

# **AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

## **OVERVIEW**

This section contains the scientific and analytical foundation for comparison of the effects (the word “effect” is used interchangeably with “impact”) of the alternatives, where the alternatives are designed to define issues and provide a clear basis of choice. Described are the possible impacts of each alternative on the natural, cultural, and social environments, in accordance with the impact topics identified in the Purpose and Need sections. For each impact topic this section first explains the affected environment and then the methodology used for impact analysis.

## **METHODOLOGY**

For each alternative, the analysis discloses direct, indirect, and cumulative environmental effects for the resource impact topics including effects on the human environment. The analysis includes a description of whether effects are beneficial or adverse and short- or long- term. Because definitions of intensity (negligible, minor, moderate, or major) vary by impact topic, intensity definitions are provided separately for each impact topic analyzed in this environmental assessment/assessment of effect. Refer to Table 3 on page 37 for a summary comparison of impacts of the alternatives.

The National Park Service Intermountain Region has established guidance in the form of sample methodologies and impact threshold definitions used throughout the Intermountain Region. This guidance serves to provide general definitions for a range of impacts as they relate to various resource topics. Each individual park unit is encouraged to use this guidance, but to tailor them so that they are applicable to the specific characteristics of the unit’s resources and environment. In most cases, the impact threshold definitions used in this analysis were derived from this guidance and modified slightly by park professionals with field expertise in each of the resource topic fields. Best professional judgment is applied based on personal knowledge of the resource and experience in the field.

## **IMPACTS TO CULTURAL RESOURCES AND §106 OF THE NATIONAL HISTORIC PRESERVATION ACT**

In this environmental assessment/assessment of effect, impacts to cultural resources are described in terms of type, context, and intensity, which is consistent with the regulations of the Council on Environmental Quality (CEQ) that implement the National Environmental Policy Act (NEPA). These impact analyses are intended, however, to comply with the requirements of both NEPA and §106 of the National Historic Preservation Act (NHPA). In accordance with the Advisory Council on Historic Preservation's regulations implementing §106 of the NHPA (36 CFR Part 800, Protection of Historic Properties), impacts to archaeological resources, historic structures, and cultural landscapes were identified and evaluated by (1) determining the area of potential effects; (2) identifying cultural resources present in the area of potential effects that were either listed in or eligible to be listed in the National Register of Historic Places; (3) applying the criteria of adverse effect to affected cultural resources either listed in or eligible to be listed in the National Register; and (4) considering ways to avoid, minimize, or mitigate adverse effects.

Under the Advisory Council's regulations a determination of either adverse effect or no adverse

effect must also be made for affected National Register eligible cultural resources. An adverse effect occurs whenever an impact alters, directly or indirectly, any characteristic of a cultural resource that qualify it for inclusion in the National Register (e.g. diminishing the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association). Adverse effects also include reasonably foreseeable effects caused by the preferred alternative that would occur later in time, be farther removed in distance or be cumulative (36 CFR Part 800.5, Assessment of Adverse Effects). A determination of no adverse effect means there is an effect, but the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion in the National Register. If there are no impacts to cultural resources, the determination is no historic properties affected.

CEQ regulations and the National Park Service's *Conservation Planning, Environmental Impact Analysis and Decision-making* (Director's Order #12) also call for a discussion of the appropriateness of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of a potential impact, e.g. reducing the intensity of an impact from major to moderate or minor. Any resultant reduction in intensity of impact due to mitigation, however, is an estimate of the effectiveness of mitigation under NEPA only. It does not suggest that the level of effect as defined by §106 is similarly reduced. Although adverse effects under §106 may be mitigated, the effect remains adverse.

A §106 summary is included after the conclusion section for archaeological resources and historic structures and cultural landscapes under the preferred alternative (Alternative 3). A detailed description of the proposed project in the preferred alternatives is provided in Appendix G. The §106 summary and detailed description are intended to meet the requirements of §106 and is an assessment of the effect of the undertaking (implementation of the alternative) on cultural resources, based upon the criterion of effect and criteria of adverse effect found in the Advisory Council's regulations.

## CUMULATIVE IMPACT SCENARIO

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts are considered for all alternatives.

Figure 2 on page 5 outlines the general area used to assess cumulative effects to archaeological resources, vegetation, park operations, and visitor use and experience. In general, the area is bordered on the east by the Snake River, on the north by the Beaver Creek area, on the west by the top of the mountains, and on the south by Teton Village. Although the cumulative effect analysis area changes depending on the resource topic, this is generally the overall affected area. White Grass Ranch project effects to archaeological resources, vegetation, park operations, and visitor use and experience would generally not extend beyond this area or would have no cumulative effect in relation to the rest of the park.

The entire park and even beyond was used as the area to assess cumulative effects to historic structures and cultural landscapes, wildlife, and wilderness. These resources have boundaries that extend throughout the park in such a matter that the effects at White Grass Ranch could potentially have a cumulative affect on these resources throughout the park. Cumulative effects are generally scaled to the individual species and it is smaller than area that encompasses all the projects outlined below.

Cumulative impacts were determined by combining the impacts of each alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects that may affect the White Grass Ranch area. Projects within GTNP with potential impacts to the White Grass Ranch area include the rehabilitation and adaptive use of the Murie Center, construction of a new visitor center at Moose, acquisition of the JY Ranch, and the planned expansion of Teton Village. In addition, the NPS is engaged in planning efforts regarding fire management and fuel reduction projects, transportation, and the management of elk and bison. The transportation plan will address administrative actions over the next 5- 10 years that could be applied to the Moose- Wilson Road to pilot study different management actions. These studies will provide data to help the upcoming General Management Plan (GMP) address more permanent solutions for the Moose-Wilson Road corridor.

The Death Canyon Road passes near the project site and is used to access the White Grass Ranch area. As part of previously scheduled routine maintenance, the Death Canyon Road will be grading and gravel will be added to stabilize the road. All work will occur within the existing road prism using heavy equipment to grade the road and stabilize the surface and drainage. The work will require the removal of approximately 35 trees that are over 6” in diameter and several over- hanging limbs immediately adjacent to the road in order to gain access for the heavy equipment required to conduct the road improvements. Improving this entire road to the trailhead may increase visitation beyond the capacity of the trailhead parking lot, therefore only 0.8 mile beyond the pavement will be improved in order to allow traffic to progress to a turn-around point, if they do not desire to travel the remaining distance of road to the trailhead parking lot. Signs will be posted warning visitors that the remaining portion of the road is a 4WD road experience. This work is required and is categorically excluded under NEPA and will occur whether any action occurs at White Grass Ranch or not. The entire Death Canyon Road will be addressed in the upcoming General Management Plan (GMP) scoping to address the entire range of management options for this corridor.

Sky Ranch is located approximately one mile north of White Grass Ranch. Sky Ranch is scheduled to be transferred to the park in 2005. Although there are currently no future plans for this area, Sky Ranch was built in the early 1950s and will be evaluated for to determine if it is eligible for listing in the National Register for Historic Places.

## **IMPAIRMENT OF PARK RESOURCES OR VALUES**

The National Park Service’s *Management Policies 2001* requires analysis of potential effects to determine whether or not actions would impair park resources. The fundamental purpose of the National Park System, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values. However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the National Park Service the management discretion to allow certain impacts within the park, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values. An impact to any park resource or value may constitute an impairment, but an impact

would be more likely to constitute an impairment to the extent that it has a major or significant adverse effect upon a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- key to the natural or cultural integrity of the park; or
- identified as a goal in the park’s general management plan or other relevant NPS planning documents.

Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. A determination on impairment is made in the Environmental Consequences section for archaeological resources, historic structures and cultural landscapes, vegetation, wilderness, and wildlife (including threatened and endangered species).

## ARCHAEOLOGICAL RESOURCES

### AFFECTED ENVIRONMENT

Paul Sanders and a crew from the Office of the Wyoming State Archaeologist inventoried the White Grass Ranch area in 2001, yielding the report titled, “A Class III Cultural Resource Inventory of the White Grass Ranch Mechanical Fuels Treatment Project Area, Grand Teton National Park, Teton County, Wyoming” (2002). This forty- four acre inventory encompasses the planned location for the proposed project. One prehistoric site was located as a result of this inventory. However, it is located well outside the proposed project area, and no additional cultural resources were located in this survey.

### METHODOLOGY

Archaeological resources have the potential to answer, in whole or in part, important research questions about human history. In order for an archaeological resource to be eligible for the National Register of Historic Places, it must meet one or more of the following criteria of significance: A) associated with events that have made a significant contribution to the broad patterns of our history; B) associated with the lives of persons significant in our past; C) embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; D) have yielded, or may be likely to yield, information important in prehistory or history. In addition, the archaeological resource must possess integrity of location, design, setting, materials, workmanship, feeling, association (*National Register Bulletin #15, How to Apply the National Register Criteria for Evaluation, revised*) (NPS 2002c). For purposes of analyzing impacts to archaeological resources either listed in or eligible to be listed in the National Register, the thresholds of change for intensity of an impact are defined below. For the purposes of NEPA analysis, “negligible.” is equated with “no effect”.

*Negligible:* No effect to archaeological resources. The National Historic Preservation Act §106 determination of effect would be **no archaeological resources affected**.

*Minor:* **Adverse impact** — disturbance of a site(s) results in little, if any, loss of integrity. The determination of effect for §106 would be **no adverse effect**.

**Beneficial impact** — maintenance and preservation of a site(s). The determination of effect for §106 would be **no adverse effect**.

*Moderate:* **Adverse impact** — disturbance of a site(s) results in loss of integrity. The determination of effect for §106 would be **adverse effect**. A memorandum of agreement (MOA) is executed among the National Park Service and applicable

state or tribal historic preservation officer and, if necessary, the Advisory Council on Historic Preservation in accordance with 36 CFR Part 800.6(b). Measures identified in the MOA to minimize or mitigate adverse impacts reduce the intensity of impact under NEPA from major to moderate.

**Beneficial impact** — stabilization of a site(s). The determination of effect for §106 would be **no adverse effect**.

*Major:*

**Adverse impact** — disturbance of a site(s) results in loss of integrity. The determination of effect for §106 would be **adverse effect**. Measures to minimize or mitigate adverse impacts cannot be agreed upon and the National Park Service and applicable state or tribal historic preservation officer and/or Advisory Council are unable to negotiate and execute a memorandum of agreement in accordance with 36 CFR Part 800.6(b).

**Beneficial impact** — active intervention to preserve a site(s). The determination of effect for §106 would be **no adverse effect**.

**REGULATIONS AND POLICIES**

Current laws and policies require that the following conditions be achieved in the park:

Desired Condition	Source
Archaeological sites are identified and inventoried, and their significance is determined and documented. Archaeological sites are protected in an undisturbed condition unless it is determined through formal processes that disturbance or natural deterioration is unavoidable. In those cases where disturbance or deterioration is unavoidable, the site is professionally documented and salvaged.	<i>National Historic Preservation Act; Executive Order 11593; Archeological and Historic Preservation Act; Archeological Resources Protection Act; the Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation; Programmatic MOA Among the NPS, Advisory Council on Historic Preservation, and the National Council of State Historic Preservation Officers (1995); NPS Management Policies 2001</i>

**IMPACTS OF ALTERNATIVE 1 (NO- ACTION)**

**Impact Analysis**

The no- action alternative would have no effect, or no adverse effect, to archaeological resources because no construction would occur and there are no known archaeological sites around the historic buildings that would be minimally stabilized.

**Cumulative Impacts**

Archaeological resources at Grand Teton National Park are subject to damage from vandalism, visitor access, and natural processes. Past development in the park has resulted in the disturbance and loss of some archaeological resources during excavation and construction activities. Reasonably foreseeable future actions under the no- action alternative would not disturb archaeological resources.

**Conclusion**

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation and

proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's archaeological resources or values.

#### **IMPACTS OF ALTERNATIVE 2 (MINIMUM BASIC FUNCTIONS)**

##### **Impact Analysis**

Seasonal day use in the White Grass Ranch area with rehabilitation and stabilization of buildings, including minimal infrastructure at the training center, would not impact archaeological resources because none have been identified in the proposed project location. Minimal ground disturbance would occur with the relocation of the JY hay shed and construction of the well house, spur road, and parking area; however, ground disturbance would be monitored. Therefore, Alternative 2 would have no effect, or no adverse effect, to archaeological resources.

##### **Cumulative Impacts**

Cumulative impacts are the same as Alternative 1. Archaeological resources at Grand Teton National Park are subject to damage from vandalism, visitor access, and natural processes. Past development in the park has resulted in the disturbance and loss of some archaeological resources during excavation and construction activities. Reasonably foreseeable future actions under Alternative 2 would not disturb archaeological resources.

##### **Conclusion**

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation and proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's archaeological resources or values.

#### **IMPACTS OF ALTERNATIVE 3 (PHASED DEVELOPMENT - PREFERRED ALTERNATIVE)**

##### **Impact Analysis**

The phased development proposed under the preferred alternative would not impact archaeological resources because none have been identified in the proposed project location. Minimal ground disturbance would occur with the relocation of the JY hay shed, the rehabilitation and stabilization of existing buildings, the construction of the well house, pole and rail fence, spur road, and parking area, and installation of utilities; however, ground disturbance would be monitored. Therefore, Alternative 3 would have no effect, or no adverse effect, to archaeological resources.

##### **Cumulative Impacts**

Cumulative impacts are the same as Alternatives 1 and 2. Archaeological resources at Grand Teton National Park are subject to damage from vandalism, visitor access, and natural processes. Past development in the park has resulted in the disturbance and loss of some archaeological resources during excavation and construction activities. Reasonably foreseeable future actions under the preferred alternative would not disturb archaeological resources.

## Conclusion

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation and proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's archaeological resources or values.

## §106 SUMMARY

The 2001 inventory of White Grass Ranch did not reveal any archaeological resources within the proposed project area. Therefore, after applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR Part 800.5, Assessment of Adverse Effects), the National Park Service determines that there would be *no historic properties affected* by the undertakings in the preferred alternative.

To minimize any potential disturbance of unknown archaeological resources, the park's archaeologist would monitor all ground disturbance. If during construction previously undiscovered archaeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed, if necessary, in consultation with the Wyoming State Historic Preservation Office (SHPO). In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 would be followed.

If significant archaeological resources (i.e. those that are eligible to be listed in the National Register of Historic Places) or human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, all items would be left in situ until SHPO and the appropriate tribes are consulted. Archaeological resources determined ineligible for listing in the National Register would be recovered, documented, and recorded before work would proceed.

## IMPACTS OF ALTERNATIVE 4 (COMPLETE BUILD- OUT)

### Impact Analysis

The complete and immediate rehabilitation of all thirteen historic structures proposed under this alternative would not impact archaeological resources because none have been identified in the proposed project location. Minimal ground disturbance would occur with the relocation of the JY hay shed, the construction of a barn, well house, fencing, and parking area, the rehabilitation of existing buildings, and installation of utilities; however, ground disturbance would be monitored. Therefore, Alternative 4 would have no effect, or no adverse effect, to archaeological resources.

### Cumulative Impacts

Cumulative impacts are the same as Alternatives 1, 2, and 3. Archaeological resources at Grand Teton National Park are subject to damage from vandalism, visitor access, and natural processes. Past development in the park has resulted in the disturbance and loss of some archaeological resources during excavation and construction activities. Reasonably foreseeable future actions under Alternative 4 would not disturb archaeological resources.

## Conclusion

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation and proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's archaeological resources or values.

## HISTORIC STRUCTURES AND CULTURAL LANDSCAPE

### AFFECTED ENVIRONMENT

For the purposes of cultural resource management, historic structures and cultural landscapes are not treated as resources independent of each other. Instead historic structures and cultural landscape features (please see below) are seen as components of a larger entity such as a historic site or district when such sites or districts are considered eligible for listing in the National Register of Historic Places.

Additionally, for purposes of cultural resource management, under §110 of the National Historic Preservation Act, the NPS must identify, evaluate, and nominate cultural resources (i.e. historic structures and cultural landscape features) to the National Register of Historic Places. In the case of White Grass Ranch, the historic structures have been identified, evaluated, and nominated to the National Register as the White Grass Dude Ranch Historic District (please see below). Eligible or contributing cultural landscape features were not identified in the historic district at the time the original National Register nomination was completed. To meet the park's obligations under §110 for the purposes of the proposed project, eligible cultural landscape features have been identified and evaluated below to aid in the analysis for both NEPA and §106.

### Historic Structures

The White Grass Ranch is the third oldest dude ranch in the Jackson Hole valley. The White Grass Dude Ranch Historic District (48TE1138) was listed in the National Register of Historic Places in April 1990. The historic district is considered historically significant under criterion A of the National Register for its association with the dude ranching industry. It is significant because, as a dude ranch, it helped define and set the standards for the Jackson Hole dude ranching industry. The ranch got its start raising cattle in 1913, had a heyday as a dude ranch from the 1930s through the 1950s, and remained open as a dude ranch until 1985. In 1956, all but a few acres of the original 320-acre ranch were sold to the National Park Service for \$165,000 and a life estate. The land and buildings transferred to the NPS in 1985 when the owner Frank Galey died. Additionally, the historic district exemplifies the local development of dude ranches from cattle ranches, and it represents the response of settlers to construct rustic log buildings in a natural environment. The property has thirteen contributing buildings including the main cabin, the Hammond cabin, a shower/laundry building (historic use), and ten guest cabins. Further information regarding the history of White Grass Ranch may be found in *A Place Called Jackson Hole: The Historic Resource Study of Grand Teton National Park* (Daugherty 1999).

### Cultural Landscape

For purposes of meeting the park's obligations under §110 of the National Historic Preservation Act, cultural landscape features at White Grass Ranch are identified and evaluated below. This evaluation will help determine what impacts, if any, there will be to the cultural landscape features at White Grass Ranch. The evaluation format used here is defined in *National Register*

*Bulletin #30, Guidelines for Evaluation and Documenting Rural Historic Landscapes (NPS 1999).*

## **Land Use and Activities**

When examining land use and activities, the original 320- acre ranch was evaluated. The 320- acres contain minimal tangible features related to the use of the land as a dude ranch. The southwestern corner of the landscape consists of the main cabin, Hammond cabin, shower/laundry building, and ten guest cabins arranged in an oval shape oriented from north to south. The historic buildings represent the guest accommodations portion of the dude ranch. The land north and east of the buildings consists of the sagebrush- free pasture where horses once grazed. With the exception of the pasture, the landscape features that defined where the horses were kept and tended to are no longer extant, including the barn, buck and rail fencing, corral and gates, post and rail fencing, and cattle guards. In addition, other significant landscape features that once characterized the land use as a dude ranch are no longer extant including the wire fencing, generator room, cook's cabin, spring house, ice house, bachelor cabins (quarters for male employees), shop, two garages, Galey house (owner/operator of the dude ranch), chicken house, pig house, catchment water system, manmade pond, swimming pool, and log entry. The irrigation ditches that once flooded the large, sage- free pasture north and east of the buildings remain only as slight, grass- filled depressions. Two of the three access roads that originate off of Death Canyon Road in the southeastern section of the property have naturally revegetated with lodgepole pines and other plants, while the third, or secondary road, is still accessible. The main road that ranch employees and guests used is one that has revegetated.

The ditches and the revegetated roads do not retain integrity of workmanship or design due to neglect, weathering, and overgrowth. The park believes the remaining sagebrush- free pasture north and east of the buildings and the clear, secondary White Grass road are contributing components and should be included in the historic district.

## **Patterns of Spatial Organization**

The secondary White Grass Ranch road, which cuts through the southern section of the landscape, provides access directly to the ranch. Once up to the buildings, the dirt road divides and goes through the center of the oval- shaped building complex and cuts in front of the main cabin and Hammond cabin on the east side before it blends into the sagebrush on the north end of the building complex. Social trails between the buildings are also slightly visible, but mostly revegetated. Lodgepole pines, aspens, grasses, and non- native plants exist around the buildings. Trees and other vegetation do not obstruct the views of the pasture and mountains on the east side of Jackson Hole valley. The lack of fencing around the complex (approximately thirty acres) makes it difficult to delineate the separation between human and horse activity.

## **Response to the Natural Environment**

The White Grass Ranch is situated at the base of Buck Mountain with minimal views of the Teton Range to the west due to the close proximity to the mountains, and uninterrupted views of the mountains on the east side of the valley including Sleeping Indian and Jackson Peak. The original White Grass Ranch homesteaders, George Tucker Bispham and Harold Hammond, choose this location because of the natural meadow. Originally the owners cleared sagebrush from the meadow to graze their cattle. After only a few years of raising cattle, Bispham and Hammond started a dude ranch operation and began using the pasture for horses, too. The pasture has been clear for approximately eighty- five years. Bispham, Hammond, and subsequent owners used lodgepole pines from the surrounding forest to construct log buildings to support their operations. The remaining buildings are tucked up against the forest on the west side of the property leaving the pasture free of structures.

## **Cultural Traditions**

The establishment of dude ranches in the Jackson Hole valley started in the early 1900s. Dude ranches were a significant part of the tourist industry in Jackson Hole from the 1910s through the 1950s when auto camps and hotels became popular. Many dude ranches were established as a result of homesteaders not making enough money from raising cattle and crops and so they decided to raise "dudes" instead. A typical dude ranch used nearby materials to construct buildings without the aid of an architect to design the structures.

## **Circulation Networks**

The White Grass Dude Ranch Historic District is situated within the boundaries of Grand Teton National Park. The property is accessible from Jackson by heading north on Highway 26/89/191, turning left at Moose Junction onto Teton Park Road, turning left onto Moose- Wilson Road, turning right onto Death Canyon Road, and driving approximately one mile west until White Grass Ranch appears on the right. The secondary White Grass dirt road is accessible through a locked gate approximately three- quarters of a mile up Death Canyon Road. Lack of use has resulted in the revegetation of social pathways and two of the historic roads on the property, which diminishes the clear understanding of spatial use of the dude ranch.

## **Boundary Demarcations**

Fences that once clearly demarcated the dude ranch are no longer extant. As it exists today, Death Canyon Road on the south, and the pasture to the north and east serve as partial boundary demarcations of the property. Distinguishing between what was once the dude ranch and what is the natural environment is challenging in its current state, especially on the west side of the property.

## **Vegetation Related to Land Use**

Vegetation includes stands of lodgepole pine, quaking aspen, subalpine fir, sagebrush, exotic and native grasses, and exotic and native forbs.

## **Buildings, Structures, and Objects**

The White Grass Ranch consists of the main cabin, Hammond cabin, shower/laundry building, and ten guest cabins. All thirteen buildings are contributing to the historic district which was listed in the National Register of Historic Places in April 1990. Also on the property, but outside of the historic district, is a small cemetery with three markers or headstones.

## **Clusters**

White Grass Ranch includes a cluster of thirteen buildings, and it lacks significant cultural landscape features, especially fencing, to clearly delineate the old dude ranch operations from the surrounding natural environment.

## **Small- Scale Elements**

The White Grass Ranch landscape is void of small- scale elements.

## **Landscape Conclusion**

The park believes the White Grass Dude Ranch cultural landscape retains no integrity of

workmanship, design, association, or feeling because of the deterioration, revegetation, and removal of a majority of the landscape features that would have contributed to the understanding of the dude ranch landscape. However, the park feels the main White Grass road and the pasture are contributing elements and should be included in the historic district. Therefore, the National Register nomination should be amended to include these two landscape features. The park will consult with the SHPO regarding the eligibility of the pasture and road, and the amendment to the National Register nomination. Formal documentation and consultation with the SHPO will occur regarding the White Grass Ranch landscape features prior to any federal actions.

## METHODOLOGY

In order for a structure, building, site, or landscape to be listed in the National Register of Historic Places, it must meet one or more of the following criteria of significance: A) associated with events that have made a significant contribution to the broad patterns of our history; B) associated with the lives of persons significant in our past; C) embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; D) have yielded, or may be likely to yield, information important in prehistory or history. In addition, the structure, building, site, or landscape must possess integrity of location, design, setting, materials, workmanship, feeling, association (*National Register Bulletin #15, How to Apply the National Register Criteria for Evaluation*) (NPS 2002c). A landscape must also have integrity of those patterns and features, land uses and activities, patterns of special organization, response to the natural environment, cultural traditions, circulation networks, boundary demarcations, vegetation related to land use, clusters, small scale elements, and buildings, structures, and objects necessary to convey its significance (*National Register Bulletin #30, Guidelines for Evaluating and Documenting Rural Historic Landscapes*) (NPS 1999). For purposes of analyzing potential impacts to historic structures and cultural landscape features, the thresholds of change for the intensity of an impact are defined as follows:

- Negligible:* Impact(s) is at the lowest levels of detection - barely perceptible and not measurable. For purposes of §106 of the National Historic Preservation Act, the determination of effect would be **no adverse effect**.
- Minor:* **Adverse:** alteration of a feature(s) of the historic structures or alteration of a pattern(s) or feature(s) of the landscape would not diminish the overall integrity of the resource. The determination of effect for §106 would be **no adverse effect**.
- Beneficial:** stabilization/preservation of features of historic structures in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and preservation of landscape patterns and features in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (NPS 1996). The determination of effect for §106 would be **no adverse effect**.
- Moderate:* **Adverse:** alteration of a feature(s) of the historic structures would diminish the overall integrity of the resource and alteration of a pattern(s) or feature(s) of the landscape would diminish the overall integrity of the landscape. The determination of effect for §106 would be **adverse effect**. A memorandum of agreement (MOA) is executed among the National Park Service and applicable state or tribal historic preservation officer and, if necessary, the Advisory Council on Historic Preservation in accordance with 36 CFR Part 800.6(b). Measures

identified in the MOA to minimize or mitigate adverse impacts reduce the intensity of impact under NEPA from major to moderate.

**Beneficial:** rehabilitation of a structure in accordance with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties* and rehabilitation of a landscape or its patterns and features in accordance with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (NPS 1996). The determination of effect for §106 would be **no adverse effect**.

**Major:** **Adverse:** alteration of a feature(s) of the historic structures would diminish the overall integrity of the resource and alteration of a pattern(s) or feature(s) of the landscape would diminish the overall integrity of the landscape. The determination of effect for §106 would be **adverse effect**. Measures to minimize or mitigate adverse impacts cannot be agreed upon and the National Park Service and applicable state or tribal historic preservation officer and/or Advisory Council are unable to negotiate and execute a memorandum of agreement in accordance with 36 CFR Part 800.6(b).

**Beneficial:** restoration of the historic structures in accordance with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties* and restoration of a landscape or its patterns and features in accordance with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (NPS 1996). The determination of effect for §106 would be **no adverse effect**.

