation of float operations to an off-site area. Visitor-use patterns would change since float trip visitor use would originate outside the park. The dude ranch guest experience would be heightened because of the elimination of transient traffic associated with floating operations.

Under Alternative C, conflicts between float and ranch operations would be resolved with the relocation of float operations to a borrow site adjacent to the new ranch access road. The addition of a barn/activity building would enhance visitor experience and opportunities to participate in activities such as square dancing. The effects of relocated ranch and float parking areas would be minimized through the placement of new structures to block these areas from direct visitor view. Visitor-use patterns would not change, but there would be an opportunity to expand visitor use into the winter season.

**Impacts of Alternative D.** Alternative D would cause the loss of the opportunity to stay in the only dude ranch concession in a national park. Five other dude and guest ranches are authorized to provide horseback riding, floating, and so forth, in the park. These ranches also provide the same or similar accommodations and services but are outside the park.

## **Visual Resources**

The primary visual resources associated with the concession area are the Teton Range and the Snake River as viewed from the ranch, and the ranch as viewed from Highway 89. Currently, the view of the Teton Range is impacted by the highway and traffic use. The view of the ranch is impacted by the wide ranch access road and the school bus turn-around located at the entrance gate.

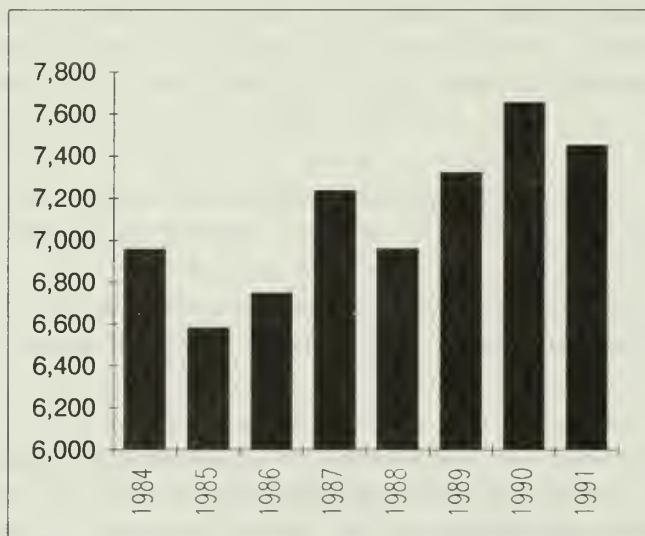
Within the developed area there is no continuity of architecture and some buildings have more than two types of siding. During the summer season, the public float trip parking, scattered equipment, and discarded materials intrude upon the dude ranch scene as guest enter the area. The main access from Highway 89 has large areas of denuded vegetation as a result of horseback riding and loose herding of stock.

**Impacts of Alternative A.** No improvement in visual resource values would occur. The existing parking and non-uniform architecture would remain.

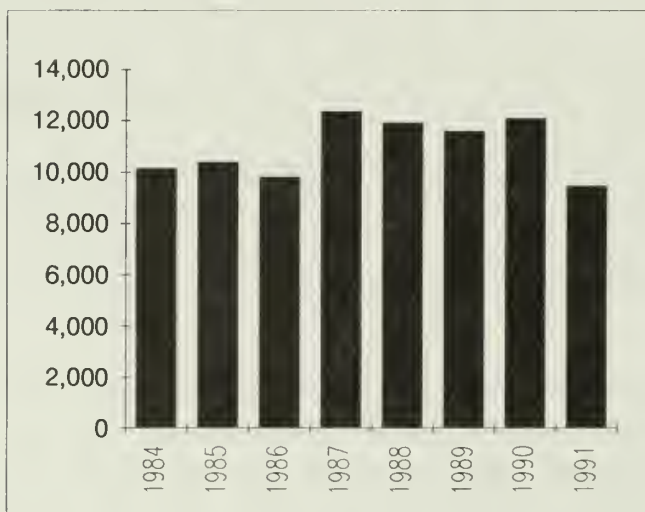
**Impacts of Alternatives B and C.** Under these alternatives, the change from the primary Highway 89 access to the historic access would enhance the view of the ranch from the highway through the removal the existing access and float parking. These alternatives also provide for a uniform architectural theme, eliminating the disorderly appearance of the ranch architecture.

Under Alternative C, the new guest parking area would be screened from view of park visitors from Highway 89. The relocation of the public float trip parking to the borrow pit site would enhance ranch appearance since this site is screened from the main highway and by reclaiming previously disturbed land. The float parking area would also be screened largely from view of guests by placement of float office between the new access road and float parking area.

**Impacts of Alternative D.** The elimination of the roads, buildings, fences, and other structures would improve the visual character of the natural environment. The loss of the "dude ranch scene" is not considered significant as the privately owned Moosehead Ranch is in the immediate area and grazes horses.