**REGULATIONS AND POLICIES**

Current laws and policies require that the following conditions be achieved in the park:

Desired Condition	Source
Historic properties (i.e. archaeological resources, historic structures, cultural landscapes, ethnographic resources, and museum objects) are inventoried and their significance and integrity are evaluated under National Register criteria. The qualities that contribute to the eligibility for listing or listing of historic properties on the NRHP are protected in accordance with the Secretary of the Interior’s Standards (unless it is determined through a formal process that disturbance or natural deterioration is unavoidable).	National Historic Preservation Act of 1966, as amended; <i>Executive Order 11593: Protection and Enhancement of the Cultural Environment (1971)</i> ; <i>Archeological and Historic Preservation Act of 1974, as amended</i> ; <i>Programmatic Memorandum of Agreement Among the NPS, Advisory Council on Historic Preservation, and the National Council of State Historic Preservation Officers (1995)</i> ; <i>NPS Management Policies 2001</i>

**IMPACTS OF ALTERNATIVE I: NO- ACTION**

**Impact Analysis**

The no- action alternative would have short- term, minor, adverse impacts and long- term, moderate, adverse impacts to the thirteen historic White Grass Ranch structures and cultural landscape features (i.e. pasture and road) because only a minimal amount of stabilization work would be done. The historic buildings and cultural landscape features would continue to deteriorate at a rate faster than they are preserved. Under §106 of the National Historic Preservation Act, the determination of effect would be **adverse effect**.

## Cumulative Impacts

The cumulative impact of Alternative 1 would be the continued deterioration of historic structures and cultural landscape features in Grand Teton National Park. Without the creation of the Western Center for Preservation Training and Technology, the park would preserve historic structures and cultural landscape features at the same rate it currently does, which means that these structures will deteriorate, some becoming irreplaceable ruins, faster than they are preserved. The overall cumulative impact of the no- action alternative on historic structures and cultural landscape features would be adverse and minor to moderate in intensity.

## Conclusion

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's historic structures and cultural landscape resources or values.

## IMPACTS OF ALTERNATIVE 2: MINIMUM BASIC FUNCTIONS

### Impact Analysis

Alternative 2 would have long- term, minor to moderate, beneficial impacts to the historic buildings and cultural landscape features (i.e. pasture and road) because twelve historic buildings would be stabilized, one historic building (main cabin) would be rehabilitated, and the secondary road and pasture would be stabilized. Treatments for the buildings would follow the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. Eligible cultural landscape features would be stabilized following the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscape*. Under §106 of the National Historic Preservation Act, the determination of effect would be **no adverse effect**.

## Cumulative Impacts

The cumulative impact of Alternative 2 would be the increase in historic structures and cultural landscape features that are preserved in the park as a result of the creation of the training center. The training center would be established at a minimal level making it more feasible and efficient to train NPS employees, volunteers, and contractors on rustic and vernacular architecture preservation techniques and technology. Training these people would allow the park to preserve more historic structures and cultural landscape features than it presently does. The overall cumulative impact of Alternative 2 on historic structures and cultural landscape features would be beneficial and minor to moderate in intensity.

## Conclusion

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's historic structures and cultural landscape resources or values.

## IMPACTS OF ALTERNATIVE 3: PHASED DEVELOPMENT (PREFERRED ALTERNATIVE)

### Impact Analysis

Alternative 3 would have long- term, minor to moderate beneficial impacts to historic buildings and cultural landscape features because ten historic structures would be stabilized, the main cabin, Hammond cabin, and shower/laundry building would be rehabilitated, and the secondary road and pasture would be stabilized. Building treatments would follow the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. Eligible landscape features would be stabilized following the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. For a detailed description of the proposed undertakings for the historic buildings and site under this alternative, please see Appendix G. Under §106 of the National Historic Preservation Act, the determination of effect would be **no adverse effect**.

### Cumulative Impacts

The cumulative impact of Alternative 3 would be the increase in historic structures and cultural landscape features that are preserved in the park as a result of the creation of the training center. The training center would make it more feasible and efficient to train NPS employees, volunteers, and contractors on rustic and vernacular architecture preservation techniques and technology. Training these people would allow the park to preserve more historic structures and cultural landscape features than it presently does. The overall cumulative impact of Alternative 3 on historic structures and cultural landscape features would be beneficial and minor to moderate in intensity.

### Conclusion

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's historic structures and cultural landscape resources or values.

### §106 SUMMARY

The proposed project outlined in the preferred alternative (please see Appendix G) would stabilize and rehabilitate historic structures and eligible cultural landscape features at White Grass Ranch following the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR Part 800.5, Assessment of Adverse Effects), the National Park Service concludes that implementation of the preferred alternative would have *no adverse effect* on historic structures and cultural landscape features in Grand Teton National Park.

## IMPACTS OF ALTERNATIVE 4: COMPLETE BUILD- OUT

### Impact Analysis

Alternative 4 would have long- term, minor to moderate beneficial impacts to the historic buildings and cultural landscape features because all thirteen historic buildings would be rehabilitated, the secondary White Grass road would be rehabilitated, and the pasture would be stabilized. Building treatments would follow the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, while landscape treatments would follow the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. Under §106 of the National Historic Preservation Act, the determination of effect would be **no adverse effect**.

### Cumulative Impacts

The cumulative impact of Alternative 4 would be the increase in historic structures and cultural landscape features that are preserved in the park as a result of the creation of the training center. The training center would make it more feasible and efficient to train NPS employees, volunteers, and contractors on rustic and vernacular architecture preservation techniques and technology. Training these people would allow the park to preserve more historic structures and cultural landscape features than it presently does. The overall cumulative impact of Alternative 4 on historic structures and cultural landscape features would be beneficial and minor to moderate in intensity.

### Conclusion

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's historic structures and cultural landscape resources or values.

## VEGETATION

### AFFECTED ENVIRONMENT

White Grass Ranch is located in a transitional zone at the foot of the Teton Range in which a wide variety of tree, shrub, and forb species may be found. The affected area is approximately thirty acres of the original 320- acre ranch (hundreds of acres were previously cultivated fields). The White Grass Ranch buildings are located at the juncture of a predominantly lodgepole pine forest to the west, an aspen/conifer/cottonwood mix to the southeast, and a large previously cultivated field to the north and east. Prior to human activities of land clearing and hay cultivation that began in the 1890s, a mosaic of dry and moist sagebrush communities, and meadows, dominated the landscape to the east of White Grass Ranch. Today, these native sagebrush and meadow communities have been displaced by exotic herbaceous vegetation that has replaced the previously cultivated fields. These fields were managed and productive from approximately 1913 to 1985, the years that White Grass Ranch operated as a cattle ranch and then dude ranch. Smooth brome, orchard grass, and Kentucky bluegrass, all exotic species, currently dominate the pasture. Small patches of native grasses such as Nelson's needlegrass and slender wheatgrass are also present. Trees near the ranch structures are mostly lodgepole pine, but also include subalpine fir, quaking aspen, and cottonwood. The understory vegetation in the vicinity of the cabins is a mixture of exotic grasses, and native and exotic forbs.

Surveys conducted by GTNP staff in 2003 confirm that non- native plants, including several state and county listed noxious species, are present in the White Grass Ranch area. Non- native species compete with, and in some cases, replace native plants with adverse effects on natural diversity and visual resources. The forested habitats to the west have been less affected by the development of the area as a dude ranch. Several noxious weed species have become established at White Grass Ranch with considerable tenacity. These include Canada thistle and musk thistle, yellow toadflax, and ox- eye daisy. Control efforts for musk thistle have been ongoing at White Grass Ranch for at least ten years. Efforts have been somewhat successful at preventing further spread of musk thistle, however many acres are still affected, and control has not been achieved. Control of ox- eye daisy at the nearby Trail Ranch site has not proven successful and tens of acres there are now dominated by the species with most native species being excluded. More than a dozen other non- native species were identified within the approximate 40- acre area that was surveyed in 2003. While they are of lesser management concern, they also have the potential to spread to disturbed areas and become established more quickly than native species.

In 2003 a botanist was hired to survey the affected area for plant species of special concern. The core area of White Grass Ranch and its immediate surroundings were examined, including the proposed spur road to connect White Grass Ranch to the Death Canyon Road. No species of special concern were located.

Fuel reduction activities took place at White Grass Ranch in the summer of 2002 to reduce the risk of fire on the structures. This included the removal of hazardous trees near buildings, the limbing of trees to decrease the probability of fire reaching the forest crown, and the thinning of shrubs and smaller. The fuels were piled and burned in the fall of 2003 and evidence of this activity is present in the area. Bucked and stacked logs are also present, but no pile burning is planned in the immediate future.

#### METHODOLOGY

Analyses of the potential intensity of impacts to vegetation were first determined by identifying the area that could be affected. Interdisciplinary specialists defined the affected area as the White Grass Dude Ranch Historic District and the lands immediately adjacent to the district. Once the affected area was determined, a botanist was hired to conduct a survey for plant species of special concern. The survey was done in the summer of 2003 and was conducted by walking along transects set at ten- to- fifteen- foot intervals while watching for plants species of special concern. While doing so, the botanist also noted the presence of other native and non- native species. The analysis of impacts on vegetation was based on the amount/location of direct disturbance/removal of vegetation to construct the proposed developments, and the effects of increased foot traffic on herbaceous ground cover compared to current conditions. It was also based on the potential for the introduction of non- native species. The impact thresholds are:

*Negligible:* No native vegetation would be affected or some individual native plants could be affected as a result of the alternative, but there would be no effect on native species populations. No or barely detectable increases in the number of non- native species and extent of their range. The effects would be short- term, on a small scale, and not measurable.

*Minor:* Some individual native plants would be affected, along with a relatively minor portion of that species' population. Mitigation to offset adverse effects could be required and would be effective. Changes in the extent of non- native species would be short- term, localized, and measurable to one or more species. Mitigation of effects would be simple and effective.

*Moderate:* Some individual native plants would be affected, along with a sizeable segment of the species' population in the long- term and over a relatively large area. Changes in the extent of several or more non- native species would be over a relatively long period of time. Non- native plants would spread beyond the localized area. Mitigation to offset adverse effects could be extensive, but would likely be successful, depending on the species of non- native plants involved.

*Major:* There would be a considerable long- term effect on native plant populations and non- native plants, and would affect over half of the project area for an extended period of time. Mitigation measures to offset the adverse effects would be extensive, and success of the mitigation measures would not be assured.

*Duration:* Short- term - Recovers in less than 3 years.  
 Long- term - Takes more than 3 years to recover.

**REGULATIONS AND POLICIES**

Current laws and policies require that the following conditions be achieved in the park:

Desired Condition	Source
The NPS is directed by the Organic Act to conserve the scenery and the natural objects unimpaired for future generations. The NPS <i>Management Policies 2001</i> define the general principles for managing biological resources as maintaining all the components and processes of naturally evolving park ecosystems, including the natural abundance, diversity and ecological integrity of plant communities.	NPS Organic Act  <i>NPS Management Policies 2001</i>
When NPS management actions cause native vegetation to be removed, then the NPS will seek to ensure that such removals will not cause unacceptable impacts to native resource, natural process, or other park resources.	
Non- native species, also referred to as non- native, exotic or alien, are not a natural component of the ecosystem. Management of populations of exotic plant and animal species, up to and including eradication, will be undertaken wherever such species threaten park resources or public health and when control is prudent and feasible.	<i>DO - 77, Natural Resource Protection, Executive Order 13112, Invasive Species</i>

**IMPACTS OF ALTERNATIVE I: NO- ACTION**

**Impact Analysis**

Negligible adverse human impacts to vegetation would occur in Alternative I. Some trampling of native and non- native species would occur as part of the sealing and shoring up of buildings. Visitor use of the area would likely remain low. No new impacts would be seen associated with the installation of utilities, additional structures, parking areas, or roadways as in the other alternatives. Weed management activities would continue to attempt to prevent further spread of weeds to surroundings, and to decrease the size of current infestations. Alternative I would have negligible direct or indirect impacts to vegetation.

**Cumulative Impacts**

This alternative would not bring additional funding and therefore additional focus on the weed problem in this area; hence the weed problem would likely perpetuate. However, the cumulative

effects of Alternative 1 are minor, adverse and long- term, even though this alternative would add negligibly. The stabilization of structures will result in minimal ground disturbance which could lead to a negligible amount of spreading of the noxious weed and other exotic plant species already present at the site. Native vegetation is unlikely to be displaced by activities under this Alternative.

### **Conclusion**

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's vegetation resources or values.

### **IMPACTS OF ALTERNATIVE 2: MINIMUM BASIC FUNCTIONS**

#### **Impact Analysis**

Some native and non- native vegetation would be destroyed through the construction of a vault toilet, the construction of a new spur road from the Death Canyon Road, the construction of a limited parking area, and the relocation of the JY Ranch hay shed to the ranch. Soil disturbance associated with construction around these improvements would likely be greater than the footprint of the structures, creating an opportunity for further spread of exotic species, and a need for mitigation through the revegetation of all affected areas. As this area is already highly invaded, the potential for seed dispersal from noxious species to recently disturbed areas is high. Any increase in non- native species increases their seed production ability and puts surrounding areas and native vegetation both within and beyond the boundaries of the project area at risk of further spread of exotic species to the detriment of native species.

Installation of an underground power line to the main cabin described in Alternative 2 would likely result in less than ¼ of an acre of impacted area in the immediate future. Immediate revegetation of this area would occur. With appropriate mitigation, Alternative 2 would have short- term, minor, adverse effects to vegetation.

#### **Cumulative Impacts**

The cumulative effects of Alternative 2 are long- term, adverse, and minor in intensity. These effects are primarily due to the increased population size and spread of three to four noxious weed species, and several other exotic species, beyond their current population boundaries. If an aggressive revegetation and mitigation program were adopted, the impacts under this alternative would be further reduced in intensity and duration. It would even be possible to decrease exotic species populations and increase native populations with an intensive weed management program.

### **Conclusion**

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's vegetation resources or values.

## IMPACTS OF ALTERNATIVE 3: PHASED DEVELOPMENT (PREFERRED ALTERNATIVE)

### Impact Analysis

Alternative 3 includes a number of provisions that would result in the immediate removal of native and exotic vegetation, and would result in substantially more vegetative disturbance than Alternative 2. The following actions would have immediate and direct effects on vegetation at the site – the first three are in addition to those in the previous alternative:

- Distribution of utilities (electric, water, and sewer) to all buildings, and phone lines to three buildings.
- Grading around all buildings.
- Installation of a septic tank and leach field approximately 100 feet east of the Hammond cabin.
- Construction of a parking area for six vehicles.
- Construction of a spur road from the Death Canyon Road for site access.
- Movement of the JY Ranch hay shed to the White Grass Ranch.

The ground disturbance created by the above mentioned activities would be at least double than in Alternative 2, approximately two to four acres of ground disturbance. Grading around all buildings would result in the immediate removal of native, exotic, and ornamental vegetation. The soil disturbance, light, nutrient, and water availability created by vegetation removal would likely be exploited by non- native species unless immediate revegetation with native species takes place, and exotic species control efforts are increased at the site.

The construction of a leach field east of the Hammond cabin would add nutrients and moisture to a relatively dry, nutrient- poor soil. This may result in higher vegetation productivity atop the leach field. Careful selection of a species mix for revegetation of the leach field would be required to try to inhibit exotic species. Careful design of vegetation around the leach field would be needed to prevent the leach field from standing out visually as a bright green square on the landscape.

Only six parking spaces would be provided. Carpooling would be encouraged as access/invitation to the site would be fairly controlled and trainees would be arranged for or invited to come attend classes. A limited parking area reduces the amount of impacts due to vehicles present on- site.

Monitoring and maintenance of vegetation surrounding the White Grass Ranch structures, parking area, and spur road would be required on a consistent basis for ten or more years following development to maintain vegetation impacts as minor. With a more aggressive revegetation program, adverse impacts to native vegetation in the immediate vicinity could be kept as minor. In the absence of aggressive revegetation and exotic species management the vegetation affects would be moderate and long- term due to increases in exotic species. Many individual native plants would be adversely affected; however, no population level changes are likely to take place as most of the native species at the site have populations that are widely distributed in similar habitats along the foothills of the Teton Range. With appropriate mitigation, Alternative 3 would have long- term, minor to moderate adverse effects to vegetation.

### Cumulative Impacts

The cumulative effects of Alternative 3 in the absence of substantial revegetation and continued intensive weed management are long- term, minor to moderate and adverse to vegetation. These effects are primarily due to the increased population size and spread of three to four noxious weed species, and several other exotic species, beyond their current population boundaries. If

an aggressive revegetation and mitigation program were adopted, the impacts under Alternative 3 could be kept to short- term and minor. It would even be possible to decrease exotic species populations and increase native populations; however this would require five to twelve years of intensive vegetation management at the site.

## **Conclusion**

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's vegetation resources or values.

## **IMPACTS OF ALTERNATIVE 4: COMPLETE BUILD- OUT**

### **Impact Analysis**

Impacts of Alternative 4 include all the impacts from Alternative 3 (except the construction of the spur road), plus two increased impacts including:

- The expansion of parking spaces from six (Alternative 3) to twenty spaces (Alternative 4).
- Rehabilitation of the secondary White Grass Ranch road.

The increases in Alternative 4 over Alternative 3 are primarily in extent or affected area rather than type of impacts. The addition of fourteen parking spaces would result in an additional 0.5 to 1 acre of native and exotic vegetation removal, soil disturbance, and compaction. The secondary White Grass Ranch road is a previously hardened, soil- compacted, dirt road. This roadway was used for approximately seventy- five years and was abandoned nearly twenty years ago. The road goes through an aging cottonwood stand. This stand may only be present for another decade or two with or without continued use of the road. In Alternative 4, a spur road from the Death Canyon Road would not be constructed, resulting in decreased impacts in that area as compared to Alternative 3. With appropriate mitigation, Alternative 3 would have long- term, minor to moderate adverse effects to vegetation.

### **Cumulative Impacts**

The cumulative effects of Alternative 4 are essentially the same as those of Alternative 3. The long- term impacts are dependent on the degree of planning and amount of time spent on revegetation and native and exotic species management at and surrounding the impacted areas. Without a sound mitigation plan, Alternative 4 would have a long- term, moderate adverse impact on vegetation. This is both through the destruction of native vegetation, and through the proliferation of exotic plant species in the proposed area and in areas surrounding the project site. With careful mitigation, these impacts may be kept within the proposed area, and may be long- term, minor adverse or possibly long- term, minor beneficial impacts to native vegetation; however, this would require five to twelve years of careful vegetation management on the site requiring at least several weeks of work on the site annually.

## **Conclusion**

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park

Service planning documents, there would be no impairment of the park's vegetation resources or values.

## WILDERNESS

### AFFECTED ENVIRONMENT

White Grass Ranch is not within wilderness in GTNP. However it borders potential and recommended wilderness in the park. Approximately 43% percent or 122,604 acres of the 309,997 acres in GTNP are in the form of recommended wilderness, encompassing the Teton Range. This land, according to the Wilderness Act of 1964, must retain its primeval character and influence and be managed to preserve its natural conditions. Howard Zahniser, one of the authors of the Wilderness Act said, “We describe an area as wilderness because of a character it has—not because of a particular use that it serves.”

Creators of the Wilderness Act described wilderness as a place that has outstanding opportunities for solitude, is of at least 5,000 acres in size, and is a place without permanent improvement or human habitation. When Congress conducted a hearing on the designation of certain lands as wilderness in 1972, Senator Frank Church stated that sights and sounds from outside the boundary do not invalidate a wilderness designation or make threshold exclusions necessary, as a matter of law.

Another 7% or 20,850 acres of GTNP is potential wilderness. The potential wilderness is comprised of two parcels: 19,250 acres in the Potholes, southeast of Jackson Lake, and 1,650 acres near Phelps Lake, southwest of Moose. To date, Congress has not enacted legislation to include the recommended wilderness in the National Wilderness Preservation System. However, NPS policy dictates that potential and recommended wilderness areas are treated as wilderness (so as not to preclude eventual designation) when applying wilderness resource *Management Policies 2001*, to the extent that any non- conforming conditions allow.

When considering the management of wilderness in GTNP, park staff consider three types of values, which are portrayed in the table below.

**Table 5: Wilderness Values**

Type of Value	Definition
Biophysical Aspects	The natural condition of the land, its wildlife, and ecological processes (such as native wildlife and natural fire regimes)
Experiential Aspects	The personal benefits and meanings people derive from their experiences in wilderness (such as personal challenge and self-discovery)
Symbolic Aspects	The meanings that individuals and society derive from the existence of wildernesses (such as humility and restraint)

### METHODOLOGY

*Negligible:* A change in the biophysical, experiential, or symbolic aspects of wilderness could occur, but the difference would be so small that it would not be of any measurable or perceptible consequence.

*Minor:* A change in the biophysical, experiential, or symbolic aspects of wilderness could occur, but the difference would be small and highly localized.

*Moderate:* A change in the biophysical, experiential, or symbolic aspects of wilderness would occur at a measurable, yet localized level.

- Major:* A noticeable change in the biophysical, experiential, or symbolic aspects of wilderness would occur. The difference would be measurable, and would have a substantial or possibly permanent consequence.
- Duration:* Short- term - Recovers in less than 1 year.  
 Long- term - Takes more than 1 year to recover.

**REGULATIONS AND POLICIES**

Current laws and policies require that the following conditions be achieved in the park:

Desired Condition	Source
The NPS shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character. Wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use.	Wilderness Act of 1964
The National Park Service will manage wilderness areas for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness.	<i>NPS Management Policies 2001; Director’s Order #41: Wilderness Preservation and Management and Reference Manual</i>
Potential and Recommended Wilderness areas are treated as wilderness when applying wilderness resource <i>Management Policies 2001</i> , to the extent that any non- conforming conditions allow.	

**IMPACTS OF ALTERNATIVE 1: NO- ACTION**

**Impact Analysis**

No actions are proposed within wilderness in Alternative 1. Therefore, Alternative 1 would not impact the biophysical portion of wilderness values that include the natural condition of the land, its wildlife, and ecological processes.

In Alternative 1, all impacts to wilderness from activities at White Grass Ranch would result from potential effects to the personal benefits and meanings that people derive from the existence of wilderness. For instance, sounds from human activities at the ranch may be heard by wilderness users, which may make a person feel less removed or isolated from human existence. Such a feeling of being removed from human developments could be a large part of the value or benefit a person hopes to gain from visiting wilderness.

The no- action alternative of continued, minimal stabilization of historic structures at White Grass Ranch would be conducted over short periods of time intermittently when wilderness users may be present along the nearby Valley Trail and along the lower elevations of Stewart Draw. However, these sounds would mostly be confined to the area within a half mile of White Grass Ranch. Mitigation measures such as using power tools inside closed buildings rather than outside would reduce the sound level. This impact would not have a measurable effect on the experience or symbolism that people attach to wilderness. Therefore, Alternative 1 would have a negligible adverse impact on the wilderness and its users.

**Cumulative Impacts**

None of the alternatives in this EA/AEF would directly affect wilderness, as the White Grass Ranch is not located within wilderness. Indirect effects in the form of non- natural sound may have a negligible, adverse affect on the experiential value of some people’s wilderness experience. No past or present actions have occurred in this wilderness area to measurably

impact its biophysical or symbolic values. Airport traffic has had a measurable effect on the experiential value of wilderness since before the creation of the park. Examples of reasonably foreseeable actions outside of wilderness in GTNP include expansion at Teton Village, implementation of the future Snake River Associates Plan (SRA), and future park management of the JY Ranch. There would be negligible cumulative impact to wilderness resulting from the incremental impact of Alternative 1 when added to other past, present, and reasonably foreseeable future actions in GTNP and the surrounding environment.

## **Conclusion**

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's wilderness resources or values.

## **IMPACTS OF ALTERNATIVE 2: MINIMUM BASIC FUNCTIONS**

### **Impact Analysis**

Alternative 2 would not directly affect wilderness in GTNP since no actions are proposed within the wilderness boundary. Therefore, Alternative 2 would not impact the biophysical portion of wilderness values that include the natural condition of the land, its wildlife, and ecological processes.

Alternative 2 would generate sounds in both the short- and long- term. These sounds would be less noisy than the other action alternatives, but would be noisier compared to Alternative 1. The increased sound levels and audibility associated with short- term construction would be largely confined to within  $\frac{1}{2}$  mile from White Grass Ranch and would have a negligible adverse impact on the wilderness and its users.

Once initial construction was completed, the sounds associated with long- term use of White Grass Ranch would primarily be restricted to less than  $\frac{1}{4}$ - mile from the facilities. This impact would not have a measurable effect on the experience or symbolism that people attach to wilderness. Therefore, Alternative 2 would have a long- term, negligible adverse impact on the wilderness and its users.

### **Cumulative Impacts**

As explained in the cumulative effects section of Alternative 1, there would be negligible cumulative impact to wilderness resulting from the incremental impact of Alternative 2 when added to other past, present, and reasonably foreseeable future actions in GTNP and the surrounding environment.

## **Conclusion**

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's wilderness resources or values.

### **IMPACTS OF ALTERNATIVE 3: PHASED DEVELOPMENT (PREFERRED ALTERNATIVE)**

#### **Impact Analysis**

Alternative 3 would not directly affect wilderness in GTNP since no actions are proposed within the wilderness boundary. Therefore, Alternative 3 would not impact the biophysical portion of wilderness values that include the natural condition of the land, its wildlife, and ecological processes.

In Alternative 3, the approximate five year construction period would create sound impacts that would likely be audible for over ½ to 1 mile. Mitigation measures would help to reduce this effect. These sounds would not originate in the wilderness but could possibly be heard by wilderness users passing by on the Valley Trail or traveling through Stewart Draw. The duration of these sounds and the distance of their origin to the wilderness would result in a short- term, negligible, adverse effect on the wilderness or its users.

Because Alternative 3 would have both day and night use, it would have increased, long- term sound levels compared to Alternatives 1 and 2. The sound impacts would primarily be restricted to less than ½ mile from White Grass Ranch. This impact may have a small, highly localized effect on the experience or symbolism that people attach to wilderness. Therefore Alternative 3 would have a long- term, negligible to minor adverse impact on the wilderness and its users.

#### **Cumulative Impacts**

As explained in the cumulative effects section of Alternative 1, there would be negligible cumulative impact to wilderness resulting from the incremental impact of Alternative 3 when added to other past, present, and reasonably foreseeable future actions in GTNP and the surrounding environment.

#### **Conclusion**

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's wilderness resources or values.

### **IMPACTS OF ALTERNATIVE 4: COMPLETE BUILD- OUT**

#### **Impact Analysis**

Alternative 4 would not directly affect wilderness in GTNP since no actions are proposed within the wilderness boundary. Therefore, Alternative 4 would not impact the biophysical portion of wilderness values that include the natural condition of the land, its wildlife, and ecological processes.

Over the short- term there would be negligible adverse impacts to wilderness and its users in Alternative 4. The initial construction phase of Alternative 4 would be completed in a shorter period of time than Alternative 3. Once all thirteen buildings were rehabilitated, there would be increased sound levels during seasonal operations both day and night. These long- term sound impacts would be similar to Alternative 3 and would mostly be confined to within ½ mile of White Grass Ranch, resulting in negligible to minor, adverse impacts to the wilderness and its users.

## Cumulative Impacts

As explained in the cumulative effects section of Alternative 1, there would be negligible cumulative impact to wilderness resulting from the incremental impact of Alternative 4 when added to other past, present, and reasonably foreseeable future actions in GTNP and the surrounding environment.

## Conclusion

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's wilderness resources or values.

## WILDLIFE (INCLUDING T & E SPECIES)

### AFFECTED ENVIRONMENT

#### General Wildlife Species

Grand Teton National Park provides habitat for a variety of wildlife species, including 61 mammals, 4 reptiles, 6 amphibians, 19 fish, and 299 birds (NPS 2000d). Potential residents within or adjacent to the project area include ungulates, carnivores, rodents, numerous bird species, and other small mammals.

*Carnivores* – Carnivores (excluding listed species) that can be expected to occur in or immediately adjacent to the project area include black bear (*Ursus americanus*), bobcat (*Lynx rufus*), mountain lion (*Felis concolor*), wolverine (*Gulo gulo*), pine marten (*Martes americana*), long and short-tailed weasels (*Mustela spp.*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*). Badgers (*Taxidea taxus*) also occur throughout the park in habitats similar to those in the project area, but no sign of current badger activity has been found near the site.

Along the eastern base of the Teton Range, the belt of mixed conifer habitats provide some of the park's best bear habitat, with irregular openings and a diverse shrub understory that includes *Vaccinium spp.* and other fruit producing plants. Black bears are common in this area and can be expected to occur regularly in and near the project area. Coyotes, which are habitat generalists, are also common. These habitats are also important to bobcat, mountain lion, wolverine, and red fox, which occur at lower densities in the park and probably only pass through the project area occasionally. Pine marten, weasels, and skunks are year-around residents, and an occasional raccoon may try to take up residence under one of the buildings.

*Ungulates* – Six species of ungulates reside within GTNP including elk (*Cervus elaphus*), moose (*Alces alces*), bison (*Bison bison*), mule deer (*Odocoileus hemionus*), bighorn sheep (*Ovis canadensis*) and pronghorn antelope (*Antilocapra americana*). The vegetation types found in and adjacent to the White Grass Ranch project area (sagebrush, agricultural meadow, and coniferous and aspen forests) provide suitable habitat for all these species. Although habitats used by bison, pronghorn antelope, and bighorn sheep occur within the project area, they do not overlap core use areas of these species. Generally, bison spring/summer/fall range within the park includes the Antelope Flats, Elk Ranch and Potholes areas. There is no documented use of the project area by bison. Pronghorn that summer in the Jackson Hole valley primarily occur within the central valley portion of the park, and bighorn sheep are found at high elevation along

the crest of the Tetons. Since bison, pronghorn, and bighorn sheep are unlikely to occur in the project area they will not be analyzed further in this document.

The project and adjacent areas are used by elk throughout the spring, summer, and fall. Some elk may calve in the dense forested areas adjacent to White Grass Ranch although it is not delineated parturition range. Elk do spend the summer in the project area and adjacent vicinity. Elk also use this area in the fall during the rut and are visible in the evenings and early morning hours in the meadow. During the rut (mid- September to October), elk spend the day in the forested areas surrounding the project area and come into the White Grass meadow at dusk. Moose are year- round residents of the project and adjacent areas. Mule deer are also summer residents of the area.

*Land birds* – Numerous neotropical migratory bird species nest at White Grass Ranch and in the surrounding forest and meadow. These species include ruffed grouse, dark- eyed junco, pine siskin, yellow- rumped warbler, and ruby- crowned kinglet and other forest songbirds. Sandhill cranes and some sparrow species also use the adjacent meadow for either nesting or foraging. Raptors forage in the area as well.

*Fish, amphibians and reptiles* – Although many species of reptiles and amphibians have been documented along the valley floor and foothill regions of the park (Koch and Peterson 1995), the project site does not contain suitable breeding habitats for any of these species. In addition, no fish species or their habitat will be impacted by the proposed project.

The project area is situated at the base of the Teton Range adjacent to the Snake River corridor. Continuous forest habitat is compressed into a narrow strip at the base of the mountains and serves as an important travel/movement corridor for a variety of species allowing wildlife to migrate between seasonal ranges, move between patches of suitable habitat, and facilitating connectivity of populations to the north and south.

### Threatened and Endangered Species

The U.S. Fish and Wildlife Service (USFWS) identified the following listed or proposed threatened and endangered (T&E) species as potentially occurring in Grand Teton National Park (USFWS 2004a).

**Table 6: Status, Habitat Needs, and Expected Occurrence for Federally Listed Species in GTNP**

Species	Status	Expected Occurrence	General Habitat
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	Threatened	Resident/Nesting/Winter Migrant	Riparian
Grizzly Bear ( <i>Ursus arctos horribilis</i> )	Threatened	Resident	Montane forests
Gray Wolf ( <i>Canis lupus</i> )	Threatened	Resident	Greater Yellowstone Ecosystem
Canada Lynx ( <i>Lynx canadensis</i> )	Threatened	Potential Resident	Forest mosaic
Yellow- billed cuckoo	Candidate	Potential summer resident	Riparian areas west of the Continental Divide

The following databases and sources were consulted for wildlife locations and habitat data within and adjacent to the project areas: GTNP wildlife observations files, lynx location GIS

layer (McKelvey et al. 2000), Interagency Grizzly Bear annual reports, and Rocky Mountain Wolf Recovery annual reports. The project area contains suitable habitat for grizzly bear, gray wolf, and Canada lynx and these species are carried through the analysis. The project area is not within one mile of any known bald eagle nesting territories or important eagle foraging areas. It also does not contain suitable habitat for yellow-billed cuckoos. Because bald eagles, yellow-billed cuckoos, and their habitat are not found within the project area, the proposed project would not impact these species and they are dismissed from further analysis.

## Grizzly Bear

Grizzly bears (*Ursus arctos horribilis*) once roamed much of the western United States, but were extirpated from much of the historic range by the middle of the twentieth century (USFWS 1993). A small population persisted in Yellowstone National Park. Grizzlies were listed as threatened under the Endangered Species Act (ESA) in 1975, and a recovery zone was subsequently delineated. Grizzly bear numbers appear to be increasing and they continue to expand their range outside the recovery area (Schwartz et al. 2002, USFWS 2000).

Currently, there are six recovery zones in the United States, one of which, the Yellowstone recovery area, includes a portion of the greater Yellowstone area (GYA) and encompasses YNP and parts of GTNP and the John D. Rockefeller, Jr. Memorial Parkway. Habitat-based recovery criteria and a conservation strategy that delineates long-term protection of grizzly populations and habitat are under development. When completed, the U.S. Fish and Wildlife Service will consider delisting the Yellowstone population of grizzly bears when the following demographic recovery goals are met:

- Fifteen unduplicated females with cubs over a running six-year average inside the recovery zone and within a ten mile area immediately surrounding it;
- Sixteen of eighteen Bear Management Units (BMUs) occupied by females with young from a running six-year sum of verified sightings and evidence; in addition, no two adjacent BMUs shall be unoccupied;
- Known human-caused mortality not to exceed four percent of the minimum population estimate based on a six-year running average; and,
- Total known, human-caused female mortality cannot exceed thirty percent of this four percent over the most recent six-year period. These mortality limits cannot be exceeded during any two consecutive years for recovery to be achieved.

Grizzly bears occupy a variety of coniferous forest and rangeland habitats. They are a wide-ranging mammal that requires adequate space and isolation from humans, suitable den sites, and an adequate food base. Grizzlies are opportunistic feeders, consuming both carrion and vegetal matter (e.g. bulbs and tubers). Plant matter may be an important diet component in spring and summer, bears may forage in riparian areas, avalanche chutes, and big game winter ranges. Bears also feed on ungulate calves during the spring calving seasons. In summer and fall, they move to higher elevations and shift their diet to fruits and whitebark pine nuts (USFWS 1993).

Grizzly bear management within GTNP is governed by the park's Human-Bear Management Plan (NPS 1989) and the Interagency Grizzly Bear Guidelines (U.S. Forest Service 1986, hereinafter referred to as the "Guidelines"). The Guidelines were developed in an effort to provide effective direction for the conservation of grizzly bears and their habitat among the federal agencies responsible for managing land within the recovery zone. The Interagency Grizzly Bear Committee (IGBC) subsequently approved the application of the Guidelines on federal lands throughout grizzly bear ecosystems in Idaho, Montana, and Wyoming. Specifically, the park's objectives for managing grizzly bears are to:

- restore and maintain the natural integrity, distribution, and behavior of grizzly bears;
- provide for visitors to understand, observe, and appreciate grizzly bears; and,
- provide for visitor safety by minimizing bear/human conflicts, by reducing human-generated food sources, and by regulating visitor distribution.

Management of grizzly bears in GNTNP under these programs has been highly successful in promoting grizzly bear recovery and reducing bear- human conflicts and human- caused bear mortalities.

Grizzly bears have increased from relatively uncommon to common in GTNP during the last fifteen years, in conjunction with a steady trend toward increasing bear density in the southern GYA. Grizzly bears are now common in the Gros Ventre Mountains on the southeastern border of Grand Teton National Park, and southeast to the upper Green River basin. In the Teton Range, they are regularly sighted north of Leigh Canyon and the Badger Creek drainage, where visitor use of the backcountry occurs at relatively low levels. On the Jackson Hole valley floor, they are common north of the Triangle X Ranch, have been observed south of there in the Snake River drainage on several occasions, and are known to use areas from Burned Ridge and Leigh Lake to the north regularly. Home ranges of twenty- seven radio- collared bears from 1975 to 1998 have included parts of GTNP and/or the John D. Rockefeller, Jr. Memorial Parkway. Track, observation, and other evidence suggest that grizzlies travel through or near the project area occasionally but are not common residents. The general area contains excellent bear habitat, however, and black bear use of it is common. It is anticipated that grizzlies may colonize this area in the future as the population continues to expand and more bears habituate to human presence.

### Gray Wolf

Gray wolves were historically found throughout Wyoming, but were virtually exterminated from the western United States by the 1940s. The gray wolf was first listed as an endangered species on March 11, 1967 (32 FR 4001). The subspecies of the northern Rocky Mountain wolf (*Canis lupus irremotus*) was initially listed as an endangered species in 1973 (38 FR 14678). Due to taxonomic concerns, the entire species was listed as endangered in the contiguous United States outside of Minnesota, where it was listed as threatened in 1978 (43 FR 9607).

Although gray wolves are native to the GYA (Young and Goldman 1944, Hall and Kelson 1959), human persecution resulted in their extirpation by the 1930s (Reinhart 1999). The U.S. Fish and Wildlife Service published a final rule on November 22, 1994, directing the reintroduction of wolves in YNP. The final rules for the introduction also reclassified gray wolves in the GYA as experimental, non- essential (59 FR 60252 60266), according to section 10(j) of the ESA of 1973, as amended (16 U.S.C. 1531). In national parks and wildlife refuges, nonessential experimental populations are treated as threatened species, and all provisions of ESA Section 7 apply (50 CFR 17.83(b)). All wolves occurring in the state of Wyoming outside of national parks are classified as nonessential experimental (59 FR 60256).

The rule contained several measures to direct the management of reintroduced wolves, including prohibitions on taking or possessing of wolves (with certain exceptions) and restrictions on human access to wolf facilities and wolf dens in the national parks. Reintroduction efforts in YNP began in January 1995, when fourteen wolves were released; seventeen additional wolves were released in 1996 (Phillips and Smith 1997). At the end of 2003, there were an estimated 301 wolves in 27 packs present in the GYA, representing 16 breeding pairs (USFWS et al. 2004).

Wolves dispersing from YNP began to occur in GTNP in 1997. Wolf management in the park consists of monitoring wolf population dynamics and gathering ecological data relevant to the wolf's return to the GYA. To determine territory sizes and locate dens, collared wolves are monitored using both ground- based and aerial telemetry. By observing dens, birthing dates are estimated and the number of pups counted. In addition, wolf deaths are investigated, and wolf-prey relationships are documented by observing wolf predation directly and by recording characteristics of wolf prey at kill sites. Collaborative research is ongoing and represents pioneering work on wolf ecology.

Gray wolves are habitat generalists that occupy a broad range of habitats including coniferous forests, montane meadows, and shrub steppe. Key components of suitable habitat include sufficient year- round prey base of ungulates and alternate prey, suitable and semi- secluded denning and rendezvous sites, and sufficient space with minimal exposure to humans. The project area is within the range of elk, deer, and moose, which are all considered preferred prey species of wolves (USFWS 1987).

Wolf packs now occur throughout the central GYA, including areas north, east, and south of the parks. In 1998, wolf pack territory sizes averaged 359 square miles (range: 135 to 955 square miles) (Smith et al. 1998). Depending upon prey abundance, wolves in GTNP may occupy a variety of habitats including grasslands, sagebrush steppes, coniferous and mixed forests, and alpine areas. Ungulates are a primary food source, at times accounting for more than 90% of the biomass consumed by wolves. During snow- free months, smaller mammals are an important alternative food source (USFWS 1994).

Habitat for both ungulates and smaller mammals occurs in the project area. Three known wolf packs have used areas within GTNP. Radio signals from collars on wolves in the Teton and Gros Ventre packs have been obtained within three miles of the project area. Because of the relatively high snow depths in this area during winter and early spring, and the resulting paucity of ungulates during this period, it is unlikely that wolves would den near the project area. However, large numbers of ungulates summer near the project area, and thus it is considered a potential foraging area for wolves.

The recovery criteria for wolf restoration included maintaining at least thirty breeding pairs for three consecutive years in an area that included the GYA, central Idaho, and northwestern Montana, and to develop state plans that would outline how each individual state would manage wolves after their delisting. In 2002, the recovery criteria were met. To date, state management plans for Montana and Idaho have been approved by the U.S. Fish and Wildlife Service. A plan for Wyoming has not been approved by the U.S. Fish and Wildlife Service, and in April 2004, Wyoming filed suit against the U.S. Fish and Wildlife Service over the latter's decision to not approve a previously submitted draft plan. The gray wolf will not be eligible for delisting until a Wyoming plan is approved.

In summary, wolves are expected to be occasional visitors adjacent to the project area where preferred prey species are common.

### **Canada lynx**

The Canada lynx (*Lynx canadensis*) was listed as a threatened species in March 2000. Its listing as threatened is attributable to a number of factors including loss of forest habitat through human alteration; low numbers as a result of past exploitation; expansion of the range of competitors (particularly bobcats and coyotes); and elevated levels of human access into lynx habitat (63 FR 36994). In Wyoming, the lynx has been protected as a non- game species with no open season since 1973 (USFWS 2004b). The State of Wyoming classifies the lynx as a species of

special concern- Class 2, which indicates that habitat is limited and populations are restricted or declining (USFWS 2004b). They are considered rare residents in Wyoming.

Lynx are solitary carnivores generally occurring at low densities in boreal forest habitats, with their distribution and abundance closely tied to that of the snowshoe hare (*Lepus americanus*), their primary prey. However, this relationship may be muted or absent in more southern populations (Halfpenny et al. 1982). In Wyoming, lynx occur primarily in spruce- fir and lodgepole pine forests with gentle slopes, at elevations between 7,995 and 9,636 feet (Ruediger et al. 2000). However, aspen (*Populus tremuloides*) stands and forest edges may also be important.

Lynx require a variety of stand ages and structures for both denning and foraging habitat. They seem to prefer to move through continuous forest, using the highest terrain available such as ridges and saddles (Koehler 1990; Staples 1995). Cover is important to lynx when searching for food (Brand et al. 1976), but lynx often hunt along edges (Mowat et al. 2000). Kesterson (1988) and Staples (1995) reported that lynx hunted along the edges of mature stands within a burned forest matrix, and Major (1989) found that lynx hunted along the edge of dense riparian willow stands. Lynx have been observed (via snow tracking) to avoid large openings (Koehler 1990; Staples 1995) during daily movements within the home range. Late seral forests provide denning habitat and produce red squirrels, while snowshoe hares generally reach highest abundance in younger seral stages. The spatial and temporal interspersed of habitat is influenced both by natural disturbance events, such as wind and wildland fire.

The park has delineated Lynx Analysis Units (LAUs) which serve as the basic geographic unit in which to analyze potential impacts to lynx and their habitats. The White Grass Ranch project area falls within the Granite LAU which is 37,561 acres in size. While the White Grass meadow is not considered potential lynx habitat, the coniferous forested areas adjacent to it are mapped as lynx habitat. The Granite LAU contains approximately 16,140 acres of mapped lynx habitat. Denning, foraging, and travel habitats have not yet been identified.

Little information exists on lynx abundance and distribution within GTNP. Park records include twelve reports of lynx (GTNP wildlife observation files), some of which may not be credible because lynx are easily confused with bobcats. McKelvey et al. (2000) documented twenty- two reports of lynx in the park between 1917 and 1997, with the majority of sightings occurring in the mid- 1970s and early 1980s. Of these records (both GTNP and McKelvey et al. [2000] records), a total of fourteen lynx observations occurred within ten miles of the White Grass Ranch project area and five were within the Granite LAU. Surveys to determine lynx presence/absence in the northern portion of the park were made using hair snares during the summers of 2000, 2001, and 2002. No evidence of lynx was found among the samples collected during the three years (GTNP wildlife files). Similar efforts by YNP biologists recently confirmed the presence of a resident lynx with kitten (K. Murphy, pers. comm. 2004). In addition, a radio collared lynx from the Wyoming Range traveled through a corner of the John D. Rockefeller, Jr. Memorial Parkway during the summer of 2001 (J. Squires, pers. comm. 2004). Observation data suggest that lynx could be present in the GTNP, but if they are they occur at very low densities, and may only be present as transients moving to and from larger blocks of more favorable habitat.

### **Migratory Bird Species of Management Concern**

The Migratory Bird Treaty Act, 16 U.S.C. 703, enacted in 1918, prohibits the taking of any migratory birds, their parts, nests, or eggs. Work that could lead to the take of a migratory bird or eagle, their young, eggs, or nests, should be coordinated with the U.S. Fish and Wildlife Service before any actions are taken. Removal of nests or nest trees is prohibited, but may be allowed once young have fledged and/or a permit has been issued.

The U.S. Fish and Wildlife Service recognize two management levels for migratory birds as outlined in the list of migratory bird species of management concern in Wyoming (Cerovski et al. 2000):

#### Level 1 Migratory Bird Species (Conservation Action)

Level 1 species are those that are clearly in need of conservation action. They include species of which Wyoming has a high percentage of and responsibility for the breeding population, and the need for additional knowledge through monitoring and research. The northern goshawk (*Accipiter gentilis*) is the only Level 1 species that may be present in the project area.

Goshawks are forest raptors that typically nest in older coniferous, aspen, and pine forests but forage in a variety of habitats. Goshawks begin breeding in late March, nest from May through June, and young fledge in July. In August, both adults and juveniles begin to disperse. In high mountain areas, some wintering individuals descend to lower elevations and can be found in more open forests (Reynolds 1987). Goshawks primarily prey upon songbirds and small mammals, such as chipmunks, rabbits, and squirrels.

The area immediately adjacent to the buildings at White Grass Ranch does not contain suitable nesting habitat for goshawks. Forested areas in the vicinity of the project site are a mix of Douglas fir, lodgepole pine, and aspen and are characteristic of preferred goshawk nesting habitat. No goshawk nests have been located at the project site or in the adjacent forest; however, numerous sightings of goshawks vocalizing, flying over, and foraging at White Grass Ranch have been recorded.

Goshawks could nest in areas near the project site and potentially would be displaced due to activities associated with the rehabilitation and human occupancy of White Grass Ranch.

#### Level 2 Migratory Bird Species (Monitoring)

The action and focus on Level 2 species is on monitoring, rather than conservation action. Level 2 species include those in Wyoming with a high percentage of and responsibility for the breeding population, species whose population trend is unknown, species that are peripheral for breeding in the habitat or state, or species for which additional knowledge is needed. Level 2 species that may occur at White Grass Ranch or in adjacent areas include: the calliope hummingbird, Williamson's sapsucker, black-backed woodpecker, red-naped sapsucker, three-toed woodpecker, rufous hummingbird, Hammond's flycatcher, cordilleran flycatcher, great gray owl, golden-crowned kinglet, and brown creeper. Although no breeding bird surveys have been conducted at the project site, several of these birds have been observed at White Grass Ranch or in similar habitat types within GTNP.

Great gray owls (*Strix nebulosa*) inhabit a range of forested habitats throughout the year including mixed conifer forests that contain islands of aspen trees. Most foraging is done in open areas such as meadows and forest clearings where there are scattered trees and shrubs that can be used as perches. During migration they may be found in riparian areas, mountain meadows, and forest openings.

The great gray owl hunts mainly in early morning and late afternoon but will also hunt during other daylight hours and at night. They prey primarily on small rodents (e.g., voles, pocket gophers, mice, shrews, squirrels, rabbits, chipmunks, moles, and weasels) but will also capture and consume birds (e.g., grouse, robins, and small hawks) and amphibians (e.g. toads and frogs).

Great gray owls begin to breed in mid-winter and nesting and fledging continues throughout the summer. The great gray owl nests primarily in stick nests made by hawks or ravens, in the

hollowed out top of large- diameter snags, or on the top of clumps of mistletoe. Northern goshawks are very common providers of nest sites for great gray owls. Nests are usually located in a coniferous forest that often is near large clearings or meadows.

No great gray owl nests have been located at White Grass Ranch; however numerous observations of this species have been reported. The forested habitat as well as the White Grass meadow adjacent to the project site may provide suitable nesting, foraging, and wintering habitat for great gray owls.

#### *Wyoming Species of Special Concern*

In addition to the U.S. Fish and Wildlife Service list of migratory species of management concern in Wyoming, The Wyoming Game and Fish Department (WGFD) classifies certain species as “species of special concern” (WNDD 2003). These species are sub- divided into a range of priority groups. This is part of an evaluation system that was developed to categorize non- game species into priority groups according to their need for special management. The system evaluates a species’ distribution, population status and trend, habitat stability, and tolerance of human disturbance (WGFD 1986). Those species of special concern that may inhabit the project area are listed in Table 7.

**Table 7: Wyoming Species of Management Concern that may occur in the Project Area**

Common Name	Scientific Name	WGFD Status*	Status in Grand Teton National Park
Northern pygmy- owl	<i>Glaucidium gnoma</i>	NSS4	Occasional
Boreal owl	<i>Aegolius funereus</i>	NSS4	Occasional
Townsend’s big- eared bat	<i>Plecotus townsendii</i>	NSS2	Documented
Northern American wolverine	<i>Gulo gulo</i>	NSS3	Documented

\*WGFD Status:

NSS2 = Populations restricted or declining in numbers and/or distribution; extirpation in Wyoming is not imminent AND ongoing significant loss of habitat.

NSS3 = Populations restricted or declining in numbers and/or distribution; extirpation in Wyoming is not imminent AND habitat is restricted or vulnerable but no recent or on- going loss; species is sensitive to human disturbance.

NSS4 = Species is widely distributed; population status and trends within Wyoming are assumed stable AND habitat is restricted or vulnerable but no recent or on- going significant loss; species is sensitive to human disturbance.

One of the species of management concern, the northern pygmy owl, has been documented at White Grass Ranch, but no pygmy owl nests have been located in the vicinity of the project site. Also, wolverines are known to occur along the base of the Teton Range and may use the project area during the winter (see carnivore section, above).

Several species of bats use buildings in GTNP for roosting and maternal sites. During a 2003 survey in GTNP, six species of bats were documented (Table 8). Some of these species are known to have their maternal roosts in buildings while others roost strictly in trees. Two of these

species have been observed roosting in numerous buildings within the park such as The Murie Center cabins, park in- holdings, and cabins at Lupine Meadows.

**Table 8: Bat Species Documented to occur in Grand Teton National Park (Keinath 2004)**

Common name	Scientific name	Roosting Habitat and Maternal Sites
Big brown bat	<i>Eptesicus fuscus</i>	Buildings
Hoary bat	<i>Lasiurus cinereus</i>	Conifers near forest edge
Silver- haired bat	<i>Lasionictus noctivagans</i>	Conifer trees
Long- eared myotis	<i>Myotis evotis</i>	Conifer trees
Little brown bat	<i>Myotis lucifugus</i>	Buildings, rock crevices, bridges
Long- legged myotis	<i>Myotis volans</i>	Conifer trees

Although Townsend’s big- eared bats were not observed during the 2003 survey, they were documented roosting in one of the Bar BC cabins, approximately 4.5 miles from White Grass Ranch (GTNP wildlife observation files). This bat is listed as a NSS2 in Wyoming, indicating that populations are restricted or declining in numbers and/or distribution. The reason for their decline is thought to be due to narrow roost requirements, limited roosting habitat, and low reproductive rates. Townsend’s big- eared bats typically roost in caves but also are known to roost in buildings.

No surveys have been conducted at White Grass Ranch, but bats are expected to use the buildings during summer for maternal roost sites. In addition, bat species that do not roost in buildings, but in trees, may be found in forested areas adjacent to the project site.

## METHODOLOGY

Identification of federally listed species, migratory bird species of management concern, and Wyoming species of management concern was accomplished through discussions with wildlife biologists in Grand Teton National Park and informal consultation during the scoping period with the Ecological Services Branch of the U.S. Fish and Wildlife Service in Wyoming. A letter requesting a current list of federal threatened, endangered, and special concern species was sent to the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service responded on March 22, 2004 with scoping comments, which are summarized on page 7 of this EA/AEF. Wyoming Game and Fish Department received a copy of the scoping notice and responded with comments; their comments are summarized on page 8.

For the purposes of NEPA analysis, “no effect” is equated with “negligible.” The USFWS Section 7 Consultation Handbook (p. 3- 12) indicates a “not likely to adversely affect” call is appropriate when the effects on listed species are expected to be discountable, or insignificant or completely beneficial. It further defines discountable effects as those that cannot be meaningfully measured.

The following steps were used in assessing impacts on listed species and other wildlife:

1. Determine current presence, habitat availability, and uses of areas by wildlife species;
2. Identify areas most likely to be affected by management actions resulting from the adaptive use of historic structures; and
3. Determine the extent and intensity of habitat loss or disturbance caused by the alternatives.

The impact levels for threatened and endangered, as well as general wildlife are:

*No Effect:* **T & E:** No federally listed species would be affected, or the alternative would affect an individual of a listed species or its critical habitat, but the effects would be so small that it would not be of any measurable or perceptible consequence to the protected individual or its population. Negligible effect would equate with a "no effect" determination in U.S. Fish and Wildlife Service terms.