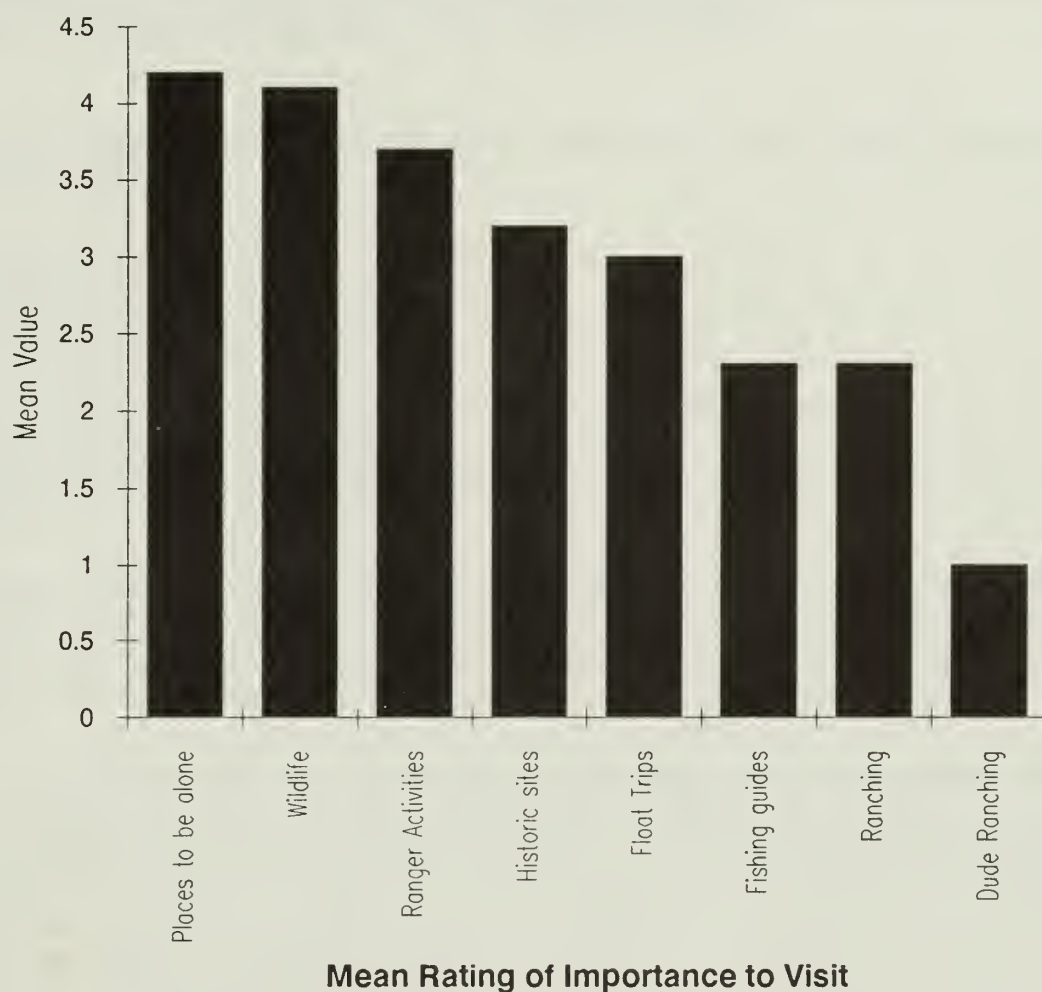
**Figure 1 - Triangle X  
Guest Ranch Use**



**Figure 2 - Triangle X  
Float Trip Visitor Use**



**Figure 3 -- Survey /Importance to Visitor Enjoyment**



Note: A survey was conducted to assist in planning and research over a 5-day period in late July of 1990 by the Cooperative Park Studies Unit, City University of New York Graduate School. Visitors were contacted at random at landings along the Snake River, at the Gros Ventre campground, the Moose Visitor Center and Jenny Lake. The survey included many questions on visitor demographics, attitudes, and activities in the park. The above graph represents the information received for Q34L: Importance for Teton Enjoyment. On a scale of 1 to 5, 5 being the highest. Two hundred and forty one (241) questionnaires were returned and used in the sample.



## CONSULTATION AND COORDINATION

### CONSULTATION AND COORDINATION IN THE PREPARATION OF THE DRAFT PLAN/ENVIRONMENTAL ASSESSMENT

During the preparation of this document the National Park Service consulted with the following agencies:

- Advisory Council on Historic Preservation
- Harpers Ferry Center
- Midwest Archeological Center
- U.S. Army Corps of Engineers
- USDA-Forest Service, Bridger-Teton National Forest
- U.S. Fish and Wildlife Service
- Wyoming Game and Fish Department
- Wyoming State Historic Preservation Officer

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

The National Park Service consulted with the Wyoming Historic Preservation Officer and the Advisory Council on Historic Preservation in preparation of this plan, pursuant to the Service-wide Programmatic Agreement (1990). In a meeting with the WYSHPO held on November 5, 1990, the NPS agreed to provide additional information about specific structures to correct inconsistencies in the inventory forms prepared by the Mehls. In November 1991, the NPS conducted a survey of the property, including additional research. The NPS has prepared a Determination of Eligibility for Triangle X and submitted it to the Keeper of the National Register. The property has been evaluated under the Dude Ranch context and determined not eligible for listing; NPS has also evaluated all the buildings under a revised vernacular architecture context and determined that HS-707, barn, is eligible under this context. On January 3, 1992, the National Register of Historic Places concurred with this recommendation and that the other properties evaluated were not eligible for listing.