**General Wildlife:** Wildlife would not be affected or the effects would be at or below the level of detection, would be short- term, and the effects would be so slight that they would not be of any measurable or perceptible consequence to the wildlife species' population.

*Minor:* **T & E:** Individual(s) of a listed species or its critical habitat may be affected, but the effect would be relatively small. Minor effect would equate with a "may effect" determination in U.S. Fish and Wildlife Service terms and would be accompanied by a statement of "not likely to adversely affect" the species.

**General Wildlife:** Effects to wildlife would be detectable, although the effects would be localized, and would be small and of little consequence to the species' population. Mitigation measures, if needed to offset adverse effects, would be simple and successful.

*Moderate:* **T & E:** An individual or population of a listed species, or its critical habitat would be noticeably affected. The effect could have some long- term consequence to the individual, population, or habitat. Moderate effect would equate with a "may effect" determination in U.S. Fish and Wildlife Service terms and would be accompanied by a statement of "likely..." or "not likely to adversely affect" the species.

**General Wildlife:** Effects to wildlife would be readily detectable, long- term and localized, with consequences at the population level. Mitigation measures, if needed to offset adverse effects, would be extensive and likely successful.

*Major:* **T & E:** An individual or population of a listed species, or its critical habitat would be noticeably affected. The effect could have some long- term consequence to the individual, population, or habitat. Major effect would equate with a "may effect" determination in U.S. Fish and Wildlife Service terms and would be accompanied by a statement of "likely to adversely affect" the species.

**General Wildlife:** Effects to wildlife would be obvious, long- term, and would have substantial consequences to wildlife populations in the region. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.

*Duration:* Short- term - Recovers in less than 1 year  
Long- term - Takes more than 1 year to recover.

**REGULATIONS AND POLICY**

Current laws and policies require that the following conditions be achieved for threatened and endangered species and general species of wildlife in the park:

Desired Condition	Source
Federal- and state- listed threatened and endangered species and their habitats are sustained.	Endangered Species Act; <i>NPS Management Policies 2001</i>
Migratory birds, their parts, nests and eggs are protected.	Migratory Bird Treaty Act
Human impacts on native plants, animals, populations, communities, and ecosystems in which they occur are minimized.	<i>NPS Management Policies 2001</i>
Natural abundances, diversities, dynamics, distributions, habitats, and behaviors of native plant and animal populations and the communities and ecosystems in which they occur are preserved and restored.	<i>NPS Management Policies 2001</i>
Management of populations of non- native plant and animal species, up to and including eradication, will be undertaken wherever such species threaten park resources or public health and when control is prudent and feasible.	<i>NPS Management Policies 2001</i> ; Executive Order 13112, Invasive Species

**IMPACTS COMMON TO ALL ACTION ALTERNATIVES**

Human developments and associated activities have been shown to affect wildlife populations through direct habitat loss, disturbance impacts, and/or creation of barriers to movement. Such effects may occur in isolation or concurrently. In the short- term, individual animals may change their behavior in response to disturbances. Longer term impacts may also occur at the individual, population, or community level. For individuals, long- term effects could include altered behavior (e.g. nest or den abandonment, changes in food sources), vigor, or productivity. Population level effects could include changes in abundance, distribution, or demographic parameters, while community level changes could include changes in species composition. The White Grass Ranch site has not been seasonally occupied by humans for almost twenty years, and current use of the area by a variety of wildlife species is evident. Consequently, rehabilitation of the existing buildings and subsequent use of the facility as a historic preservation technology and training center will influence wildlife use of the area.

In general, ecological impacts of developments are greater in extent than the actual physical footprint, but the “zone of influence” depends on individual species sensitivity and the patterns of human use (e.g. type, timing, and frequency of human use). Impacts could occur during the construction phase and during the center operation phase. Table 9 summarizes the human use patterns associated with each of the alternatives.

**Table 9: Characteristics of Activities Associated with each Alternative**

Characteristic	Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Action	Rehabilitation	None	1 cabin	3 cabins (short-term) 13 cabins total (long-term)	13 cabins (short-term)
	Stabilization	13 cabins	12 cabins	10 cabins (short-term)	N/A
	Infrastructure	None	Electricity, storage (hay shed), vault toilet.	Full utilities, on-site water well, storage (hay shed)	Full utilities, on-site water well, storage (hay shed)

Characteristic	Activity	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	Access	No improvements	New spur road	New spur road	Improvement to existing secondary White Grass road
	Parking	None	6 vehicles Limited (trainees carpool & shuttled to site)	6 vehicles (trainees carpool & shuttled to site)	20 vehicles
	Carpentry work shop	N/A	Off- site - Moose	Off- site - Moose	Off- site - Moose
	Fence	None	None	Post and rail Perimeter	Post and rail Perimeter
Timing	Operating/ construction season	7 mo (Apr. – Oct.)	7 mo (Apr. – Oct.)	7 mo (Apr. – Oct.)	7 mo (Apr. – Oct.)
	Time of day	Day	Day use	Day/overnight	Day/overnight
Magnitude and intensity of human activity	Overnight capacity	0	0	12- 15	12- 15
	Daytime users	0	15- 30	15- 30	15- 30
	Frequency of facility use	None	Daytime during operating season	Day and nighttime during operating season	Day and nighttime during operating season
	Duration of rehabilitation / stabilization phase	Intermittent	1- 2 years	Approximately 5 years	2- 3 years

**IMPACTS OF ALTERNATIVE 1: NO- ACTION  
IMPACT ANALYSIS**

**General Wildlife Species, Migratory Birds of Management Concern and Wyoming Species of Special Concern**

Under Alternative 1 the existing buildings would be stabilized and maintained, but a historic preservation training center would not be developed. Stabilization includes shoring up roofs, porches, and walls and sealing the building to prevent wildlife, including bats, from entering. If bats roost at White Grass Ranch, it is expected that they would experience short- term, minor adverse impacts during stabilization due to disturbance and possibly being unable to enter and/or exit the roosting area. To minimize adverse affects to any bats present, buildings will be surveyed before they are stabilized. If bat species are found roosting, permanent sealing would not occur until the fall, when bats have left the buildings for the winter. Other wildlife, such as ungulates or carnivores that may be present in the vicinity of the ranch when these activities take place, would also be disturbed or displaced. However, it is anticipated that such impacts would be small in scale, short- term, and negligible because the disruption or alteration of habitat is limited in time and space. No long- term adverse affects are anticipated for any wildlife species.

Alternative 1 would have the lowest impact on wildlife of those considered in this document in

the White Grass Ranch area. Since only existing maintenance activities would be continued, use of the area by wildlife would be expected to continue as it has since human occupation of the site ceased.

## Threatened and Endangered Species

### Grizzly Bear

The project area is outside of the grizzly bear recovery zone and the ten- mile buffer used to measure recovery demographic criteria (USFWS 2000). It contains habitat that is suitable to grizzly bears, generally in the absence of human activities. Since the project area is adjacent to a popular trailhead access road (Death Canyon Road), current use of the area by grizzly bears is probably limited to periods when visitor use is low, such as during the early spring and late fall, or during late night and early morning hours when human activities are generally suspended. Even during these periods, grizzly use of the area probably occurs at a very low level because of the proximity to human developments and the current relative paucity of grizzly bears in the immediate area.

Direct impacts to grizzly bears associated with Alternative 1 would include avoidance of the area due to human activities associated with maintenance and stabilization of existing structures, including dispersed use and noise. Under Alternative 1, these impacts would occur infrequently and would be very short- term and negligible when they occur. As a result, they would not be expected to measurably change grizzly use of the area.

The greatest potential for negative impacts to grizzly bears is related to conflicts with people, particularly over unsecured food or other human attractants. However, under Alternative 1, use of the site would be limited to infrequent maintenance visits, requiring no storage of bear attractants. Maintenance personnel would be given safety briefings, and the likelihood of any bear- human incidents would be extremely low.

Alternative 1 would have the lowest impact on grizzly bears of those considered in this document, and it would not incur additive adverse effects upon grizzly bear recovery. The potential for adverse effects to grizzly bears, from management actions taken against bears as a result of human- bear conflicts, would remain extremely low, as it has been since human occupation of the site ceased. The potential or likelihood of such a conflict associated with the proposed action is low. Because of this, it is the opinion of the NPS that Alternative 1 “**may affect, but is not likely to adversely affect**” the Yellowstone grizzly bear population.

### Gray Wolf

Direct impacts to gray wolves associated with Alternative 1 would include avoidance of the area due to human activities associated with maintenance and stabilization of existing structures, including dispersed use and noise. Under Alternative 1, these impacts would occur infrequently and would be very short- term and minor when they occur. As a result, they would not be expected to measurably change wolf use of the area, or use of the area by their primary prey. Further, since the project area is not within one mile of a known den or rendezvous site used during the breeding season (April 15 to June 30), actions under Alternative 1 are unlikely to disrupt or affect any denning activities.

This alternative would have the lowest impact on gray wolves of those considered in this document, and it would not incur additive adverse effects upon gray wolf recovery. Any displacement or disturbance of individuals that occurs as result of minimal ongoing stabilization and maintenance activities would be confined to the project’s immediate area and limited in temporal extent, such that it should not have population level or long- term impacts on wolves, their ungulate prey, or other important habitat elements. Therefore, it is the opinion of the NPS that Alternative 1 “**may affect, but is not likely to adversely affect**” gray wolves.

## Canada Lynx

Direct impacts to lynx associated with Alternative 1 include avoidance of the area due to human activities associated with maintenance and stabilization of existing structures, including dispersed use and noise. In the contiguous US where lynx habitats are more fragmented and limited in extent compared to Alaska and Canada, Koehler and Aubry (1994) suggested that lynx may be less tolerant of development and associated human activities. Conversely, some anecdotal information suggests that lynx may be relatively tolerant of humans (Ruediger et al. 2000), with the exception of human activity near den sites (Ruggiero et al. 2000). The threshold where human activity precludes use of an area by lynx is unknown (Ruediger et al. 2000). Lynx are generally crepuscular and may rest in secure habitats during the day and emerge after dark and use areas when human activity has stopped.

Individual lynx may be displaced by human presence and noise associated with project activities. Under Alternative 1, these impacts would occur infrequently and would be very short-term when they occur. As a result, they would not be expected to measurably change lynx use of the area. No direct loss of lynx habitat would occur under this alternative.

Alternative 1 would have the lowest impact on lynx of those considered in this document. Any displacement or disturbance of individuals that occurs as result of minimal ongoing stabilization and maintenance activities would be confined to the project's immediate area and limited in temporal extent, such that it should not have population level or long-term impacts on lynx or their habitat. Therefore, it is the opinion of the NPS that Alternative 1 **“may affect, but is not likely to adversely affect”** lynx.

In conclusion, the impacts to threatened and endangered species would be short-term, negligible to minor, and adverse.

## Cumulative Impacts

Alternative 1 would not add cumulatively to other recent or near-future park developments within grizzly bear (Schwartz et al. 2002), gray wolf, and Canada lynx ranges (Schwartz et al. 2002), or to other sources of habitat loss, including private lands development and increased recreation, throughout the ecosystem.

## Conclusion

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's wildlife resources or values.

## IMPACTS OF ALTERNATIVE 2: MINIMUM BASIC FUNCTIONS

Under alternative 2, one structure would be rehabilitated immediately for daytime use as a training center, and twelve buildings would be stabilized. Infrastructure installed to support the center would be minimal. A new spur road would be constructed to access the site, but parking would be limited. The hay shed building would be moved from JY Ranch to White Grass Ranch and used for storage. The ranch would be used permanently on a seasonal basis by fifteen to thirty day users. There would be no overnight users.

## Impact Analysis

### General Wildlife Species

Implementation of Alternative 2 could displace wildlife from important habitats, cause them to habituate to human activities and presence, or place them at increased mortality risk. Of concern are the potential disturbance impacts resulting from increased seasonal occupancy at the ranch. The degree that this would affect wildlife is largely unknown, but it is likely that human presence would displace some wildlife species from the immediate area. Long- term, minor adverse impacts due to the temporary displacement of species sensitive to human disturbance would result initially from construction activities and then from higher levels of human activities compared to recent past.

*Ungulates* - During the spring and summer, elk and mule deer feed primarily on grasses and forbs, while moose feed extensively on aquatic vegetation. During the day these species often rest in areas with dense forest cover adjacent to meadows and sagebrush openings. In the winter, all these species shift their diet to browse species and may forage on aspen, serviceberry, or willows. Very little direct habitat loss (beyond what occurred when the existing structures were constructed) may result from construction of the spur road and general site preparation. Any direct loss of habitat is anticipated to be long- term, negligible to minor, and adverse because of the small acreage involved and the previously disturbed nature of the vegetation in the project area. Operation of the center would be seasonal and, therefore, browse present on the site would still be available to moose during the winter and early spring. Neither elk nor mule deer winter in the area.

The primary effect of restoration and reoccupancy of White Grass Ranch on ungulates would be habitat avoidance. Human presence and use of an area can also reduce habitat security. Many studies have documented the immediate responses of ungulates to disturbance, but long- term effects are poorly understood. In general, ungulates avoid areas near roads and other types of human activities. Human disturbances have also been shown to reduce reproductive success for elk disturbed during the calving season (Phillips and Alldredge 2000) and result in higher movement rates and probabilities of flight for elk in response to off- road recreational activities (Wisdom et al. 2004). In response to human occupation and associated activities, ungulates are likely to modify their use of the ranch site and adjacent meadow to avoid human disturbance. Under Alternative 2, disturbance impacts would be of a lesser degree in the short- term (compared to Alternatives 3 and 4) because site activity is proposed and also in the long- term, because there would be no overnight occupation at the ranch.

*Birds and small mammals* - Very little direct loss of habitat for ground- nesting birds and small mammals would occur as a result of construction of the spur road and relocation of the hay shed from the JY Ranch. To minimize the potential for “taking” a nest of any protected bird species, resource management specialists would survey these areas to ensure no adverse effects would occur before ground- breaking activities. In the event nests are present at these sites, ground breaking activities would not be authorized until after July 15, outside of the primary nesting season.

*Carnivores* – Occupation of the project site during the day for up to seven months of the year could displace some carnivores from the immediate area. Most carnivores not habituated to human presence would avoid the project site and its immediate area while it is occupied. The total area avoided may be larger in the short- term due to mechanical noise during site and building rehabilitation activities. But since only the main cabin would be fully rehabilitated, these impacts would have a shorter duration than under Alternatives 3 or 4. Weasels, skunks,

and most pine martens would probably continue to use the site, mostly unaffected. Species reluctant to use the area while occupied by humans during the day may take advantage of some nearby habitats at night, when use of the Death Canyon Trailhead, Death Canyon Road, and the project area subsides. Impacts on mid- sized and larger carnivores associated with dispersed use from the site would be greater than Alternative 1, but less than Alternatives 3 and 4, because of relative difference in scopes of human occupation.

Black bear use of the area would decline during the periods of human occupation, except in the case of human habituated and/or food conditioned bears. Bears in the southern end of the park, including those in the project area, tend to become habituated and/or food conditioned more frequently because of their proximity to private lands, higher human development densities, and associated unsecured food sources. Bears that are only habituated may forage naturally in habitats adjacent to the project site much as they would in more remote habitats, depending on their level of habituation. Bears that are both habituated and food conditioned, on the other hand, may actively seek human foods at the site while it is occupied. Repeated visits by nuisance bears could result in bear management actions, including potentially removing or destroying individual bears. However, mitigation measures included for bears under all alternatives directed toward food storage and bear awareness would minimize the potential of bear- human interactions at the site.

Human disturbance levels would increase from the present level of no human occupancy to seasonal day use of the project site. Therefore, impacts to carnivores are anticipated to be long-term, minor, and adverse for those species sensitive to human disturbance.

In conclusion, the impacts to general wildlife species would be both short- and long- term, ranging from “no effect” (negligible) to minor, and adverse.

#### Migratory Birds of Management Concern and Wyoming Species of Special Concern

Impacts for migratory birds of management concern and Wyoming species of special concern would be similar to those described for general wildlife. Numerous northern goshawk and great gray owl observations have been documented at the project site and in the forest adjacent to the ranch. Both may avoid the project site during periods of human occupancy, and noise generated from construction may displace foraging goshawks. These impacts are expected to be minimal as additional suitable foraging habitat exists near the project area. Removal of trees to construct the spur road would be surveyed by resource specialists for nests prior to construction, and if nests are discovered, construction would not begin until after July 15. Therefore, no nests would be destroyed for northern goshawks, great gray owls, neotropical migratory birds, other sensitive avian species, and any bats that roost in trees. There would be no long- term adverse impacts on migratory birds of management concern and Wyoming species of special concern due to building stabilization and rehabilitation. Because human disturbance would increase from its present level of no human occupancy to seasonal day use of the project site, long- term minor impacts would result to species that are sensitive to human disturbance.

If bat species roost at White Grass Ranch, it is expected that they would experience minor adverse impacts during rehabilitation and stabilization due to disturbance and possibly being unable to enter and/or exit the roosting area. To minimize adverse affects to any bats present, buildings will be surveyed before they are stabilized and rehabilitated. If bat species are found roosting, permanent sealing would not occur until the fall, when bats have left the buildings for the winter. In the long- term bat roosting habitat, if present, would be permanently lost as buildings are sealed. Because some bat species specifically roost in buildings, it is unknown where bats may root in the future once the buildings at White Grass Ranch are rehabilitated

and/or stabilized.

In conclusion, the effects to species of special concern would be both short- and long- term, ranging from “no effect” (negligible) to minor, and adverse.

### Threatened and Endangered Species

#### **Grizzly Bear**

The project area is outside of the grizzly bear recovery zone and ten- mile buffer used to measure recovery demographic criteria (USFWS 2000). It contains habitat that could be suitable to grizzly bears, generally in the absence of human activities. Since the project area is adjacent to a popular trailhead access road (Death Canyon Road), current use of the area by grizzly bears is probably limited to periods when visitor use is low, such as during the early spring and late fall, or during late night and early morning hours when human activities are generally suspended. Even during these periods, grizzly use of the areas probably occurs at a very low level because of the proximity to human developments and the current relative paucity of grizzly bears in the immediate area.

Direct impacts to grizzly bears associated with Alternative 2 would include avoidance of the area due to human occupation and associated activities, including dispersed use and noise. Under Alternative 2, these impacts would be long- term, and would occur only during daylight hours primarily between 7:00 a.m. and 7:00 p.m. Short- term impacts associated with loud, construction noise would be greatest during the first few years of the project as the main cabin is rehabilitated and other structures stabilized, eventually declining to maintenance level activities. The greatest potential for negative impacts to grizzly bears is related to conflicts with people, particularly over unsecured food or other human attractants. However, since no bear attractants, including garbage, would be stored at the site, and all trainees and instructors at the facility will be given bear safety briefings, the likelihood of such interactions is low.

The following mitigation measures are included either in the proposed action or currently in place due to park policies:

- All project staff, trainees, and other personal will be briefed about food storage needs, and bear safety protocols, and advised to carry bear pepper spray when conducting outdoor activities in the project area.
- All buildings with food storage would have an indoor garbage storage facility to ensure compliance with food storage requirements.
- Food, fuel, and other attractants will be stored and handled to minimize potential conflicts (i.e. no food, garbage, drink, trash, or food and drink containers are to be placed outside vehicles, trailers, or bear- resistant containers except during times when they are being used). No bird feeders or vegetable gardens would be permitted.

The effects of human activities that occur near important grizzly bear foraging habitats are largely dependent upon the abundance and distribution of natural bear foods in any given year and the diligence of project work crews to follow bear management guidelines on site. During years of high whitebark pine production, including 2003, bears are not as likely to come into conflict with human activities prior to denning because this food source occurs at high elevations in remote, less- visited areas. Most management actions occur in the early to mid- fall when the whitebark pine seed crop has failed and bears seek out human sources of food, including garbage (Mattson et al. 1992 and Mattson & Reinhart 1997). All alternatives in this

document would require employee training and strict adherence to park bear management policy guidelines while on site.

The potential short and long- term impacts of Alternative 2 on grizzly bears would include the avoidance of individual bears from the project area as a result of human activities associated with occupation of the site and rehabilitation- related construction activities. This avoidance could be expected to include all habitat within about ½ mile of the site during most of the daylight hours.

The primary adverse effects to grizzly bears are generally from management actions taken against bears as a result of human- bear conflicts. The potential or likelihood of such a conflict associated with Alternative 2 is low. Further, because Alternative 2 contains many measures that would serve to minimize or mitigate the potential for human- bear conflicts, it is the opinion of the NPS that Alternative 2 “**may affect, but is not likely to adversely affect**” the grizzly population.

### Gray Wolf

The project area is not within one- mile of a known den or rendezvous site. Therefore, actions under Alternative 2 are unlikely to disrupt or affect any denning or pup- rearing activities. Individual wolves that may use areas near the project site may avoid the area due to human presence and mechanical noise during building and site rehabilitation activities, and afterwards as the area continues to be occupied by humans for up to seven months of the year. Under Alternative 2, these impacts would be long- term, and could affect available habitat within ½ of the project area. Long- term impacts would be less than under Alternatives 3 and 4, since occupation of the site would only occur during the day. Likewise, short- term impacts associated with rehabilitation activities would be a shorter duration than under Alternatives 3 or 4, because only the main cabin would be rehabilitated, and other structures would only be stabilized. Existing developments in the area (i.e. the Death Canyon Trailhead and Death Canyon Road) probably already cause wolves to avoid much of the immediate area when summer visitor use is high. Wolf use of the area during winter, when the site is unoccupied, would not be affected.

Despite the potential effects described above, the proposed action would not be expected to adversely impact wolves in the long term, primarily because of the relatively small area involved, and because of snow depths that make this area unlikely to be near a den site or ever receive significant wolf use during winter.

Generally, project activities occurring more than a mile from a den or rendezvous site and outside of the breeding season (April to June) do not disrupt and/or inhibit wolf life history behavior to the point of site abandonment or mortality. Any displacement or disturbance of individuals that occurs as result of project implementation would be confined to the project’s immediate area and limited in extent, such that it should not have population level or long- term impacts on wolves, their ungulate prey or other important habitat elements. For these reasons and given implementation of the recommended mitigation measures any impacts to wolves would likely be minor. Therefore, it is the opinion of the NPS that Alternative 2 “**may affect, but is not likely to adversely affect**” gray wolves.

### Canada lynx

Potential impacts to lynx could occur through two pathways: disturbance or displacement of individuals as a result of project activities, and habitat modification. Direct, short- term adverse effects from noise and human presence associated with project activities may displace individual lynx. Some anecdotal information suggests that lynx may be relatively tolerant of humans

(Ruediger et al. 2000), with the exception of human activity near den sites (Ruggiero et al. 2000). The threshold where human activity precludes use of an area by lynx is unknown (Ruediger et al. 2000). Under Alternative 2, disturbance impacts would be long- term, but would occur only during daylight hours primarily between 7:00 a.m. and 7:00 p.m. Because lynx are generally crepuscular and may rest in secure habitats during the day and emerge after dark and use areas where human activity has stopped disturbance impacts could be minor. Short- term impacts associated with loud, construction oriented noise would be greatest during the first few years of the project as the main cabin is rehabilitated and other structures stabilized, eventually declining to maintenance level activities.

Minimizing disturbance to denning habitat is important from May to August (Ruediger et al. 2000). No known lynx dens have been identified within GTNP. Important components of denning habitat (e.g. large woody debris, downed logs, root wads, etc.) are generally lacking in the immediate project area vicinity due to past tree removal. Consequently lynx are not expected to den in close proximity to White Grass Ranch.

Any displacement or disturbance of individuals that occurs as result of minimal ongoing stabilization and maintenance activities would be confined to the project's immediate area and limited in temporal extent, such that it should not have population level or long- term impacts on lynx or their habitat. Therefore, it is the opinion of the NPS that Alternative 2 **“may affect, but is not likely to adversely affect”** lynx.

In conclusion, the effects to threatened and endangered species would be short- and long- term, negligible to minor, and adverse.

### **Impact Analysis Conclusions**

Of the action alternatives, Alternative 2 involves the least amount of development and human disturbance because only daytime use would occur. Impacts to general wildlife, migratory birds of management concern, Wyoming species of special concern, and threatened and endangered species are likely to be both short- and long- term, negligible to minor, and adverse. Short- term adverse impacts would result from construction related activities, while reoccupancy of the site would result in long- term adverse impacts. Permanently sealing buildings could result in the loss of bat roost sites, where they exist.

Although the project area represents suitable habitat for lynx, grizzly bear, and wolves, no den sites for any threatened species are likely to be impacted by Alternative 2 because none are known to exist in the vicinity of White Grass Ranch. The diverse habitats along the base of the Tetons are an important wildlife travel corridor facilitating movements between areas to the north and south and into the Teton canyons for these wide- ranging species.

Increased human activity during building stabilization and rehabilitation could produce short- term, minor adverse impacts on gray wolves, grizzly bears, and Canada lynx due to their avoidance of humans and adjacent habitat.

### **Cumulative Impacts**

#### **Grizzly Bear**

The impacts of Alternative 2 on grizzly bears would be cumulative to other recent or near- future park developments within grizzly bear range (Schwartz et al. 2002), including The Murie Center (NPS 2001c), the new Moose visitor/discovery center (NPS 2002d), the adaptive use of the

McCollister residential complex for seasonal housing (NPS 2003d), the proposed adaptive use of the Lucas/Fabian property for an artist- in- residence program (NPS 2003e), and potential future transportation enhancements. Although these projects are outside the grizzly bear recovery zone, it would also be cumulative to other sources of potential displacement, including private lands development and increased recreation, throughout the ecosystem, but would add negligibly to impacts because of the project's small size.

The implementation of Alternative 2 would contribute cumulatively to effects of other developments on the grizzly bear, but given the small scale of the proposed development and expected use patterns, this contribution would be negligible. This conclusion is based on the following assessment of ongoing federal programs and private actions that are reasonably certain to occur in the recovery area (i.e., the area of concern), and that may affect the demographic parameters specified in the recovery plan. Throughout the recovery zone, actions that may adversely affect grizzly bears or grizzly bear habitat are limited by existing management plans and the Grizzly Bear Conservation Strategy (USFWS 2003). These activities include oil and gas exploration and development, logging, and mining (USFWS 1982). Activities and issues more likely to affect grizzly bears in the recovery zone include:

- grazing, which may impact grizzly bears through management actions resulting from depredations on cattle and sheep;
- big game hunting, which leads to human- bear conflicts and subsequent bear mortalities;
- the potential loss or decline of several important food sources (e.g., whitebark pine seeds and cutthroat trout) due to introduced exotic organisms (Reinhart et al.; 2001);
- the potential reduction in bison to control the spread of brucellosis (*Brucella abortus*) which may result in a decrease in carcass availability in the spring, thus contributing to increases in bear- human conflicts subsequent grizzly bear mortalities; and
- prescribed burns, which may impact grizzly bears in the short- term by altering plant communities, but ultimately may improve habitat conditions.

Considering the above impacts to grizzly bears in the recovery area, the total cumulative impact is not impeding population recovery as evidenced by an expanding grizzly bear population. Alternative 2 would not be expected to incur additive effects because management actions would rarely result in impacts to grizzly bear recovery criteria. Therefore, cumulative effects to grizzly bears would be long- term and negligible.

### **Gray Wolf**

Alternative 2 would contribute cumulatively to habitat loss and displacement associated with other developments in the park, including The Murie Center (NPS 2001c), the new Moose visitor/discovery center (NPS 2002d), the adaptive use of the McCollister residential complex for seasonal housing (NPS 2003d), the proposed adaptive use of the Lucas/Fabian property for an artist- in- residence program (NPS 2003e), and potential future transportation enhancements. It would also be cumulative to other sources of habitat loss and displacement outside the park, including private lands development, throughout the ecosystem. Therefore, cumulative effects to gray wolves would be long- term and negligible because of the project's small size.

## Canada Lynx

Alternative 2 would not contribute additively to the direct loss of lynx habitat as ground disturbing activities would occur within the existing development footprint (considered non-lynx habitat) and the new spur road would be constructed within the existing developed in generally open non- forest habitat. Use levels on the Moose- Wilson Road and Death Canyon Road would increase slightly under alternative 2, but are not expected to increase the risk of road kill or incidental mortality. Disturbance impacts from alternative 2 would be additive to those of other existing and planned park developments and those on private property and public lands. The threshold at which human development may interrupt, redirect, or occlude lynx movements and affect species persistence is not known. Overall, cumulative effects on lynx under this alternative are expected to be long- term, adverse, and minor.

## Conclusion

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's wildlife resources or values.

## IMPACTS OF ALTERNATIVE 3: PHASED DEVELOPMENT (PREFERRED ALTERNATIVE)

### Impact Analysis

Under Alternative 3, three buildings would be rehabilitated immediately and used for the training center. Use of the center would include day and overnight occupancy. Over the long term, all buildings would eventually be rehabilitated after initial stabilization. Infrastructure to support the center would include electricity, phone, water, and sewer. Water would be supplied by an on- site well. A septic tank and leach field would be constructed on site. A new spur road would be constructed to access the site, with parking to accommodate six vehicles. Similar to Alternative 2, the hay shed building would be moved from JY Ranch to White Grass Ranch and used for storage. The ranch would be permanently occupied on a seasonal basis by twelve to fifteen overnight users and a maximum of thirty day users and trainees.

### General Wildlife Species

Similar to Alternative 2, Alternative 3 would have minor adverse impacts due to the temporary displacement of species sensitive to human disturbance. The level of impacts would be greater than under Alternative 2 because of the more human occupation proposed and the addition of overnight use.

Very little direct loss of habitat for ungulates, ground- nesting birds, and small mammals would occur as a result of construction of the spur road, parking area, relocation of the hay shed from the JY Ranch, and development of a septic system and leach field. To minimize the potential for "taking" a nest of any protected bird species, resource management specialists would survey these areas to ensure no adverse effects would occur before ground breaking activities. In the event nests are present at these sites, ground- breaking activities would not be authorized until after July 15, outside of the primary nesting season. Therefore, the effects would be negligible.

Alternative 3 involves overnight use of the site by twelve to fifteen occupants. Overnight use would extend the period of disturbance, especially in the early morning and evening hours.

Increased levels of disturbance could also occur from dispersed use of the area by occupants during their off time. This could potentially extend the time that wildlife are displaced from habitats. Conversely, wildlife may habituate to human presence depending on their tolerance, but this could result in wildlife- human conflicts. To minimize potential impacts to wildlife from dispersed use, trainees would be encouraged to stay on established trails that connect buildings and dispersed use would be discouraged outside the immediate area. A wildlife friendly fence would be constructed for historic and cultural landscape purposes, but would also serve to discourage social trailing. If social trails were created, the potential for disturbance to wildlife species such as ungulates, bears, and some nesting birds could increase causing them and other species sensitive to human disturbance to be displaced. Overall, the effects to these species would be mitigated to negligible.

*Carnivores* - Under Alternative 3, day and night occupation of the ranch for up to seven months of the year would displace some carnivores from the immediate area. Most carnivores not habituated to human presence would avoid the project site and its immediate area while it is occupied. The total area avoided may be larger in the short- term due to mechanical noise during site and building rehabilitation activities. Weasels, skunks, and most pine martens would probably continue to use the immediate area, mostly unaffected. Species reluctant to use the area during the day while human activity is highest may take advantage of some nearby habitats at night, when use of the Death Canyon Trailhead, Death Canyon Road, and the project area subsides. Impacts on carnivores associated with dispersed use from the site would be greater under Alternative 3 than alternatives 1 and 2 in the long- term and equivalent to Alternative 4, because of the greater scope of human occupation.

Black bear use of the area would likely decline, except in the case of human habituated and/or food conditioned bears. Bears in the southern end of the park, including those in the project area, tend to become habituated and/or food conditioned more frequently because of their proximity to private lands, higher human development densities, and associated unsecured food sources. Bears that are only habituated may forage naturally in habitats adjacent to the project site much as they would more remote habitats, depending on the level of habituation. Bears that are both habituated and food conditioned, on the other hand, may actively seek human foods at the site while it is occupied. Repeated visits by nuisance bears could result in bear management actions and the removal or destruction of individual bears. However, mitigation measures included for bears under all alternatives, and the inclusion of a secured garbage storage area, would minimize the potential of bear- human interactions at the site.

In conclusion, the impacts to general wildlife species would be both short- and long- term, negligible to minor, and adverse.

### **Migratory Birds of Management Concern and Wyoming Species of Special Concern**

Similar to Alternative 2, Alternative 3 would have long- term, negligible to minor adverse impacts due to the temporary displacement of those species of management concern sensitive to human disturbance. The level of impacts would be greater than under Alternative 2 because of the more extensive development proposed and the addition of overnight use. These impacts are expected to be minimal as additional suitable foraging habitat exists near the project area.

Impacts to northern goshawk, great gray owl, and other sensitive bird species would be similar as those resulting from Alternative 2.

Removal of trees to construct the spur road would be surveyed by resource specialists for nests prior to construction, and if nests are discovered, construction would not begin until after July

15. Therefore, no nests would be destroyed for northern goshawks, great gray owls, neotropical migratory birds, other sensitive avian species, and any bats that roost in trees. There would be no long- term adverse impacts on migratory birds of management concern and Wyoming species of special concern due to building stabilization and rehabilitation.

Long- term, minor adverse impacts to Wyoming species of special concern would result from Alternative 3. Overnight users and correspondingly greater human occupancy and associated noise could increase the potential for disturbance and displacement of sensitive species.

If bat species roost at White Grass Ranch, it is expected that they would experience minor adverse impacts during rehabilitation and stabilization due to disturbance and possibly being unable to enter and/or exit the roosting area. Because more extensive rehabilitation is proposed under Alternative 3, disturbance would occur over a longer timeframe. To minimize adverse affects to any bats present, buildings will be surveyed before they are stabilized and rehabilitated. If bat species are found roosting, permanent sealing would not occur until the fall, when bats have left the buildings for the winter. In the long- term bat roosting habitat, if present, would be permanently lost as buildings are sealed. Because some bat species specifically roost in buildings, it is unknown where bats may roost in the future once the buildings at White Grass Ranch are rehabilitated and/or stabilized.

In conclusion, the effects to migratory bird species of management concern and Wyoming species of special concern would be both short- and long- term, negligible to minor, and adverse.

### **Threatened and Endangered Species**

#### **Grizzly Bear**

The project area is outside of the grizzly bear recovery zone and ten- mile buffer used to measure demographic recovery criteria (USFWS 2003). It contains habitat that could be suitable to grizzly bears, generally in the absence of human activities. Since the project area is adjacent to a popular trailhead access road (Death Canyon Road), current use of the area by grizzly bears is probably limited to periods when visitor use is low, such as during the early spring and late fall, or during late night and early morning hours when human activities are generally suspended. Even during these periods, grizzly use of the areas probably occurs at a very low level because of the proximity to human developments and the relative paucity of grizzly bears in the area.

Direct impacts to grizzly bears associated with Alternative 3 would include avoidance of the area due to human occupation and associated activities, including dispersed use and noise. Under Alternative 3, these impacts would be long- term. Short- term impacts associated with loud, construction oriented noise would be greatest during the first several years of the project, eventually declining to maintenance level activities after all the buildings are rehabilitated. The greatest potential for negative impacts to grizzly bears is related to conflicts with people, particularly over unsecured food or other human attractants. However, since an indoor garbage storage facility will be provided, all outdoor receptacles will be bear resistant, and all trainees and residents of the center will be given bear safety briefings, the likelihood of such interactions is low.

The following mitigation measures are included either in the proposed action or currently in place due to park policies:

- All project staff, trainees, and other personnel will be briefed about food storage needs, and bear safety protocols, and advised to carry bear pepper spray when conducting outdoor activities in the project area.
- All buildings with food storage would have an indoor garbage storage facility to ensure compliance with food storage requirements.
- Food, fuel, and other attractants will be stored and handled to minimize potential conflicts (i.e. no food, garbage, drink, trash, or food and drink containers are to be placed outside vehicles, trailers, or bear-resistant containers except during times when they are being used). No bird feeders or vegetable gardens would be permitted.

The effects of human activities that occur near important grizzly bear foraging habitats are largely dependent upon the abundance and distribution of natural bear foods in any given year and the diligence of project work crews to follow bear management guidelines on site. During years of high whitebark pine production, including 2003, bears are not as likely to come into conflict with human activities prior to denning because this food source occurs at high elevations in remote, less-visited areas. Most management actions occur in the early to mid-fall when the whitebark pine seed crop has failed and bears seek out human sources of food, including garbage (Mattson et al. 1992 and Mattson & Reinhart 1997). As stated, all alternatives in this document would require employee training and strict adherence to park bear management policy guidelines while on site.

The potential short and long-term impacts of the proposed action on grizzly bears would include the avoidance of individual bears from the project area as a result of human activities associated with occupation of the site and rehabilitation-related construction activities. This avoidance could be expected to include all habitat within approximately ½ mile of the project area.

The primary adverse effects to grizzly bears are generally from management actions taken against bears as a result of human-bear conflicts. The potential or likelihood of such a conflict associated with Alternative 3 is low. Further, because Alternative 3 contains many measures that would serve to minimize or mitigate the potential for human-bear conflicts, it is the opinion of the NPS that Alternative 3 “may affect, but is not likely to adversely affect” the grizzly population.

### **Gray Wolf**

The project area is not within one mile of a known den or rendezvous site used during the breeding season (April 15 to June 30). Therefore, actions under Alternative 3 are unlikely to disrupt or affect any denning activities. Individual wolves that may use areas near the project site may avoid the area due to human presence and mechanical noise during site and building rehabilitation activities, and afterwards as the area continues to be occupied by humans for up to seven months of the year. Under Alternative 3, these impacts would be long-term, and could affect available habitat within ½ of the project area. Existing developments in the area (i.e. the Death Canyon Trailhead and the Death Canyon Road) probably already cause wolves to avoid the immediate area. Wolf use of the area during winter would not be affected.

Despite the potential effects described above, the proposed action would not be expected to adversely impact wolves in the long term, primarily because of the relatively small area involved, and because of snow depths that make this area unlikely to ever receive significant wolf use.

Generally, project activities occurring more than a mile from a den or rendezvous site and outside of the breeding season (April to June) do not disrupt and/or inhibit wolf life history

behavior to the point of site abandonment or mortality. Any displacement or disturbance of individuals that occurs as result of project implementation would be confined to the project’s immediate area and limited in extent, such that its should not have population level or long-term impacts on wolves, their ungulate prey, or other important habitat elements. For these reasons, and given implementation of the recommended mitigation measures, any impacts to wolves would likely be negligible. Therefore, it is the opinion of the NPS that Alternative 3 “**may affect, but is not likely to adversely affect**” gray wolves.

**Canada Lynx**

Direct impacts to lynx associated with Alternative 3 are similar to those described under Alternative 2. Short- term impacts associated with loud, construction noise would be greatest during the first several years of the project, eventually declining to maintenance level activities after all the buildings are rehabilitated. Of the alternatives considered, short- term disturbance impacts would extend over a longer time frame because of the longer time frame involved in rehabilitating the buildings.

Alternative 3 would have the greatest level of disturbance impacts on lynx because of the longer build- out timeframe. Habitat loss (if any) from installation of utilities and spur road construction would be small relative to available habitat within the LAU and would not occur near any known den sites. Consequently, while there may be impacts to individuals, no population level or long- term impacts on lynx or their habitat are anticipated. Therefore, it is the opinion of the NPS that Alternative 3 “**may affect, but is not likely to adversely affect**” lynx.

In conclusion, the effects to threatened and endangered species would be both short- and long-term, negligible to minor, and adverse.

**Table 10: Species of Management Concern and Critical Habitat Effects Determinations**

Species	Status	Effects Determination
Bald eagle	Threatened	Project area does not contain any suitable nesting or foraging habitat.
Canada lynx	Threatened	Not likely to adversely affect
Grizzly bear	Threatened	Not likely to adversely affect
Gray wolf	Threatened	Not likely to adversely affect

**Impact Analysis Conclusions**

The wildlife impacts associated with Alternative 3 are greater than Alternatives 1 and 2. A larger number of rehabilitated buildings and human presence and occupancy would result in greater wildlife disturbance and possible displacement and greater impacts to all categories of wildlife (non- sensitive species, Wyoming species of special concern, migratory bird species of management concern, and threatened and endangered species). Impacts would range from negligible to minor, but more often, minor adverse impacts would result.

Alternative 3 would cause greater short- term, minor adverse impacts to non- sensitive wildlife species such as elk, moose, bats, and black bears than would Alternatives 1 and 2. Overnight use would result in long- term, minor impacts because of increased disturbance to wildlife, their continued avoidance of the area, and effective habitat loss.

Building rehabilitation, a new parking area and spur road, and the addition of the hay shed would potentially cause short- term, minor adverse effects to species of special concern such as roosting bats and sensitive birds. If social trailing occurs, it would have the potential to disturb sensitive species and cause long- term, minor adverse effects due to displacement.

Compared to Alternatives 1 and 2, threatened and endangered species such as gray wolves, grizzly bears, and Canada lynx would be more likely to experience long- term, minor adverse impacts if they are displaced due to increased human activity. Impacts are similar to but somewhat less than those under Alternative 4. Potential impacts on wolves, grizzly bears, and Canada lynx from noise and human activity would be greater than under Alternative 2, but could still be considered minor.

Adverse impacts would be greater than under Alternative 2 due to increased human presence. Social trails and dispersed human use outside of the footprint of the project area would be discouraged. Minor impacts would result from noise generated from activities associated with the rehabilitation and stabilization of the buildings potentially causing these species to avoid using adjacent habitat.

### **Cumulative Impacts**

White Grass Ranch is at the base of the Teton Range, where the belt of mixed conifer habitats provides some of the park's best wildlife habitat. This area, with its irregular openings, diverse shrub understory that includes many fruit bearing plants, and heterogeneous topography, facilitates the migrations and movements of many important wildlife species. Human occupancy combined with activities associated with construction and rehabilitation of the existing buildings has the potential to negatively impact wildlife by creating noise and disturbance that makes animals move elsewhere. However, the existing access road and Death Canyon trailhead already likely influence wildlife movement in this corridor without eliminating the activities of wildlife.

Alternative 3 would contribute cumulatively to wildlife habitat loss (through direct and indirect means) associated with other recent or near- future developments in the park, including The Murie Center (NPS 2001c), the new Moose visitor/discovery center (NPS 2002d), the adaptive use of the McCollister residential complex for seasonal housing (NPS 2003d), the proposed adaptive use of the Lucas/Fabian property for an artist- in- residence program (NPS 2003e), and potential future transportation enhancements. It would also be cumulative to other sources of habitat loss outside the park, including private lands development, throughout the ecosystem. The addition to cumulative impacts is expected to be minor, however, primarily because of the small scope of the project.

### **Grizzly Bear**

The cumulative effects of Alternative 3 on grizzly bears are similar to those listed in Alternative 2. The impacts of Alternative 3 would be cumulative to other recent or near- future park developments within grizzly bear range (Schwartz et al. 2002), including The Murie Center (NPS 2001c), the new Moose visitor/discovery center (NPS 2002d), the adaptive use of the McCollister residential complex for seasonal housing (NPS 2003d), the proposed adaptive use of the Lucas/Fabian property for an artist- in- residence program (NPS 2003e), and potential future transportation enhancements. Although these projects are outside the grizzly bear recovery zone, it would also be cumulative to other sources of potential displacement, including private lands development and increased recreation, throughout the ecosystem, but would add negligibly to impacts because of the project's small size.

The implementation of Alternative 3 would contribute cumulatively to effects of other developments on the grizzly bear, but given the small scale of the proposed development and expected use patterns, this contribution would be minor. This conclusion is based on the following assessment of ongoing federal programs and private actions that are reasonably certain to occur in the recovery area (i.e., the area of concern), and that may affect the demographic parameters specified in the recovery plan. Throughout the recovery zone, actions that may adversely affect grizzly bears or grizzly bear habitat are limited by existing management plans and the Grizzly Bear Conservation Strategy (2003). These activities include oil and gas exploration and development, logging, and mining (USFWS 1982). Activities and issues more likely to affect grizzly bears in the recovery zone include:

- grazing, which may impact grizzly bears through management actions resulting from depredations on cattle and sheep;
- big game hunting, which leads to human- bear conflicts and subsequent bear mortalities;
- the potential loss or decline of several important food sources (e.g., whitebark pine seeds and cutthroat trout) due to introduced exotic organisms (Reinhart et al.; 2001);
- the potential reduction in bison to control the spread of brucellosis (*Brucella abortus*) which may result in a decrease in carcass availability in the spring, thus contributing to increases in bear- human conflicts subsequent grizzly bear mortalities; and
- prescribed burns, which may impact grizzly bears in the short- term by altering plant communities, but ultimately may improve habitat conditions.

Considering the above impacts to grizzly bears in the recovery area, the total cumulative impact is not impeding population recovery as evidenced by an expanding grizzly bear population. Alternative 3 would not be expected to incur additive effects upon grizzly bear recovery because management actions would rarely result in impacts to grizzly bear recovery criteria. Therefore, cumulative effects to grizzly bears would be long- term and minor.

### Gray Wolf

The cumulative impacts of Alternative 3 on gray wolves are similar to those listed in Alternative 2. Alternative 3 would not contribute cumulatively to habitat loss associated with other developments in the park, including The Murie Center (NPS 2001c), the new Moose visitor/discovery center (2002d), the adaptive use of the McCollister residential complex for seasonal housing (NPS 2003d), the proposed adaptive use of the Lucas/Fabian property for an artist- in- residence program (NPS 2003e), and potential future transportation enhancements. It would also be cumulative to other sources of habitat loss, including private lands development, throughout the ecosystem. Therefore, cumulative effects to gray wolves would be long- term and negligible because of the project's small size.

### Canada Lynx

Alternative 3 would not contribute additively to the direct loss of lynx habitat as ground disturbing activities would occur within the existing development footprint (considered non-lynx habitat) and the new spur road would be constructed within the existing developed in generally open non- forest habitat. Use levels on the Moose- Wilson Road and Death Canyon Road would increase slightly under alternative 3, but are not expected to increase the risk of road kill or incidental mortality. Disturbance impacts from alternative 3 would be additive to those of other existing and planned park developments and those on private property and public lands. The threshold at which human development may interrupt, redirect, or occlude lynx

movements and affect species persistence is not known. Overall, cumulative effects on lynx under this alternative are expected to be long- term, adverse, and minor.

## Conclusion

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's wildlife resources or values.

## IMPACTS OF ALTERNATIVE 4: COMPLETE BUILD- OUT

### Impact Analysis

#### General Wildlife Species

Because there would be more immediate rehabilitation, impacts would be slightly greater than Alternative 3 in the short- term. There would be negligible to minor impacts in terms of noise, human activity, and ground disturbance from the addition of the hay shed, a parking area for twenty vehicles, grading around all the buildings, and the development of utilities. The number of buildings initially rehabilitated would increase from three in Alternative 3 to thirteen, and ten of the structures would provide immediate overnight lodging. The secondary White Grass road would be improved. Noise, human activity, and minor habitat displacement associated with these actions would occur. A wildlife friendly fence would be constructed for historic and cultural landscape purposes, but would also serve to discourage social trailing. Overall, there would be negligible adverse impacts but they would be greater than those in Alternatives 1, 2, and 3.

Very little direct loss of habitat for ungulates, ground- nesting birds, and small mammals would occur as a result of improving the secondary White Grass road, parking area, placement of the JY Ranch hay shed, and development of a septic system and leach field. To minimize the potential for "taking" a nest of any protected bird species, resource management specialists would survey these areas to ensure no adverse effects would occur before ground breaking activities. In the event nests are present at these sites, ground breaking activities would not be authorized until after July 15, a time frame outside of the primary nesting season. Therefore, the effects would be negligible.

During periods of peak use, as many as twelve to fifteen occupants would stay overnight at the ranch, and there would be fifteen to thirty daytime users and trainees. Due to the immediate rehabilitation and occupation of the ranch, visitation and impacts would be greater than under Alternative 3. Trainees would be encouraged to stay on established trails that connect buildings and dispersed use would be discouraged outside the immediate area. Nevertheless, minor impacts would result from disturbance to wildlife, displacement from the area, and effective habitat loss. Immediate impacts in terms of human numbers would be greater than under Alternatives 1, 2, and 3.

*Carnivores* – Under Alternative 4, day and night occupation of the ranch for up to seven months of the year will displace some carnivores from the immediate area. Most carnivores not habituated to human presence would avoid the project site and its immediate area while it is occupied. The total area avoided may be larger in the short term due to mechanical noise during site and building rehabilitation activities, but these impacts would be less than under Alternative

3 because of a more compressed construction phase. Weasels, skunks, and most pine marten, if present, would probably continue to use the immediate area mostly unaffected. Species reluctant to use the area during the day while human activity is highest may take advantage of some nearby habitats at night, when use of the Death Canyon Trailhead, Death Canyon Road, and the project area subsides.

In conclusion, the impacts to general wildlife species would be both short- and long- term, negligible to minor, and adverse.

### **Migratory Birds of Management Concern and Wyoming Species of Special Concern**

Similar to Alternatives 2 and 3, Alternative 4 would have long- term, negligible to minor adverse impacts due to the temporary displacement of those species of management concern sensitive to human disturbance. The level of impacts would be the greatest under this alternative in the short term because proposed development would occur at a larger scale to accomplish full build out in a shorter period of time and the greater overnight use would occur much sooner. These impacts are expected to be minimal as additional suitable foraging habitat exists near the project area.

In recent years there have been no northern goshawk nesting in the project area. Because no sensitive species nests would be removed or destroyed under Alternative 4, no impacts would occur upon these species. Species of management concern that inhabit areas adjacent to the project site may be impacted due to the increase in human activity, overnight use, and noise generated from construction and rehabilitation.

If bat species roost at White Grass Ranch, it is expected that they would experience minor adverse impacts during rehabilitation due to disturbance and possibly being unable to enter and/or exit the roosting area. Because more extensive rehabilitation is proposed under Alternative 4 than in Alternatives 2 and 3, disturbance would occur over a longer timeframe. To minimize adverse affects to any bats present, buildings will be surveyed before they are rehabilitated. If bat species are found roosting, permanent sealing would not occur until the fall, when bats have left the buildings for the winter. In the long- term bat roosting habitat, if present, would be permanently lost as buildings are sealed. Because some bat species specifically roost in buildings, it is unknown where bats may roost in the future once the buildings at White Grass Ranch are rehabilitated.

Long- term, negligible to minor impacts to migratory bird species of management concern and species of Wyoming special concern would result from Alternative 4 actions. Immediate overnight use and occupancy of more buildings could increase the potential for disturbance and displacement of sensitive species when compared to Alternative 3. Impacts would be greater than those under Alternatives 1, 2, and 3.

### **Threatened and Endangered Species**

#### **Grizzly Bear**

The project area is outside of the grizzly bear recovery zone and ten- mile buffer used to measure demographic recovery criteria (USFWS 2003). It contains habitat that could be suitable to grizzly bears, generally in the absence of human activities. Since the project area is adjacent to a popular trailhead access road (Death Canyon Road), current use of the area by grizzly bears is probably limited to periods when visitor use is low, such as during the early spring and late fall, or during late night and early morning hours when human activities are generally suspended. Even during

these periods, grizzly use of the areas probably occurs at a very low level because of the proximity to human developments and the relative paucity of grizzly bears in the area.

Direct impacts to grizzly bears associated with Alternative 4 would include avoidance of the area due to human occupation and associated activities, including dispersed use and noise. Under Alternative 4, these impacts would be long term. Short- term impacts associated with loud, construction noise would be greatest during the first several years of the project, eventually declining to maintenance level activities after all the buildings are rehabilitated. The greatest potential for negative impacts to grizzly bears is related to conflicts with people, particularly over unsecured food or other human attractants. However, since an indoor garbage storage facility will be provided, all outdoor receptacles will be bear resistant, and all trainees and residents of the center will be given bear safety briefings, the likelihood of such interactions is low.

The following mitigation measures are included either in the proposed action or currently in place due to park policies:

- All project staff, trainees, and other personal will be briefed about food storage needs, and bear safety protocols, and advised to carry bear pepper spray when conducting outdoor activities in the project area.
- All buildings with food storage would have an indoor garbage storage facility to ensure compliance with food storage requirements.
- Food, fuel, and other attractants will be stored and handled to minimize potential conflicts (i.e. no food, garbage, drink, trash, or food and drink containers are to be placed outside vehicles, trailers, or bear- resistant containers except during times when they are being used). No bird feeders or vegetable gardens would be permitted.

The effects of human activities that occur near important grizzly bear foraging habitats are largely dependent upon the abundance and distribution of natural bear foods in any given year and the diligence of project work crews to follow bear management guidelines on site. During years of high whitebark pine production, including 2003, bears are not as likely to come into conflict with human activities prior to denning because this food source occurs at high elevations in remote, less- visited areas. Most management actions occur in the early to mid- fall when the whitebark pine seed crop has failed and bears seek out human sources of food, including garbage (Mattson et al. 1992 and Mattson & Reinhart 1997). As stated, all alternatives in this document would require employee training and strict adherence to park bear management policy guidelines while on site.