Public involvement for initial identification of issues related to the Triangle X plan took place during the *East Corridor Management Plan (MP)* planning process. Under the *East Corridor MP*, the public involvement included news releases and brochures describing the



planning project and soliciting public input. A scoping brochure was released in May of 1990 for a 30-day comment period to identify initial issues. Workshops were held with the general public, concessioners, legislated grazing permittees and local, state and federal government agencies. Eighty percent of the 311 responses received related to the Triangle X concession. In response to these public concerns and because of the imminent expiration of the concession contract and limited manpower/funding availability, efforts were focused on the immediate East Corridor issues affecting the Triangle X concession. These issues are being addressed through the preparation of this comprehensive *Concession Management Plan*. Except for the Triangle X area issues, the East Corridor plan was postponed.

In October 1991, over 600 copies of an alternatives brochure listing preliminary alternatives to address Triangle X issues were distributed to interested parties for a 30-day public review. In response to public concern, the comment period was extended 15 days to December 15, 1991.

Approximately 400 responses were received during the public review period. The majority supported a plan that would comply with regulations and policies while continuing dude ranch services. Many respondents identified themselves as past guests of Triangle X and supported continuation of the concession with no changes.

Responses were used to determine whether a full range of preliminary alternatives had been considered and to develop alternatives presented in this draft plan.

A private firm, The Raybol Corporation, was contracted by the NPS to analyze the adequacy of the general range of preliminary alternatives prepared for the *Triangle X Ranch Concession Management Plan and EA* and to provide a summary of any recommendations related to the range of alternatives. Three recommendations were received:

- 1) "The alternative designated NO ACTION should be explained in order to make it clear why the no-action alternative does change the current existing facilities."

**Response:** See #2 below.

- 2) "In order to clarify the alternative selection process, it is a recommendation that the NPS could include a narrative describing the planning process which was used to arrive at the alternatives included in the study."

**Response:** The purpose of concessions planning is to guide and control the establishment and administration of commercial visitor services and facilities within a

park area. In order to provide quality services at reasonable rates, concessions planning must be fully integrated into the National Park Service planning and decision-making process as it is implemented at all levels.

Concessions operations within a park must be viewed as a tool of management to be used to achieve the objective of that park. These objectives, and the actions taken to meet them, grow out of the overall park planning process and should be based on considerations such as visitor needs, the agency's ability to satisfy those needs, the resource itself and its carrying capacity. It is incumbent upon the NPS to recognize legal and contractual obligations to the concessioner in order that he/she may have an opportunity to realize a reasonable return on investment. Without a reasonable margin of profit, visitor needs and services would be substantially compromised. As park objectives change, a corresponding revision in the concessions management program should occur to complement those objectives.

The definition of the specific alternatives in a planning effort is an individual park matter depending upon the principal managerial and environmental issues. However, the planning process must address three classes of alternatives for the issues being considered. These are:

- no action (may be called continuation of existing conditions)
- minimum requirements
- a full range of other reasonable alternatives

Innovative, practical, and truly *cost-effective* solutions to the issues are to be contained in the proposal and the alternatives. Sufficient data and analysis here, as elsewhere throughout the plan, are required so that well-informed decisions can be made.

In order that alternatives reflect the issues, conditions, and needs, it is essential to begin from the ground up with the "no-action" alternative to determine the impacts of continuing the present course of action. The minimum requirements and other reasonable alternatives should flow out of this analysis. Normally, the no-action alternative will not be the Park Service's proposal. Its purpose is to indicate the impacts and consequences of continuing the present course of action.

The minimum requirements alternative reflects a balanced planning judgment of the necessary level and method of providing for the effective operation of the park, considering necessary periodic replacement or rehabilitation of facilities, necessary new developments, staffing requirements, health and safety requirements, and

resource protection. It may contain proposals for closure and/or removal of facilities, reduction of services, seasonal operations, and changes in size. It may propose such things as leasing of historic properties, contracting for certain park operations, and other cost-effective management innovations consistent with law, policy, and park purpose.

Other *reasonable* alternatives should address actions, consistent with laws and Park Service policy, necessary to meet park objectives for visitor use and resource protection, including additional actions for access, circulation, interpretation, accommodations, visitor use, park administration, and resource management and protection. These alternatives should not simply be additive but should consider, where reasonable, distinct management approaches.

- 3) "It is a recommendation to the NPS that they evaluate the validity of developing an alternative which allows the current access road to Triangle X Ranch to be modified to maintain the primary access to Triangle X Ranch from U.S. Highway 89."

**Response:** This draft plan presents a full range of possible alternatives. As no proposal has yet been selected, such an adjustment of the existing access road could be considered.



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