The potential short and long- term impacts of the proposed action on grizzly bears would include the avoidance of individual bears from the project area as a result of human activities associated with occupation of the site and rehabilitation- related construction activities. This avoidance could be expected to include all habitat within approximately ½ mile of the project area.

The primary adverse effects to grizzly bears are generally from management actions taken against bears as a result of human- bear conflicts. The potential or likelihood of such a conflict associated with Alternative 4 is low. Further, because Alternative 4 contains many measures that would serve to minimize or mitigate the potential for human- bear conflicts, it is the opinion of the NPS that Alternative 4 “**may affect, but is not likely to adversely affect**” the grizzly population.

## Gray Wolf

The project area is not within one mile of a known den or rendezvous site used during the breeding season (April 15 to June 30). Therefore, actions under Alternative 4 are unlikely to disrupt or affect any denning activities. Individual wolves that may use areas near the project site may avoid the area due to human presence and mechanical noise during site and building rehabilitation activities, and afterwards as the area continues to be occupied by humans for up to seven months of the year. Under Alternative 4, these impacts would be long- term, and could affect available habitat within ½ of the project area. Short- term impacts associated with rehabilitation activities would be less than under Alternative 3 because they would occur in a more compressed time period. Existing developments in the area (i.e. the Death Canyon Trailhead and Death Canyon Road) probably already cause wolves to avoid much of the immediate area when summer visitor use is high. Wolf use of the area during winter, when the site is unoccupied, would not be affected.

Despite the potential long- term effects described above, the proposed action would not be expected to adversely impact wolves in the long- term, primarily because of the relatively small area involved, and because of snow depths that make this area unlikely to be near a den site or ever receive significant wolf use during winter.

Generally, project activities occurring more than a mile from a den or rendezvous site and outside of the breeding season (April to June) do not disrupt and/or inhibit wolf life history behavior to the point of site abandonment or mortality. Any displacement or disturbance of individuals that occurs as result of project implementation would be confined to the project's immediate area and limited in extent, such that it should not have population level or long- term impacts on wolves, their ungulate prey, or other important habitat elements. For these reasons and given implementation of the recommended mitigation measures any impacts to wolves would likely be negligible. Therefore, it is the opinion of the NPS that Alternative 4 **“may affect, but is not likely to adversely affect”** gray wolves.

## Canada lynx

Impacts on lynx under Alternative 4 would be similar to those described under Alternative 3 because the same level of rehabilitation and site development is proposed. However, because rehabilitation of all the existing buildings would take place immediately (two- to- three year time frame), the short- term disturbance impacts from the construction phase of Alternative 4 would be more intensive, but occur for an overall shorter period of time.

Alternative 4 would have an intermediate level (greater than Alternative 2, but less than Alternative 3) of disturbance impacts on lynx. Habitat loss (if any) from installation of utilities would be minimal and would not occur near any known den sites. Consequently, while there may be impacts to individuals, no population level or long- term impacts on lynx or their habitat are anticipated. Therefore, it is the opinion of the NPS that this alternative **“may affect, but is not likely to adversely affect”** lynx.

In conclusion, the effects to threatened and endangered species would be both short- and long-term, negligible to minor, and adverse.

## Impact Analysis Conclusions

The wildlife impacts associated with Alternative 4 are slightly greater than those under Alternatives 1, 2, and 3 in the short- term during the construction phase due to the built- out

being concentrated in a shorter period of time; however, long- term impacts are the same as Alternative 3. These differences are due to relative amounts of rehabilitation, construction, and immediate overnight users. Wildlife displacement is greatest under Alternatives 3 and 4, lesser under Alternative 2, and the lowest under Alternative 1. Alternative 4 would cause short- term, minor adverse impacts to wildlife species such as elk, moose, and black bears.

Migratory bird species of management concern and Wyoming species of special concern, such as roosting bats and sensitive birds, would potentially experience short- term, minor adverse effects during construction. Social trailing would have the potential to disturb sensitive species and cause long- term, minor adverse effects due to displacement.

Compared to Alternative 1, threatened and endangered species, such as gray wolves, grizzly bears, and Canada lynx, would be more likely to experience both short- and long- term, minor adverse impacts if they are displaced due to increased human activity. Impacts are similar to, but greater than, those under Alternatives 2 and 3 because there would be more overnight users and buildings rehabilitated.

## Cumulative Impacts

### Grizzly Bear

The impacts of Alternative 4 on grizzly bears would be cumulative to other recent or near- future park developments within grizzly bear range (Schwartz et al. 2002), including The Murie Center (NPS 2001c), the new Moose visitor/discovery center (NPS 2002d), the adaptive use of the McCollister residential complex for seasonal housing (NPS 2003d), the proposed adaptive use of the Lucas/Fabian property for an artist- in- residence program (NPS 2003e), and potential future transportation enhancements. Although these projects are outside the grizzly bear recovery zone, it would also be cumulative to other sources of potential displacement, including private lands development and increased recreation, throughout the ecosystem, but would add negligibly to impacts because of the project's small size.

The implementation of Alternative 4 would contribute cumulatively to effects of other developments on the grizzly bear, but given the small scale of the proposed development and expected use patterns, this contribution would be minor. This conclusion is based on the following assessment of ongoing federal programs and private actions that are reasonably certain to occur in the recovery area (i.e., the area of concern), and that may affect the demographic parameters specified in the recovery plan. Throughout the recovery zone, actions that may adversely affect grizzly bears or grizzly bear habitat are limited by existing management plans and the Grizzly Bear Conservation Strategy (2003). These activities include oil and gas exploration and development, logging, and mining (USFWS 1982). Activities and issues more likely to affect grizzly bears in the recovery zone include:

- grazing, which may impact grizzly bears through management actions resulting from depredations on cattle and sheep;
- big game hunting, which leads to human- bear conflicts and subsequent bear mortalities;
- the potential loss or decline of several important food sources (e.g., whitebark pine seeds and cutthroat trout) due to introduced exotic organisms (Reinhart et al.; 2001);
- the potential reduction in bison to control the spread of brucellosis (*Brucella abortus*) which may result in a decrease in carcass availability in the spring, thus contributing to increases in bear- human conflicts subsequent grizzly bear mortalities; and
- prescribed burns, which may impact grizzly bears in the short- term by altering plant communities, but ultimately may improve habitat conditions.

Considering the above impacts to grizzly bears in the recovery area, the total cumulative impact is not impeding population recovery as evidenced by an expanding grizzly bear population. Alternative 4 would not be expected to incur additive effects upon grizzly bear recovery because management actions would rarely result in impacts to grizzly bear recovery criteria. Therefore, cumulative effects to grizzly bears would be long- term and minor.

### **Gray Wolf**

The cumulative impacts of Alternative 4 on grizzly bears are similar to those listed in Alternative 2 and 3. Alternative 4 would contribute cumulatively to displacement associated with other developments in the park, including The Murie Center (NPS 2001c), the new Moose visitor/discovery center (NPS 2002d), the adaptive use of the McCollister residential complex for seasonal housing (NPS 2003d), the proposed adaptive use of the Lucas/Fabian property for an artist- in- residence program (NPS 2003e), and potential future transportation enhancements. It would also be cumulative to other sources of habitat loss, including private lands development, throughout the ecosystem. Therefore, cumulative effects to gray wolves would be long- term and negligible because of the project's small size.

### **Canada Lynx**

Alternative 4 would not contribute additively to the direct loss of lynx habitat as ground disturbing activities would occur within the existing development footprint (considered non-lynx habitat) and the new spur road would be constructed within the existing developed in generally open non- forest habitat. Use levels on the Moose- Wilson Road and Death Canyon Road would increase slightly under Alternative 4, but are not expected to increase the risk of road kill or incidental mortality. Disturbance impacts from Alternative 4 would be additive to those of other existing and planned park developments and those on private property and public lands. The threshold at which human development may interrupt, redirect, or occlude lynx movements and affect species persistence is not known. Overall, cumulative effects on lynx under this alternative are expected to be long- term, adverse, and minor.

### **Conclusion**

Because there would be no major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Grand Teton National Park; (2) key to the natural or cultural integrity of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents, there would be no impairment of the park's wildlife resources or values.

## **PARK OPERATIONS AND PARTNERSHIPS**

### **AFFECTED ENVIRONMENT**

#### **Description of Built and Natural Environment**

The White Grass Ranch consists of thirteen rustic log structures, which historically were used as a main cabin, a shower/laundry building, and guest cabins. The buildings are in poor condition, and in some cases structurally unsafe, due to neglect and harsh weather conditions. Within recent years, windows and doors on all the buildings have been boarded up in an attempt to prevent entry of humans and small mammals, and plastic has been placed on roofs to limit water damage to the interiors. Currently, there are no operable utilities at White Grass Ranch. An

operating overhead power line runs on the south and west sides of the ranch. Since 1985, the park has done infrequent stabilization work on the buildings.

White Grass Ranch is located at the western edge of a large meadow dominated by non- native grasses including smooth brome, orchard grass, and Kentucky bluegrass. Cattle and horses grazed in the meadow/pasture north and east of the historic buildings during the tenure of the dude ranch operations. Scattered patches of quaking aspen and lodgepole pine are also common around the buildings. Since 1985, the park has infrequently treated the noxious weeds at White Grass Ranch.

### **Access**

Access to White Grass Ranch is made via roads or trails. Road access is from the Death Canyon Road, which intersects with the Moose- Wilson Road approximately 2.5 miles southwest of Moose. The Death Canyon Road is paved for the first 0.7 miles; the remaining 1.5 miles are dirt and stone. Death Canyon Road is in poor condition due to deterioration and potholes. An informal pull- off exists approximately 500 feet southwest of the main cabin along the Death Canyon Road. Park employees and visitors often use the pull- off to park vehicles when accessing the ranch. White Grass Ranch can also be reached via the secondary White Grass road, which is accessible through a locked gate approximately three- quarters of a mile up the Death Canyon Road. Death Canyon Road is closed in the winter to motorized travel, and is only accessible by skis or snowshoes. White Grass Ranch can also be reached by detouring a short distance to the east from the Valley Trail, a north- south running trail between the park's southern boundary and Lupine Meadows trailhead.

### **Other Facilities**

Other nearby facilities include the Death Canyon Trailhead, White Grass Ranger Station, and the privately- held Sky Ranch. The ranger station and Sky Ranch both have electricity and water. The privately- held JY Ranch is approximately four miles (via road) from White Grass Ranch, and it has full utilities.

### **Partnerships**

The NPS Mission Statement states that the Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world. Shared stewardship is a Park Service core value that emphasizes a commitment to resource stewardship with global preservation communities. A general agreement was signed between the NPS and the National Trust for Historic Preservation (NTHP) in October 2003, which outlined a partnership for rehabilitating and adaptively using White Grass Ranch (see Appendix B). After a fundraising agreement is signed by the NPS and the NTHP, the NTHP would fundraise up to \$1 million dollars for the preferred alternative.

### **METHODOLOGY**

Information on park operations was obtained through personal communication with park staff, former employees of the ranch, the draft value analysis report and other related documents, and site visits.

Discussion of impacts to park operations focuses on attributes such as employee and visitor health and safety, ability to protect and preserve resources, staff size and whether staffing needs to be increased or decreased, partnerships, existing and needed facilities, communication lines for telephones and computers, and appropriate utilities for sewer, electric, and water.

Definitions for levels of impacts for park operations are as follows:

- Negligible:* Park operations and partnerships would not be affected, or the effects would be at low levels of detection and would not have an appreciable effect on park operations and partnerships.
- Minor:* The effect would be detectable and likely short- term, but would be of a magnitude that would not have an appreciable effect on park operations or partnerships. If mitigation was needed to offset adverse effects, it would be simple and likely successful.
- Moderate:* The effects would be readily apparent, likely long- term, and would result in a substantial change in park operations or partnerships in a manner noticeable to staff and to the public. Mitigation measures would be necessary to offset adverse effects and would likely be successful.
- Major:* The effects would be readily apparent, long- term, and would result in a substantial change in park operations or partnerships in a manner noticeable to staff and the public that is markedly different from existing operations and partnerships. Mitigation measures to offset adverse effects would be needed, would be extensive, and their success could not be guaranteed.
- Duration:* Short- term - Effects lasting for the duration of the treatment action.  
Long- term - Effects lasting longer than the duration of the treatment action.

**REGULATIONS AND POLICIES**

Current laws and policies for park operations and partnerships require that the following conditions be achieved in the park:

Desired Condition	Source
Facilities will be integrated into the park landscape and environs with sustainable designs, and development will not compete with dominate park features, or interfere with natural processes, such as the seasonal migration of wildlife.	<i>NPS Management Policies 2001</i>
The adaptive use of historic and non- historic buildings for operations such as visitor centers, hostels, and administrative offices, will be considered first, before new construction, provided that (1) it can meet park objectives and current code requirements; (2) its use will not be an intrusion on significant natural or cultural resources; and (3) a cost savings will be realized. Even when the cost of adaptive use is greater than new construction, it may still be justified.	<i>NPS Management Policies 2001</i>
The NPS will design, construct, and operate all buildings and facilities so they are accessible to, and usable by, persons with disabilities to the greatest extent possible.	<i>NPS Management Policies 2001</i>
Utilities (i.e., energy, water, and wastewater systems) will be as unobtrusive as possible, and have the least possible resource impact. Water systems will be designed to maximally conserve water and the energy used in its treatment and distribution. Wastewater will be adequately treated so that, on its return to water courses, it meets or exceeds applicable state and federal water quality standards.	<i>NPS Management Policies 2001</i>

The NPS must: review and approve all fundraising and other informational materials prior to their distribution and set other appropriate standards; monitor the activities of those who fundraise for the benefit of NPS; ensure accountability for all donations received; verify construction cost estimates prior to initiating a fundraising campaign involving construction; ensure that all in- park construction projects are consistent with the park's General Management Plan and other planning documents and meet NPS compliance and operational standards, including the National Environmental Policy Act, Section 7 of the Endangered Species Act, and §106 of the National Historic Preservation Act; and work with NPS partners to apprise them of the cost and future operational implications of major donations and identify means to mitigate and/or fund them.

*Director's Order #21: Donations and Fundraising and Reference Manual*

NPS park and program managers should actively seek opportunities to efficiently and economically accomplish the NPS mission by entering into advantageous relationships with Federal and non- Federal entities. The NPS will formalize and document these relationships through Cooperative Agreements, Interagency Agreements, and General Agreements (formerly called Memoranda of Agreement and Memoranda of Understanding) which will explain how the relationships are managed.

*Director's Order #20: Agreements and Reference Manual*

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## IMPACTS OF ALTERNATIVE 1: NO- ACTION

### Impact Analysis

Under Alternative 1, the current park operations and conditions would continue. Minimal stabilization would occur on the buildings including boarding up doors and windows, installing plastic on the roofs, shoring up roofs and porches, and shoveling snow from the roofs. Alternative 1 would have a short- term, negligible adverse impact on park operations. However, current levels of preservation will not prevent the buildings from deteriorating faster than they are stabilized, which in the future may have long- term, minor adverse impacts to park operations due to the need to spend more time stabilizing the buildings. Under Alternative 1, the center would not be established, resulting in the continued lack of NPS employees trained in western preservation techniques and a missed opportunity to partner with the National Trust for Historic Preservation. Therefore, Alternative 1 would have a short- term, minor to moderate, adverse impact to partnerships.

### Cumulative Impacts

The cumulative impact of Alternative 1 on park operations would be long- term, negligible to minor in intensity and adverse. While park operations would remain the same initially, the park would eventually have to do more stabilization work at the ranch in order to prevent the buildings from falling down. The cumulative impacts of Alternative 1 on partnerships would be short- term, minor and adverse in intensity.

### Conclusion

There were no major impacts to the park's operations or partnerships. Impacts to park operations would be short- term, negligible and adverse, as well as long- term, minor and adverse. Impacts to partnerships would be short- term, minor to moderate, and adverse.

## **IMPACTS OF ALTERNATIVE 2: MINIMUM BASIC FUNCTIONS**

### **Impact Analysis**

Under Alternative 2, a day-use center would have long-term impacts on park operations due to the maintenance of Death Canyon Road, spur road, vault toilet, and assistance with the removal of solid waste using the “pack in, pack out” approach. Park operations would also be involved in the initial installation of electricity at the main cabin, construction of the spur road, placement of the JY Ranch hay shed on site, and revegetation of disturbed areas after stabilization and rehabilitation work is complete.

Alternative 2 would have long-term, minor to moderate adverse impacts on park operations, including the buildings, utilities, and roads subdivisions of park’s facility management division, and a long-term, minor adverse impact to the park’s weed management personnel.

Because the NTHP would not partner with the NPS under this alternative, there would be short-term, minor to moderate adverse impact to the NPS's partnership with the National Trust for Historic Preservation.

### **Cumulative Impacts**

Park operations in Alternative 2 (as well as Alternatives 3 and 4) would compete with other future operational and maintenance requirements, increasing the park’s operational workload. Funding for the operation of the center will be available in fiscal year 2005, which will help offset operational costs associated with the reoccupation of White Grass Ranch. The creation of a training center will help take some burden off of the facility management staff to preserve historic structures in the park. Cumulative impacts on park operations in Alternative 2 would be long-term, minor to moderate, and adverse and beneficial in intensity. The cumulative impacts of Alternative 2 on partnerships would be short-term, minor to moderate and adverse in intensity.

### **Conclusion**

There were no major impacts to the park’s operations or partnerships. There would be long-term minor to moderate adverse impacts on park operations, including the buildings, utilities, and roads divisions of facility management due to the maintenance of Death Canyon Road, spur road, vault toilet, main cabin, and removal of solid waste. There would be a long-term, minor adverse impact to weed management personnel. The impact on partnerships would be short-term, minor to moderate and adverse.

## **IMPACTS OF ALTERNATIVE 3: PHASED DEVELOPMENT (PREFERRED ALTERNATIVE)**

### **Impact Analysis**

Under Alternative 3, the center would have long-term impacts on park operations due to the maintenance of Death Canyon Road, the spur road, the water well, leach field, and removal of solid waste. Park operations would also be involved in the installation of utilities, construction of the spur road, placement of the JY Ranch hay shed on site, and revegetation of disturbed areas after stabilization and rehabilitation work is complete.

Alternative 3 would have long-term, minor to moderate adverse impacts on park operations, including the buildings, utilities, and roads subdivisions of park’s facility management division, and a long-term, minor adverse impact to the park’s weed management personnel. Alternative 3 would also have a long-term, moderate beneficial impact to park operations because the

training center would be able to address preservation needs more efficiently and quickly compared to Alternative 2.

Because the National Trust for Historic Preservation would partner with the NPS under this alternative, there would be long- term, moderate beneficial impact to the NPS's partnership with the NTHP.

### **Cumulative Impacts**

Alternative 3 (as well as Alternatives 2 and 4) would compete with other future operational and maintenance requirements, increasing the park's operational workload. However, a slower rate of development at White Grass Ranch would put less of a burden on park operations compared to Alternative 4. Funding for the operation of the training center will be available in fiscal year 2005, which will help offset operational costs associated with the reoccupation of White Grass Ranch. Under Alternative 3, the training center would help minimize the work load of the buildings division to preserve historic structures in the park to a greater extent than Alternative 2. Cumulative impacts on park operations in Alternative 3 would be long- term, minor to moderate, and adverse and beneficial in intensity. The cumulative impacts of Alternative 3 on partnerships would be long- term, moderate and beneficial in intensity.

Reasonably foreseeable park actions that would impact park operations include future and ongoing adaptive use of historic structures at the McCollister residential complex, the Kelly Campus of the Teton Science School, The Murie Center, and the Geraldine Lucas Homestead/Fabian Place Historic District. A new Moose Visitor Center and Moose Entrance Station are also planned in the future. The additive effects of these actions would have long- term, minor adverse effects on park operations in the future.

### **Conclusion**

There were no major impacts to the park's operations or partnerships. There would be long- term minor to moderate adverse impacts on park operations, including the buildings, utilities, and roads subdivisions of park's facility management division due to the maintenance of Death Canyon Road, spur road, the water well, leach field, and removal of solid waste. There would be a long- term, minor adverse impact to weed management personnel. A long- term, moderate beneficial impact to park operations would occur because the training center would provide the park an increased capacity to preserve the park's historic structures.

Impacts to partnerships would be long- term, moderate and beneficial.

### **IMPACTS OF ALTERNATIVE 4: COMPLETE BUILD- OUT**

#### **Impact Analysis**

Under Alternative 4, the complete build- out of White Grass Ranch would require an intensive amount of initial work by the NPS. This would have a short- term, moderate, adverse impact on park operations by requiring a substantial amount of interdisciplinary expertise from park staff to accomplish the work required to support this build out all at one time. Additionally, this alternative would not develop a spur road and would use both the old secondary White Grass road as well as the existing Death Canyon road, thus requiring the maintenance of two roads in the future. This would pose a long- term, minor to moderate adverse impact on the roads crew in park operations.

The complete build- out of White Grass Ranch would have beneficial and adverse impacts upon park operations in the long- term. The thirteen historic buildings would have to be routinely maintained. Also, the training center would improve the ability of the NPS to protect and

preserve historic structures at White Grass Ranch and, in the future, at other locations in the Intermountain Region as trainees use their newly acquired skills to preserve, rehabilitate, and possibly adaptively use historic structures. This would result in a long- term, moderate, beneficial impact on park operations.

Because the National Trust for Historic Preservation would partner with the NPS under this alternative, there would be long- term, moderate beneficial impact to the NPS's partnership with the NTHP.

**Cumulative Impact**

Alternative 4 has the same cumulative impacts as Alternative 3: long- term, minor to moderate, adverse and beneficial effects.

**Conclusion**

There were no major impacts to the park’s operations or partnerships. There would be short- term, moderate, adverse impacts to park operations due to the substantial amount of interdisciplinary expertise required from park staff during initial development. There would also be long- term minor to moderate adverse impacts on park operations, including the buildings, utilities, and roads subdivisions of park’s facility management division due to the maintenance of Death Canyon Road, secondary White Grass Ranch road, the water well, leach field, and removal of solid waste. There would be a long- term, minor adverse impact to weed management personnel. A long- term, moderate beneficial impact to park operations would occur because the training center would provide the park an increased capacity to preserve the park’s historic structures.

Impacts to partnerships would be long- term, moderate and beneficial.

**VISITOR USE AND EXPERIENCE**

**AFFECTED ENVIRONMENT**

**Overall Park Visitor Use and Experience**

Grand Teton National Park is one of the ten most visited parks in the National Park System. In 2003, approximately four million people visited the park. Grand Teton National Park is linked to Yellowstone National Park by the John D. Rockefeller, Jr. Memorial Parkway. The two parks share many visitors traveling within the greater Yellowstone area.

Recent sociological studies provide insight into visitor activities at GTNP. The first, a visitor survey conducted in GTNP during July 24- October 26, 2001 by the University of Idaho, described visitor traits such as percent of first- time visitors, visitor origin, length of stay, most common activities, and qualities visitors wanted to see preserved in GTNP (Smaldone 2001). These traits are described below.

Trait	Outcome
Percent of First- time Visitors	44% of the respondents were first- time visitors, 32% had visited the park 2- 4 times, and 15% of the visitors had visited GTNP over 10 times.
Visitor Origin	International visitors made up 5.7% of GTNP visitors. Domestic visitors traveling from the Mountain West region and the Pacific Coast region made up 50% of the visitors from the U.S. Visitors from the U.S. who returned surveys came from Wyoming (11%), California (10%), Colorado (7%), and Utah (7%), and all other states except Hawaii and West Virginia.

Length of Stay	The largest group of visitors (42%) spent less than a day in the park. Just over one quarter of the visitors (26%) spent 2 to 3 days, and about 7% reported staying from 7- 13 days.
Most Common Activities	The most common activities that visitors engaged in were sightseeing (88%), wildlife watching (71%), day hiking (54%), bird watching (35%), contemplation (34%), and picnicking (32%). Rafting the Snake River was reported by 16% of the visitors. Hunting was reported by 2% of all visitors, but was reported by 7% of visitors in October.
Qualities Visitors Wanted to See Preserved in GTNP	The most commonly cited qualities that visitors wanted to see preserved in GTNP were naturalness/beauty (34% of responses), wildlife (19%), large expanses of undeveloped land (8%), and the cleanliness and purity of the area (5%).
Places Visited that were Special to Visitors	53% of visitors said that there were specific places in GTNP that were special to them, or to which they were attached. The 5 most frequently mentioned places included: Jenny Lake, Jackson Lake, the Snake River, the Signal Mountain area, and Cascade Canyon.

The second recently completed visitor survey is the 2003 Visitor Survey Card Data Report for Grand Teton National Park. It was conducted to comply with the Government Performance and Results Act (GPRA) and provide information to park managers on visitor satisfaction and visitor understanding and appreciation (University of Idaho 2003). Visitors completed survey cards in July 2003 that asked questions about their level of satisfaction in three categories: park facilities, visitor services, and recreational opportunities. Without exception, visitors ranked their satisfaction level with facilities, such as exhibits and trails, and their opportunities to learn about nature and culture as high. They also gave high scores to their satisfaction with visitor services such as ranger programs and commercial services in the park. Three percent of the respondents ranked restrooms and campgrounds and/or picnic areas as “poor.” The average evaluation score (mean score) for all categories was ranked from 1 (very poor) to 5 (very good). The mean score for all ranked categories in GTNP was between 4.4 and 4.9, indicating a high satisfaction level.

**White Grass Ranch Visitor Use and Experience**

White Grass Ranch is not clearly marked on park maps or brochures. However, it is estimated that approximately 1,000 visitors go to see White Grass Ranch annually. There are no services provided at the ranch. Still it remains an important park feature to those who enjoy it for its historic value and proximity to popular backcountry features such as Phelps Lake, Death Canyon, Open Canyon and various peaks, such as Static Peak and Buck Mountain. For first-time visitors traveling the Death Canyon Road, White Grass Ranch is a "discovery site" to explore on foot, but the site is not interpreted. Most visits to White Grass Ranch are incidental, and occur in conjunction with travel to and from the Death Canyon Trailhead since the buildings are visible from the road. In recent years, the meadow north and east of White Grass Ranch has become a popular spot for visitors and groups to view and hear elk bugling in the fall. Visitors to White Grass Ranch have the opportunity to experience a tranquil and rustic setting where natural sounds predominate.

Since 1985, the buildings have badly deteriorated, and some walls and roofs have started to collapse, making many of the structures unsafe to enter. While the buildings are currently boarded up, evidence of human trespass is apparent in the form of litter. Visitors who enter the buildings are exposed to several safety hazards associated with the deteriorating structures, such as the potential for a wall or roof to collapse or be exposed to bats, pine martens, and deer mice, which may carry the potentially deadly Hantavirus.

**METHODOLOGY**

Determinations of effect were made by comparing what is available to visitors under current management (no- action), compared with effects of the actions proposed in the action alternatives (Alternatives 2, 3, and 4). Both short- and long- term effects on visitor use and experience were considered. The following definitions are used to define intensity levels:

- Negligible:* Changes in visitor use and/or experience would be below the level of detection or visitors would not be affected at all. Any effects would be short- term and affect a very small proportion of the total visitor population. The visitor would not likely be aware of the effects associated with the alternative.
- Minor:* Changes in visitor use and/or experience would be detectable, although the changes would be slight and likely short- term. Changes would affect a small proportion of the total visitor population. The visitor would be aware of the effects associated with the alternative, but the effects would be slight.
- Moderate:* Changes in visitor use and/or experience would be readily apparent and likely long- term. Changes would affect a moderate proportion of the total visitor population. The visitor would be aware of the effects associated with the alternative, and would likely be able to express an opinion about the changes.
- Major:* Changes in visitor use and/or experience would be readily apparent and have substantial long- term consequences. Changes would affect a large proportion of the total visitor population. The visitor would be aware of the effects associated with the alternative and would likely express a strong opinion about the changes.
- Duration:* Short- term - Effects lasting for the duration of the treatment action.  
Long- term - Effects lasting longer than the duration of the treatment action.

**REGULATIONS AND POLICIES**

Current laws and policies require that the following conditions be achieved in the park:

Desired Condition	Source
Visitor and employee safety and health are protected.	<i>NPS Management Policies 2001, National Environmental Policy Act</i>
Visitors understand and appreciate park values and resources and have the information necessary to adapt to park environments; visitors have opportunities to enjoy the parks in ways that leave park resources unimpaired for future generations.	<i>NPS Organic Act; Parks’ enabling legislation; NPS Management Policies 2001</i>
Impacts to the natural soundscape from management activities on visitor use and experience are lessened by identifying inappropriate and intrusive noise sources and by implementing mitigation or preventative measures.	<i>NPS Director’s Order #47: Soundscape Preservation and Noise Management</i>
Opportunities are provided for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the parks.	<i>NPS Management Policies 2001</i>
All reasonable efforts will be made to make NPS facilities, programs, and services accessible to and usable by all people, including those with disabilities.	<i>Americans with Disabilities Act; Architectural Barriers Act; Rehabilitation Act; NPS Management Policies 2001</i>

## IMPACTS OF ALTERNATIVE 1: NO- ACTION

### Impact Analysis

Under Alternative 1, current visitor experience and safety would remain the same as a result of maintaining the site as it exists today. Therefore, there would be short- term, negligible adverse impacts on visitor experience and safety. As the buildings deteriorate faster than they are preserved, the visitor experience and safety would change because visitors would not be able to enjoy the ranch as they do today, and the safety hazards would increase as the buildings collapse. The limited effects of stabilization (versus rehabilitation and adaptive use), combined with the elements of nature, wildlife damage, and human trespass would result in weakened buildings. The noise and visual disturbance associated with stabilization activities would be heard by some visitors, mostly within a ½ mile of White Grass Ranch. When compared to sound levels present during the historic operation of White Grass Ranch, the noise associated with Alternative 1 would be of a lower level and shorter duration.

The condition of the structures would be noticeable to a relatively small number of visitors over the long- term. To visitors who value cultural resources and prefer that the buildings be rehabilitated and better maintained, Alternative 1 would result in long- term, moderate, adverse impacts to visitor experience. This would be especially true of visitors who remember staying at White Grass Ranch as a “dude” and to persons interested in stewardship of cultural resources.

However, to visitors who would like to visit White Grass Ranch for purposes other than to view historic buildings, Alternative 1 has a long- term, minor beneficial impact. Some visitors would rather see White Grass Ranch managed with minimal maintenance. Such visitors might visit White Grass Ranch primarily to access the nearby meadows to observe elk bugling or seek solitude. To them, long- term stabilization of the buildings is desirable because it would limit human interference on their experience in the park.

Overall, short- term impacts to visitor experience would be negligible and adverse due to the sights and sounds of stabilization activities. In the long- term, impacts would be moderate and adverse for visitors who value cultural resource stewardship. Impacts would be minor, beneficial and long- term for visitors valuing the area for other reasons (i.e. wildlife viewing).

### Cumulative Impacts

Taking into consideration the overall number of visitors affected and the nature of the impacts in Alternative 1, the cumulative effects on visitor use and safety are negligible to minor and long- term in intensity. Previous and reasonably foreseeable future actions that could affect visitor use and experience include The Murie Center, the construction and opening of a new visitor center at Moose, the construction of a new entrance station at Moose, proposed visitor facilities at JY Ranch, development of a transportation plan, ongoing interpretive programs and activities, opportunities offered by concessioners, and the array of activities that continue to be available in the park.

### Conclusion

There were no major impacts to the park’s visitor use and experience resources. Current visitor experience and safety would remain the same as a result of maintaining the site as it exists today. Therefore, there would be short- term, negligible impacts on visitor experience and safety. To visitors who value cultural resources and prefer that the buildings be rehabilitated and better maintained, Alternative 1 would result in long- term, moderate, adverse impacts to visitor

experience. To visitors who would like to visit White Grass Ranch for purposes other than to view historic buildings, Alternative 1 has a long-term, minor beneficial impact.

## **IMPACTS OF ALTERNATIVE 2: MINIMUM BASIC FUNCTIONS**

### **Impact Analysis**

Under Alternative 2, visitors would notice the rehabilitation of the main cabin, stabilization of the remaining buildings, installation of a vault toilet, construction of a spur road and parking, addition of the JY Ranch hay shed, installation of electricity at the main cabin, and revegetation around the buildings after work on the buildings is complete.

The permanent operation of a training center at White Grass Ranch would affect the appearance and feel of the site. Activity would be centered in the main cabin and on the grounds of the ranch. People would be seen arriving and leaving in vehicles and parking their vehicles on site during the day. Although all use would be day-time only, traffic volume on Death Canyon and Moose-Wilson roads would not change much among Alternatives 2, 3, and 4. Alternative 2 would potentially generate more “back-and-forth” traffic since no overnight accommodations would exist; however, Alternatives 3 and 4 would likely attract more people to the ranch with the option of overnight accommodations.

The sounds associated with Alternative 2 would be less noisy than the other action alternatives, but would be noisier compared to Alternative 1. The increased sound levels associated with short-term construction would be largely confined to within ½ mile from White Grass Ranch but concentrated in the immediate vicinity of the ranch. Use of power tools and other noise-making equipment would primarily take place at Moose; however, demonstrations using such equipment could also occur at the ranch on a more limited basis. These sounds could be heard by visitors on portions of the Valley Trail and Stewart Draw. Construction would occur over a 1-2 year period during the spring, summer, and fall. Mitigation measures, such as seasonal and temporal limits on periods of construction for wildlife protection, would also serve to preserve quiet around White Grass Ranch during the construction period.

Once initial construction was completed, the sounds associated with long-term use of White Grass Ranch would primarily be restricted to less than ¼ mile from the facilities. The development of a day-use training center with minimum basic functions would have a long-term, minor adverse impact on a relatively small number of park visitors. Changes in the appearance and the seasonal use of the center would be noticed by some visitors, who might consider the noise and sight of the training center an adverse experience.

Another portion of visitors would consider the rehabilitation and stabilization of the ranch as a positive step toward the preservation of cultural resources in the park. Additionally, people trained at the center would be able to use their skills to preserve other historic buildings in the greater Yellowstone area. Therefore, the center would have a long-term, minor beneficial impact for some visitors.

The rehabilitation and stabilization of the ranch would have long-term, minor beneficial impacts to visitor safety because the threat that structures and abandoned infrastructure pose would be eventually eliminated.

### **Cumulative Impacts**

Construction of a seasonal day-use training center at White Grass Ranch with minimum, basic functions could occur simultaneously with construction at the Moose Visitor Center. Planned

activities at the JY Ranch include the removal of buildings from the ranch, as well as the development of a visitor contact center with parking. These activities will occur before JY Ranch is gifted to the NPS sometime in 2006. The impacts associated with each individual project would generally be short- term, minor, and adverse, lasting only as long as construction. However, the cumulative intensity of such impacts could be magnified by the number of construction- related projects occurring simultaneously.

## **Conclusion**

There were no major impacts to the park's visitor use and experience resources. The impacts to park visitor use and experience would be minor and adverse in the short- term and due to the noise, dust, and visual disturbance from building rehabilitation. Long- term, minor adverse impacts would occur for park visitors who value the White Grass area more for its natural aspects. Long- term, minor beneficial impacts would occur for park visitors who value the area more for its cultural resources. Impacts to visitor safety would be long- term, minor and beneficial.

## **IMPACTS OF ALTERNATIVE 3: PHASED DEVELOPMENT (PREFERRED ALTERNATIVE)**

### **Impact Analysis**

In Alternative 3, visitors would notice the rehabilitation of three buildings, stabilization of ten others, installation of electric, water, phone, and sewer utilities, construction of a spur road and parking area, installation of fencing, addition of the JY Ranch hay shed, construction of a well house, and revegetation around the buildings after work on the buildings is complete. Phased development would occur over approximately five years during the spring, summer, and fall. During construction, these sounds might be audible to visitors for over ½ to 1 mile from White Grass Ranch. Mitigation measures, such as seasonal and temporal limits on periods of construction for wildlife protection and the use of power tools inside closed buildings would help to preserve quiet around White Grass Ranch during the construction period. The phased rehabilitation and stabilization of the buildings in Alternative 3 would have a short- term, minor, adverse impact on visitor use and experience due to the noise, dust, and visual disturbance.

Phased development of the training center would result in long- term, minor beneficial and adverse impacts upon visitor use and experience. Beneficial impacts would result from improved protection of cultural resources, including the ranch itself, through exposure of personnel to training. Trained personnel could then preserve other historic structures in GTNP and the greater Yellowstone area, and eventually spread to other historic buildings in the Intermountain Region. In Alternative 3, trainees would eventually stay overnight, enhancing their experience at White Grass Ranch. However, because Alternative 3 would have both day and night use, it would have slightly increased, long- term sound levels compared to Alternatives 1 and 2. The sound impacts would primarily be restricted to less than ½ mile from White Grass Ranch. This impact may have a small, highly localized effect on visitor use and experience.

A portion of park visitors would value the rehabilitation of the ranch. Eventually, the park hopes to install wayside exhibits that would provide interpretation of the history of the site and the training center. In Alternative 3, adverse impacts would be similar to Alternative 2. Visitors who value the undisturbed, quiet quality of White Grass Ranch would perceive its rehabilitation and adaptive use in a negative sense. The adverse impact would be long- term and minor. Overall Alternative 3 would have a long- term, minor adverse impact on visitor use and experience.

The rehabilitation and stabilization of the ranch would have long- term, minor beneficial impacts to visitor safety because the threat that structures and abandoned infrastructure pose would be eliminated.

### **Cumulative Impacts**

Phased construction of a fully functional training center at White Grass Ranch could occur simultaneously with construction at the Moose Visitor Center. Planned activities at the JY Ranch include the removal of buildings from the ranch, as well as the development of a visitor contact center with parking. These activities will occur before JY Ranch is gifted to the NPS sometime in 2006. The impacts associated with each individual project would generally be short- term, minor, and adverse, lasting only as long as construction. However, the cumulative intensity of such impacts could be magnified by the number of construction- related projects occurring simultaneously.

### **Conclusion**

There were no major impacts to the park's visitor use and experience resources. Long- term minor beneficial impacts would result from improved protection of cultural resources, including the ranch itself, through exposure of personnel to training. Trained personnel could then preserve other historic structures in GTNP and the greater Yellowstone area, and eventually spread to other historic buildings in the Intermountain Region. A portion of park visitors would value the rehabilitation of the ranch. To visitors who value the undisturbed, quiet quality of White Grass Ranch and would perceive its rehabilitation and adaptive use in a negative sense, the impact would be long- term, minor, and adverse. The rehabilitation and stabilization of the ranch would have long- term, minor beneficial impacts to visitor safety.

## **IMPACTS OF ALTERNATIVE 4: COMPLETE BUILD- OUT**

### **Impact Analysis**

Alternative 4 would have similar impacts to visitor use and experience as Alternatives 2 and 3. Rehabilitation of the buildings would have a short- term, minor, adverse impact on visitor use and experience due to the noise, dust, and visual disturbance. Visitors would notice the rehabilitation of all the buildings, installation of electric, water, phone, and sewer utilities, improvements to the secondary White Grass road, installation of fencing, addition of the JY Ranch hay shed, construction of the well house and barn, and revegetation around the buildings after work on the buildings is complete. The initial construction phase of Alternative 4 would be completed in a shorter period of time than Alternative 3. Construction in Alternative 4 would take two to three years, and would occur during the spring, summer, and fall. Mitigation measures, such as seasonal and temporal limits on periods of construction for wildlife protection and the use of power tools inside closed buildings would also serve to preserve quiet around White Grass Ranch during the construction period.

Complete build- out of the training center would result in long- term, minor beneficial and adverse impacts upon visitor use and experience. Beneficial impacts would result from improved protection of cultural resources, including the ranch itself, through exposure of personnel to training. Trained personnel could then preserve other historic structures in GTNP and the greater Yellowstone area, and eventually spread to other historic buildings in the Intermountain Region. A portion of park visitors would value the rehabilitation of the ranch. Eventually, the park hopes to install wayside exhibits that would provide interpretation of the history of the site and the training center. In Alternative 4, adverse impacts would be similar to Alternative 2 and 3.

Once all thirteen buildings were rehabilitated, there would be increased sound levels during seasonal operations both day and night. Visitors who value the undisturbed, quiet quality of White Grass Ranch would perceive its rehabilitation and adaptive use in a negative sense.

The rehabilitation and stabilization of the ranch would have long- term, minor beneficial impacts to visitor safety because the threat that structures and abandoned infrastructure pose would be eliminated.

### **Cumulative Impacts**

Complete build- out of a fully operational training center at White Grass Ranch could occur simultaneously with construction at the Moose Visitor Center. Planned activities at the JY Ranch include the removal of buildings from the ranch, as well as the development of a visitor contact center with parking. These activities will occur before JY Ranch is gifted to the NPS sometime in 2006. The impacts associated with each individual project would generally be short- term, minor, and adverse, lasting only as long as construction. However, the cumulative intensity of such impacts could be magnified by the number of construction- related projects occurring simultaneously.

### **Conclusion**

There were no major impacts to the park's visitor use and experience resources. The impacts to park visitor use and experience would be minor and adverse in the short- term due to rehabilitation activities. Long- term, minor beneficial impacts would occur for park visitors who value the area more for its cultural resources. Long- term, minor adverse impacts would occur for visitors who value natural resources over the historic preservation of the White Grass Ranch area. Impacts to visitor health and safety would be long- term, minor and beneficial.

## **CONSULTATION/COORDINATION PLANNING TEAM, CONTRIBUTORS, AND CONSULTANTS**

Ann Gavin, Intermountain Regional Office Environmental Protection Specialist (EA/AEF Lead)  
Pam Holtman, Park Historian (Project Lead)  
Suzy Schulman, Environmental Planner (EA/AEF Co- Lead)  
Eileen Andes, Interpretative Ranger  
Jim Bellamy, Deputy Superintendent  
Shan Burson, Soundscape Ecologist  
Steve Cain, Wildlife Biologist  
Jon Christensen, Landscape Architect  
Sue Consolo- Murphy, Science & Resource Management Chief  
Sarah Dewey, Wildlife Biologist  
Richard Easterbrook, GIS Specialist  
Sheri Fedorchak, Resource Biologist  
Andy Fisher, South District Ranger  
Mary Gibson Scott, Superintendent  
Steve Haynes, Vegetation Management Specialist  
Peter Lindstrom, GIS Specialist  
Larry Martin, NPS Water Resources Division Hydrogeologist  
Kelly McCloskey, Plant Ecologist  
Jim McDonald, Principal, Historic Architect, A&E Architects, PC  
Gary Pollock, Management Assistant  
Mallory Smith, Business Resources Specialist  
Jacquelin St. Clair, Park Archaeologist  
Ralph Tingey, Former Acting Superintendent  
Bob Wemple, Engineer  
Al Williams, Maintenance Supervisor  
Sue Wolff, Wildlife Biologist

## **AGENCIES/TRIBES/ORGANIZATIONS/INDIVIDUALS CONTACTED**

Advisory Council on Historic Preservation  
Crow Tribal Council  
Eastern Shoshone Business Council  
Northern Arapaho Business Council  
Northern Cheyenne Tribal Council  
Shoshone- Bannock Tribes  
U.S. Fish and Wildlife Service  
U.S. Army Corps of Engineers  
Wyoming Department of Environmental Quality  
Wyoming Game and Fish Department  
Wyoming State Historic Preservation Office

A scoping letter was sent to approximately 150 individuals, organizations, agencies and groups in February 2004, soliciting comments on the issues concerns and alternatives to be addressed in

the EA/AEF. Twenty comment letters were received. See Scoping on page 7 for a summary of these comments.

## **LIST OF ENVIRONMENTAL ASSESSMENT/ASSESSMENT OF EFFECT RECIPIENTS**

### **FEDERAL AGENCIES**

Advisory Council on Historic Preservation  
Greater Yellowstone Ecosystem Interagency Visitor Center  
U.S. Army Corps of Engineers  
U.S. Department of Agriculture, Bridger- Teton National Forest  
U.S. Department of Agriculture, Targhee National Forest  
U.S. Department of the Interior, Bureau of Land Management, Rock Springs Field Office  
U.S. Department of the Interior, Bureau of Land Management, Wyoming State Office  
U.S. Department of the Interior, National Park Service, Glacier National Park  
U.S. Department of the Interior, National Park Service, Rocky Mountain National Park  
U.S. Department of the Interior, National Park Service, Yellowstone National Park  
U.S. Department of the Interior, National Park Service, Yosemite National Park  
U.S. Department of the Interior, Fish and Wildlife Service, Cheyenne Office  
U.S. Department of the Interior, Fish and Wildlife Service, National Elk Refuge  
U.S. Department of the Interior, Bureau of Land Management, Cheyenne and Pinedale Offices  
U.S. Department of the Interior, Bureau of Reclamation, Boise and Moran Offices

### **STATE AND LOCAL AGENCIES**

Colorado State University  
Idaho Department of Commerce  
Idaho Department of Parks and Recreation  
Idaho Falls Chamber of Commerce  
Idaho State Historic Preservation Office  
Jackson Hole Chamber of Commerce  
Jackson Hole Historical Society  
Lander Chamber of Commerce  
Snow College, Traditional Building Skills Institute  
Teton County Commissioners  
Teton County Historic Preservation Board  
Teton County Library  
Teton County Planning Office  
Town of Jackson  
University of Colorado at Denver  
University of Utah  
University of Wyoming and Library  
Western Wyoming Community College  
Wyoming Department of Environmental Quality  
Wyoming Department of Game and Fish  
Wyoming Department of State Parks and Cultural Resources—State Historic Preservation Office  
Wyoming Department of Transportation  
Wyoming Office of Federal Land Policy  
Wyoming Office of the Governor  
Wyoming State Library

**ASSOCIATED AMERICAN INDIAN TRIBES**

Crow Tribal Council  
Eastern Shoshone Business Council  
Northern Arapaho Business Council  
Northern Cheyenne Tribal Council  
Shoshone- Bannock Tribes

**OTHER AGENCIES AND ORGANIZATIONS**

Audubon Society  
Craighead Environmental Research Institute  
Defenders of the Rockies  
Grand Teton Natural History Association  
Grand Teton National Park Foundation  
Greater Yellowstone Coalition  
Jackson Hole Bird Club  
Jackson Hole Conservation Alliance  
Montana Heritage Commission  
National Parks Conservation Association  
National Trust for Historic Preservation  
Sierra Club  
Teton Group of the Sierra Club  
Teton Science School  
The Murie Center  
The Nature Conservancy  
The Wilderness Society, Idaho, Montana  
Wyoming Wildlife Federation  
Yellowstone Association

**INDIVIDUALS**

Due to the large number of individuals receiving this EA, their names have not been listed. The list of individuals and additional organizations that received the environmental assessment is kept in the project file and is available from the planning office in Grand Teton National Park.

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## APPENDICES

Appendix A: Historic Structures within a 200- and 400- Mile Radius of GTNP

Appendix B: Agreement between the NPS and the National Trust

Appendix C: Public Consultation

Appendix D: Tribal Consultation

Appendix E: SHPO Consultation

Appendix F: FWS Consultation

Appendix G: Description of Proposed Undertakings in Preferred Alternative for Purposes of §106

Appendix H: Cultural Resources Specialists Review

## APPENDIX A: HISTORIC STRUCTURES WITHIN A 200- AND 400- MILE RADIUS OF GRAND TETON NATIONAL PARK

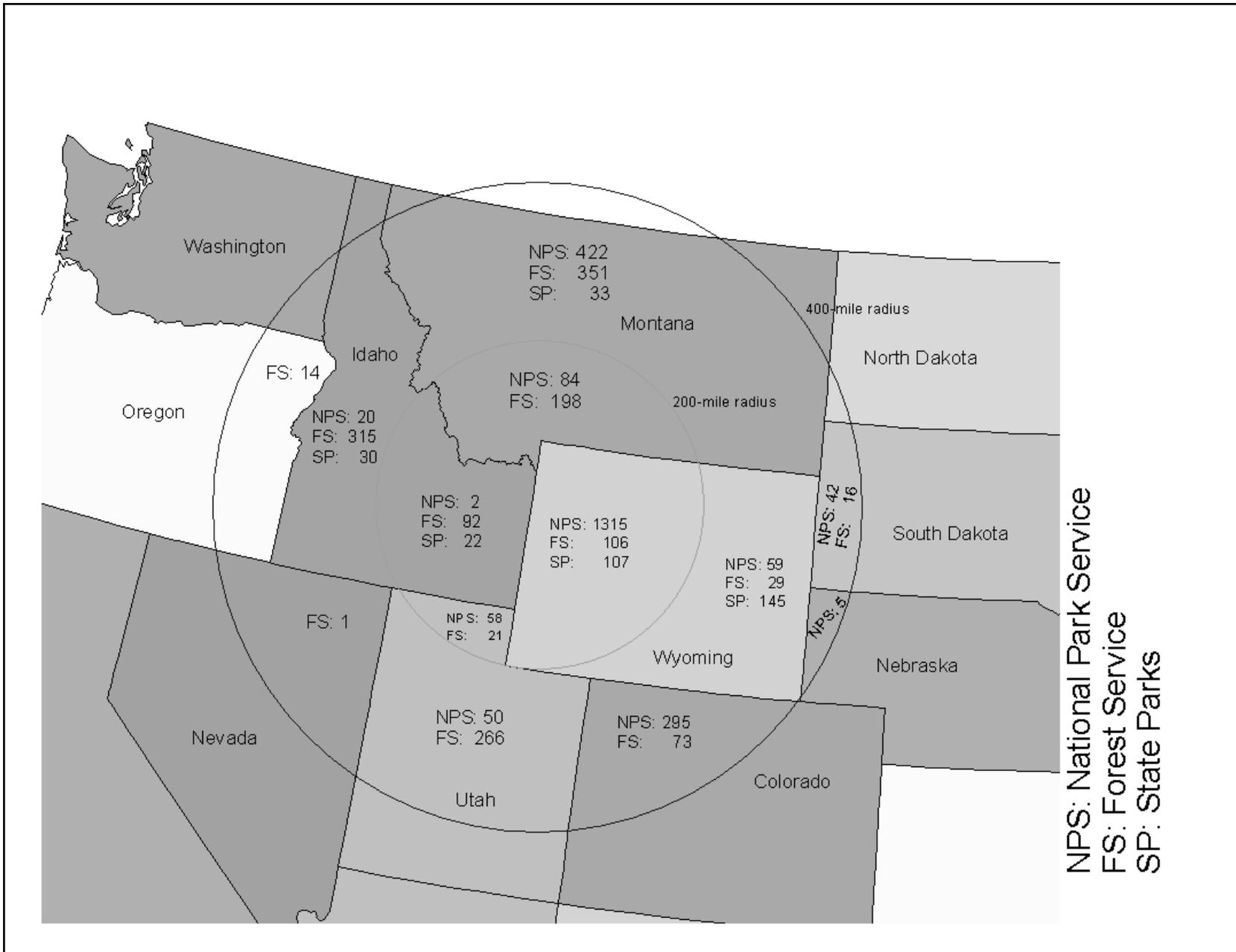
### Historic Structures within a 200- and 400- Mile Radius of Grand Teton National Park

For the purpose of collecting this data, Grand Teton National Park was used as the center of a 200 mile radius and a 400 mile radius. Information was gathered using the NPS List of Classified Structures database and from phone conversations with the different units. The number of historic structures for the U.S. Forest Service and state parks are approximate.

National Park Service Unit	Number of Historic Structures	State(s)	Within 200 miles	Within 400 miles
Grand Teton National Park	315	Wyoming	X	
Yellowstone National Park	1018	Idaho, Montana and Wyoming	X	
Fossil Butte National Monument	1	Wyoming	X	
Bighorn Canyon National Recreation Area	40	Montana and Wyoming	X	
Fort Laramie National Historic Site	46	Wyoming		X
Devils Tower National Monument	13	Wyoming		X
Craters of the Moon National Monument	2	Idaho	X	
Nez Perce National Historic Park	20	Idaho		X
Little Bighorn Battlefield National Monument	64	Montana	X	
Glacier National Park	334	Montana		X
Grant-Kohrs Ranch National Historic Site	88	Montana		X
Golden Spike National Historic Site	58	Utah	X	
Timpanogos Cave National Monument	12	Utah		X
Arches National Park	10	Utah		X
Colorado National Monument	126	Colorado		X
Dinosaur National Monument	56	Colorado and Utah		X
Rocky Mountain National Park	141	Colorado		X
Wind Cave National Park	27	South Dakota		X
Jewel Cave National Monument	3	South Dakota		X
Mount Rushmore National Memorial	12	South Dakota		X
Agate Fossil Beds National Monument	5	Nebraska		X
<b>Subtotal</b>	<b>1,481</b>		<b>1,498</b>	<b>893</b>
U.S. Forest Service Unit	Number of Historic Structures	State(s)	Within 200 miles	Within 400 miles
Bridger-Teton National Forest	55	Wyoming	X	
Caribou-Targhee National Forest	15	Idaho and Wyoming	X	
Shoshone National Forest	12	Wyoming	X	
Bighorn National Forest	39	Wyoming	X	
Wasatch-Cache National Forest	21	Utah and Wyoming	X	
Medicine Bow/Routt National Forest	49	Colorado and Wyoming		X
Thunder Basin National Grassland	1	Wyoming		X
Black Hills National Forest	16	South Dakota and Wyoming		X
Ashley National Forest	162	Utah and Wyoming		X



MAP OF HISTORIC STRUCTURES WITHIN 200- AND 400- MILE RADIUS OF GRAND TETON NATIONAL PARK



## **APPENDIX B: AGREEMENT BETWEEN THE NPS AND THE NATIONAL TRUST**

### **AGREEMENT BETWEEN THE U.S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE AND THE NATIONAL TRUST FOR HISTORIC PRESERVATION**

#### **Article I. Background and Objectives**

WHEREAS, this Agreement is hereby entered into by and between the National Trust for Historic Preservation (hereinafter “NTHP”), a private, nonprofit organization chartered by Congress in 1949, and the United States Department of the Interior, National Park Service (hereinafter “NPS”), and pertains to NTHP fundraising activities for the benefit of Grand Teton National Park, Yellowstone National Park, and the National Park System, generally; and,

WHEREAS, one of the most evocative images of the American West is the historic ranch on the High Plains or the historic mining or ghost town in the great Rocky Mountains. These unique and endangered classes of historic properties - typically built of log, wood, and stone - oftentimes evidence unique and complex conservation and historic preservation needs; and,

WHEREAS, technical information, conservation strategies and practices, and training on the most appropriate ways to restore and preserve these classes of historic properties are sorely needed; and,

WHEREAS, the NPS holds in trust for the American people some of this Nation’s best and oftentimes endangered examples of 19<sup>th</sup> and early 20<sup>th</sup> century Western historic rustic architecture and wishes to ensure their survival for future generations; and,

WHEREAS, the NPS wishes to rehabilitate and preserve the historic White Grass Dude Ranch at Grand Teton National Park in a manner consistent with the Secretary of the Interior’s “Standards for Archeology and Historic Preservation,” and,

WHEREAS, the NPS wishes to rehabilitate the historic White Grass Dude Ranch into a living classroom and laboratory and to establish there a public-private partnership for the Western Center for Preservation Training and Technology (hereafter “WCPTT”); and,

WHEREAS, the NPS has identified several historic preservation projects at Yellowstone National Park for which fundraising could also facilitate critical historic preservation goals; and,

WHEREAS, the NTHP is a nationally recognized leader in historic preservation dedicated to protecting our Nation's irreplaceable cultural heritage and to advancing Federal policies that support, benefit, and promote historic preservation throughout the Nation; and,

WHEREAS, the NTHP has successfully completed other historic preservation partnership projects with the NPS that have greatly furthered the purposes of the National Park System and has generously offered support, fundraising, and technical assistance in this important endeavor and NPS wishes to accept this offer; and,

WHEREAS, this partnership is intended to result in the completion of historic preservation projects in the National Park System with private funding complementing public funds. Furthermore, this endeavor will require knowledge, skill, and craftsmen to rehabilitate and maintain to historic preservation standards the West's thousands of historic structures. It is envisioned that the WCPTT will train Federal and State employees, contractors, and volunteers, so critical to helping the NPS meet this need.

**NOW THEREFORE THE PARTIES AGREE AS FOLLOWS:**

**Article II. Authority**

This Agreement is executed in accordance with 16 U.S.C. §§ 1- 4, 6 (1994); The Historic Sites Act of 1935, 16 U.S.C. §§ 461- 462, 464(a) (1994); The National Trust for Historic Preservation Act of 1949, 16 U.S.C. § 468 (1994); The National Historic Preservation Act of 1966, 16 U.S.C. § 470 (1994).

**Article III. Statement of Work**

The NPS, relying on NTHP's determination that it has authority to raise funds and to enter into agreements such as this one, recognizes the NTHP as an organization well suited to raise funds for and to provide assistance in a wide range of historic preservation activities, including the restoration, rehabilitation, and stabilization of historic resources. It is the intention of the NTHP to support the NPS in completing projects that fulfill the NPS goals of preserving historic resources and serving visitor needs, and donating to the park funds, materials, and services consistent with the terms of this Agreement.

**A. The NPS will:**

1. Provide the NTHP with all necessary information concerning NPS fundraising policies and procedures applicable to the contemplated activities;
2. Provide appropriate acknowledgment, including donor recognition, of those NTHP activities performed under the terms of this Agreement;
3. Make available to the NTHP such information and data as may reasonably be required and are generally available to inform potential donors and others about the status of

conditions, restoration and rehabilitation needs and plans, cost estimates, and other details about the project;

4. Respond to all requests for review of documents and other materials presented by the NTHP in a timely manner;
5. Provide the NTHP with a "Needs Analysis" and "Cost Work Plan" that outlines all necessary restoration/rehabilitation work and associated costs respecting rehabilitation of the White Grass Dude Ranch and its adaptive use as the WCPTT, and for historic preservation projects at Yellowstone;
6. To the extent deemed practicable and appropriate by the Superintendent of the respective Park, arrange and conduct tours, events, and inspections for individuals and groups in order to assist the NTHP in its fundraising efforts. Such activities may not, in the judgment of the Superintendents, unduly infringe upon or detract from the normal visitor activities and services at the Park; and
7. Be responsible for compliance with all applicable laws, regulations, policies, and procedures for the design, construction, completion, and operation of the project as described in this agreement. Such compliance shall include and is not limited to National Environmental Policy Act, Section 106 of the Historic Preservation Act, and appropriate park planning documents.

**B. The NTHP will:**

1. Support the NPS in fulfilling the NPS goals of preserving the historic resources at Grand Teton of the White Grass Dude Ranch, the establishment of the WCPTT and the completion of historic preservation projects at Yellowstone through fundraising and, where appropriate, information exchange;
2. Prepare and submit a fundraising plan for NPS review and approval. The fundraising plan will: (1) identify the amount of money the NTHP intends to raise to successfully complete agreed to objectives; (2) include methods and timetables for soliciting donations; (3) identify specific fundraising techniques to be used; (4) address anticipated results of specific fundraising efforts; and (5) identify administrative and supportive procedures and costs associated with its fundraising activities;
3. Commit to implement the fundraising plan to raise up to \$1 million for each park in furtherance of the mutually agreed upon goals of this Agreement. The final amount to be raised will be a subject of the fundraising plan and subsequent agreements. However, the NTHP shall have no obligation to provide funds other than those funds raised through the fundraising plan;
4. Assure that all funds or contributions made to the NTHP in furtherance of this Agreement, less an amount retained by the NTHP for overhead expenses (as allowed in the fundraising plan, but not to exceed the percentage approved by the Federal

Government for the NTHP), are directed toward accomplishing the goals of this Agreement and the Supplemental Agreement described in subsection C(4)(b) of this Article;

5. Apply for, and abide by, the terms and conditions of a special events permit, should either Superintendent determine that such a permit is necessary for an NTHP event. The Superintendents may require NTHP to acquire liability insurance in association with special events; and

6. Submit any material prepared for public consumption, such as individual promotional activities, brochures, or any other form of publicity, to the NPS for formal review, comment, and approval prior to its release.

**C. The NPS and NTHP mutually agree that:**

1. The NPS and the NTHP shall keep each other informed on a current and continuing basis of activities related to this Agreement;

2. The Superintendents and the Regional Director of NTHP shall meet at least twice annually to discuss issues and programs of mutual interest and review the implementation of this Agreement;

3. Activities undertaken pursuant to this Agreement are subject to, and must be consistent with, all applicable laws, regulations, NPS planning documents, and NPS policies, as they currently exist or as amended, supplemented, or superseded;

4. The NTHP will not begin or publicly announce the fundraising campaign under this Agreement unless and until:

- a. The NPS confirms, in writing, that any necessary contractual, legal, and policy requirements respecting the project have been appropriately addressed and is prepared to pursue the project; and
- b. The Superintendents and the NTHP have executed detailed Supplemental Agreements to this Agreement concerning the specific project or projects to be completed. For Grand Teton National Park, the agreement shall include the rehabilitation of the White Grass Dude Ranch and the establishment of the WCPTT. For Yellowstone National Park, the agreement shall identify a specific project or projects to be accomplished. The Supplemental Agreements will address, in part, the respective financial responsibilities of the parties; payment procedures for rehabilitation work; construction plans, priorities, and time-lines; operation and maintenance responsibilities; environmental mitigation, if any; and any other matters of importance. The Supplemental Agreements will be subject to all terms and conditions of this Agreement unless expressly stated otherwise.

**Article IV. Accounting and Reporting**

**A.** The NTHP shall place all funds raised pursuant to this Agreement, less an amount retained by the NTHP for overhead expenses as allowed in the approved fundraising plan, in a restricted NTHP account to be used for projects covered by this Agreement.

**B.** The NTHP will keep accounting records in accordance with generally accepted accounting principles. The NTHP shall provide NPS with a report semiannually on the status of these funds.

**C.** The NPS shall have the right to request an audit of all relevant books, correspondence, memoranda, and other records of the NTHP, during the period of this Agreement, and for such time thereafter as may be necessary to accomplish verification of any outstanding matters.

**Article V. Key Officials**

The following Key Officials shall serve as points of contact for all matters related to this Agreement:

**National Park Service:**

Superintendent  
Grand Teton National Park  
P.O. Drawer 170  
Moose, WY 83012  
307-739-3410

Superintendent  
Yellowstone National Park  
P.O. Box 168  
Yellowstone National Park, WY 82190  
307-344-2002

**National Trust for Historic Preservation:**

Regional Director  
Mountains/Plains Office  
National Trust for Historic Preservation  
535 16<sup>th</sup> Street, Suite 750  
Denver, CO 80202  
303-623-1504

**Article VI. Term of Agreement**

Subject to the provisions in Article VII below, this Agreement shall be effective when signed by both parties and shall remain in effect as needed for up to 5 years from this date.

**Article VII. Termination**

A. The NPS or NTHP may terminate this Agreement with or without cause by providing 60 days notice in writing.

**Article VIII. Disposition of Unexpended Funds**

Upon termination or non-renewal of this Agreement, the NTHP will relinquish any and all rights to, or oversight of, funds obtained in conjunction with this Agreement, less actual overhead expenses allowed by the fundraising plan, and such funds shall be deposited in an NPS designated account. Consistent with applicable law, NPS shall either use these funds in furtherance of the purposes of Grand Teton National Park and/or Yellowstone National Park, or return them to identified donors if the donors so request.

**Article IX. Liability**

The National Trust shall indemnify, hold harmless, and defend the United States against all fines, claims, damages, losses, judgments, and expenses arising out of or from any omission or activity of National Trust representatives, employees, contractors and/or subcontractors.

**Article X. GENERAL PROVISIONS AND REQUIRED CLAUSES**

**A. Non-Discrimination:** The parties shall abide by the provisions of Executive Order 11246, as amended, and shall be in compliance with the requirements of Title VI of the Civil Rights Act of 1964, codified at 42 U.S.C. §§ 2000d et seq., as amended; Title V, Section 504 of the Rehabilitation Act of 1973, codified at 29 U.S.C. § 794, as amended; the Age Discrimination Act of 1975, codified at 42 U.S.C. §§ 6101 et seq., as amended; and with all other Federal laws and regulations prohibiting discrimination on grounds of race, color, national origin, disability, religion, or sex, in employment and in providing of facilities and services to the public.

**B. Anti-Deficiency Act:** Pursuant to the Anti-Deficiency Act, 31 U.S.C. § 1341(a)(1), nothing herein contained shall be construed as binding the United States to expend any sum in excess of or in advance of appropriations made by Congress for matters covered by this Agreement.

**C. Interest of Members of Congress:** Pursuant to 41 U.S.C. § 22, Interest of Members of Congress, “No Member of Congress shall be admitted to any share or part of any contract or agreement made, entered into, or accepted by or on behalf of the United States, or to any

benefit to arise thereupon.”

**D. Lobbying Prohibition:** The parties shall abide by the provisions of 18 U.S.C. § 1913, Lobbying with Appropriated Moneys, which states:

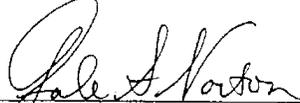
No part of the money appropriated by any enactment of Congress shall, in the absence of express authorization by Congress, be used directly or indirectly to pay for any personal service, advertisement, telegram, telephone, letter, printed or written matter, or other device, intended or designed to influence in any manner a Member of Congress, a jurisdiction, or an official of any government, to favor, adopt, or oppose, by vote or otherwise, any legislation, law, ratification, policy, or appropriation, whether before or after the introduction of any bill, measure, or resolution proposing such legislation, law, ratification, policy, or appropriation; but this shall not prevent officers or employees of the United States or of its departments or agencies from communicating to any such Member or official, at his request, or to Congress or such official, through the proper official channels, requests for any legislation, law, ratification, policy, or appropriations which they deem necessary for the efficient conduct of the public business, or from making any communication whose prohibition by this section might, in the opinion of the Attorney General, violate the Constitution or interfere with the conduct of foreign policy, counterintelligence, intelligence, or national security activities. Violations of this section shall constitute violations of section 1352(a) of title 31.

**E. Disclaimers of Government Endorsement:** Pursuant to 43 C.F.R. 12.2(d)(2), the NTHP will not publicize or circulate materials suggesting, expressly or implicitly, that the Government, NPS, or Government employees endorse the NTHP's work or products or consider them superior to others. All materials referring to the Government must be approved by the respective Superintendent prior to publication.

**F. Severability:** If any term or provision of this Agreement is held to be invalid or illegal such terms or provision shall not affect the validity or enforceability of the remaining terms and provisions.

AGREED TO BY:

U.S. DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

  
\_\_\_\_\_  
GALE A. NORTON  
SECRETARY OF THE INTERIOR

10/4/03  
DATE

NATIONAL TRUST FOR HISTORIC PRESERVATION

  
\_\_\_\_\_  
RICHARD MOE

10/4/03  
DATE

## APPENDIX C: PUBLIC CONSULTATION

### SCOPING NOTICE

# White Grass Ranch Rehabilitation and Adaptive Use Environmental Assessment

National Park Service - Grand Teton National Park

February 2004

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### SCOPING NOTICE

*The National Park Service (NPS) is preparing an Environmental Assessment (EA) for proposed rehabilitation and adaptive use of the White Grass Ranch as a western historic preservation training and technology center within Grand Teton National Park (GTNP) in Wyoming. Development and operation of the center would be accomplished through a partnership with the National Trust for Historic Preservation. The EA will address alternatives to the proposed development options to support rehabilitation and adaptive use of the White Grass Ranch for a historic preservation training center.*

*This notice seeks public comment on the scope of the analysis that will be conducted and input on issues and alternatives that should be considered, as well as any additional information, concerns or other comments about the proposal. The comment period is **February 18 – March 21, 2004**. Please use the attached form or send an e-mail to submit comments, and indicate if you wish to remain on the mailing list for this project.*

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### BACKGROUND

The National Park Service proposes to rehabilitate and adaptively use one of the historic properties in Grand Teton National Park for a western historic preservation training and technology center. The center would offer opportunities for GTNP and other NPS employees, volunteers, visiting students, and contractors and other federal agency personnel to learn how to preserve and rehabilitate historic structures in the Intermountain Region, beginning with those in Grand Teton and Yellowstone national parks.

The White Grass Ranch property is located three miles west of Moose, Wyoming at the foot of Buck Mountain at an elevation of 6,720 ft. (2,048 m.). The White Grass Ranch Historic District, listed in the National Register of Historic Places in April 1990, consists of eleven cabins, a main lodge, and a bath house. The buildings are seriously deteriorated and structurally unsafe. Roofs and walls are caving in due to neglect and the 4-6 feet of heavy snow that accumulates on the roofs each winter. Portions of the buildings, such as roofs and porches have been shored up in recent years to prevent collapse. The windows and doors have been boarded up to

prevent entry of humans and large mammals and plastic has been placed on roofs to prevent water damage. The historic district is considered historically significant under criterion A of the National Register for its association with the dude ranching industry. It is significant because, as a dude ranch, it helped define and set the standards for the Jackson Hole dude ranching industry, and the historic district exemplifies the local development of dude ranches from cattle ranches. It also represents the response of settlers to construct rustic log buildings in a natural environment.

White Grass is the third oldest dude ranch in the

Jackson Hole valley. It was constructed as early as 1913, had a heyday from the 1930s to the 1950s and remained open until 1985. In 1956, all but a few acres of the original 320-acre ranch were sold to the NPS for \$165,000 and a life estate. The remaining land and buildings became the Park Service's in 1985 when the owner, Frank Galey died, ending the run of the longest operating ranch in the valley. The NPS believes that adaptive use of the White Grass Ranch will provide the most effective way to preserve the historic district and that adaptive use as a preservation training center will leverage the NPS' ability to preserve historic structures in the park and the region.

## PURPOSE AND NEED

The **purpose** of this proposal is to rehabilitate and preserve the White Grass Ranch historic structures and portions of the cultural landscape and adaptively use the ranch as a center for historic preservation training and technology.

The **need** is to rehabilitate and preserve the White Grass Ranch Historic District and add and/or increase efficiency of preserving historic structures and cultural landscapes in Grand Teton National Park and the western United States.

## DESIRED FUTURE CONDITION

The primary objective is to rehabilitate the White Grass Ranch such that it will be conducive to the establishment of a western historic preservation training and technology center, in a manner that best protects the Park's cultural and natural resources. The NPS would further develop a partnership with the National Trust for Historic Preservation to establish the center in order to provide Grand Teton National Park employees with the time and space in a historic setting to study the technology of historic preservation. The knowledge and skills learned at the center will enable employees and students to preserve additional historic structures throughout the park, reflecting the values and significance of Grand Teton National Park and furthering the conservation of our nation's natural and cultural heritage.

## PRELIMINARY ALTERNATIVES

An internal scoping workshop was conducted to discuss management objectives for the proposed action and issues and concerns. Alternatives have not been fully developed yet, but some were

outlined and evaluated to determine whether they met the project purpose, need, and desired future conditions. After discussion, the alternative of year-round use, on a limited basis, was discussed but dismissed due to incompatibility with winter use and access, utility and park operation concerns.

A **No-Action** alternative will be included in the environmental assessment. This alternative would continue activities that currently occur at the ranch and would consist of actions to prevent the entry of humans and large mammals; prevent water damage; prevent collapse; and snow removal from roofs. The buildings would be stabilized or preserved, but not adaptively used. Access would not be improved and utilities would not be developed.

## PRELIMINARY RESOURCE CONSIDERATIONS

Resource considerations identified to date include:

- ◆ Cultural Resources
- ◆ Energy Resources
- ◆ Land Use
- ◆ Park Operations and Partnerships
- ◆ Vegetation
- ◆ Visitor Experience
- ◆ Water Resources
- ◆ Wilderness
- ◆ Wildlife and Wildlife Habitat

## NEPA PROCESS AND TIMELINE

The overall planning process is anticipated to extend over a period of approximately 7 months. Project milestones include:

- |                            |          |
|----------------------------|----------|
| ❖ Project Initiation:      | Jan 2004 |
| ❖ Public Scoping:          | Feb 2004 |
| ❖ Analysis & Consultation: | Mar 2004 |
| ❖ EA Preparation:          | Apr 2004 |
| ❖ Public Review of EA:     | Jun 2004 |
| ❖ Final Decision Document: | Jul 2004 |

## PUBLIC PARTICIPATION

**We want your comments!** Anyone interested in this planning effort is encouraged to visit the park web page at <http://www.nps.gov/grte/plans/planning.htm> which will contain information on current project activities. Comments can be emailed to **GRTE\_Planning@nps.gov**, or you may return the attached comment form to:

National Park Service  
Grand Teton National Park  
P.O. Drawer 170  
Moose, Wyoming 83012  
Attn: Planning Office

**Scoping Comment Form  
Grand Teton National Park, Wyoming  
White Grass Ranch Rehabilitation and Adaptive Use Environmental Assessment**

Please respond to the following questions and **return this form by March 21, 2004**. You may attach additional pages if needed. Also, include your name, mailing address and email address (if applicable) in the space provided below. Thank you again for your interest in Grand Teton National Park.

Please be aware that names and addresses of respondents may be released if requested under the Freedom of Information Act. Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your written comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

What issues would you like to see addressed?

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What alternatives or alternative management strategies would you like to see addressed?

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Do you have additional information, concerns, or other comments about the proposal?

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**Please check the box if you would like to remain on the mailing list to receive additional information concerning this proposal.**

**Name:** \_\_\_\_\_ **E-Mail:** \_\_\_\_\_

**Street/Box #:** \_\_\_\_\_

**City, State, Zip Code:** \_\_\_\_\_



National Park Service  
U.S. Department of the Interior

Grand Teton  
National Park

PO Box 170  
Moose, Wyoming 83012

**FOR IMMEDIATE RELEASE**  
February 17, 2004 04-06

Joan Anzelmo/Jackie Skaggs  
(307) 739-3415 or 739-3393

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## Grand Teton National Park News Release

### **Scoping Period Initiated For White Grass Ranch Rehabilitation and Adaptive Use**

Grand Teton National Park Acting Superintendent Ralph Tingey announced today that the public scoping process has begun on a proposal to rehabilitate and adaptively use the White Grass Ranch as a western historic preservation training and technology center. Development and operation of the center would be accomplished through a partnership with the National Trust for Historic Preservation. The center would offer opportunities for Grand Teton and other National Park Service (NPS) employees, volunteers, visiting students, contractors and other federal agency personnel to learn how to preserve and rehabilitate historic structures in the Intermountain Region.

White Grass Ranch is located in Grand Teton National Park, three miles west of Moose, Wyoming; it consists of 11 cabins, a main cabin, and bath house. The White Grass Ranch Historic District was listed in the National Register of Historic Places in April 1990. Constructed as early as 1913, White Grass is the third oldest dude ranch in Jackson Hole. After a dude ranching heyday that ran from the 1930s to the 1950s, it permanently closed in 1985. Since that time, the buildings have deteriorated and are structurally unsafe. The NPS believes that adaptive use of White Grass Ranch as a western preservation training center will provide not only the most effective way to preserve the historic district, but also increase the ability to preserve other historic structures in the park and the region.

The NPS has developed a scoping notice that presents a timeline for the National Environmental Policy Act process, describes the project background, and identifies preliminary alternatives and resource considerations. A White Grass Ranch Rehabilitation and Adaptive Use environmental assessment (EA) will address all proposed management actions, along with their impacts on the cultural, natural, and social resources. Interested individuals, organizations or agencies are invited to provide relevant information and/or suggestions for consideration by park managers before a draft EA is written and made available for public review this summer.

Public comment on issues, alternatives, concerns and other considerations regarding this proposal will be accepted from February 18 – March 21, 2004. Copies of the scoping notice are available at the Moose Visitor Center or on the park's website at [www.nps.gov/grte/plans/planning.htm](http://www.nps.gov/grte/plans/planning.htm). Copies are also available for review at the reference desk of the Teton County Library.

-NPS-  
[www.nps.gov/grte](http://www.nps.gov/grte)

## APPENDIX D: TRIBAL CONSULTATION

L7619 (GRTE)

Mr. Fred Auck, Chairman  
Shoshone-Bannock Tribes  
Fort Hall Business Council  
P.O. Box 306  
Fort Hall, ID 83203-0306

Dear Mr. Auck:

Grand Teton National Park would like to notify you that we are conducting a scoping period for a project entitled *White Grass Ranch Rehabilitation and Adaptive Use Environmental Assessment*. The attached scoping notice describes the project background, outlines the purpose and need for the project, identifies preliminary alternatives and resource considerations, and presents a timeline for the National Environmental Policy Act (NEPA) process.

The White Grass Ranch property is located three miles west of Moose, Wyoming at the foot of Buck Mountain at an elevation of 6,720 ft. (2,048 m.). The White Grass Ranch Historic District, listed in the National Register of Historic Places in April 1990, consists of eleven cabins, a main cabin, and a bath house. White Grass is the third oldest dude ranch in the Jackson Hole valley. It was constructed as early as 1913, had a heyday from the 1930s to the 1950s and remained open until 1985. Since that time, the buildings have become seriously deteriorated and are structurally unsafe. The NPS believes that adaptive use of the White Grass Ranch will provide the most effective way to preserve the historic district and that adaptive use as a preservation training center will leverage the NPS' ability to preserve historic structures in the park and the region.

We are interested in learning about any issues you would like addressed. The comment period for the White Grass Ranch Scoping Notice is from February 18 – March 21, 2004. We would appreciate receiving your response within this timeframe. If you would like to speak to a staff person, please contact Jacquelin St. Clair at 307-739-3664. We will mail you a copy of the environmental assessment once it is written.

Thank you for the interest you may have in this project.

Sincerely,

Ralph H. Tingey  
Acting Superintendent

Enclosure

cc:  
Archaeologist  
Park Planner

Mr. Burton Hutchinson, Sr., Chairman  
Northern Arapaho Business Council  
PO Box 396  
Fort Washakie, WY 82514

Mr. Vernon Hill, Chairman  
Eastern Shoshone Business Council  
PO Box 538  
Fort Washakie, WY 82514

Mr. Carl Venne, Chairperson  
Crow Tribal Council  
PO Box 159  
Crow Agency, MT 59002

Ms. Geri Small, President  
Northern Cheyenne Tribal Council  
P.O. Box 128  
Lame Deer, MT 59043

Ms. Yvette Tuell, Natural Resources Coordinator  
Shoshone-Bannock Tribes  
PO Box 306  
Fort Hall, ID 83203-0306

Ms. Reba Teran, Cultural Director  
Eastern Shoshone Business Council  
PO Box 538  
Fort Washakie, WY 82514

## APPENDIX E: SHPO CONSULTATION

H30 (GRTE)

Mr. Richard L. Currit  
Wyoming State Historic Preservation Office  
2301 Central Avenue, 3<sup>rd</sup> Floor  
Cheyenne, WY 82002

Reference: Scoping Notice, *White Grass Ranch Rehabilitation and Adaptive Use Environmental Assessment*

Dear Mr. Currit:

Grand Teton National Park would like to notify you that we are conducting a scoping period for a project entitled *White Grass Ranch Rehabilitation and Adaptive Use Environmental Assessment*. The attached scoping notice describes the project background, outlines the purpose and need for the project, identifies preliminary alternatives and resource considerations, and presents a timeline for the National Environmental Policy Act (NEPA) process.

The White Grass Ranch property is located three miles west of Moose, Wyoming at the foot of Buck Mountain at an elevation of 6,720 ft. (2,048 m.). The White Grass Ranch Historic District, listed in the National Register of Historic Places in April 1990, consists of eleven cabins, a main cabin, and a bath house. White Grass is the third oldest dude ranch in the Jackson Hole valley. It was constructed as early as 1913, had a heyday from the 1930s to the 1950s and remained open until 1985. Since that time, the buildings have seriously deteriorated and are structurally unsafe. The NPS believes that the adaptive use of White Grass Ranch will provide the most effective way to preserve the historic district and that adaptive use as a preservation training center will leverage the NPS's ability to preserve historic structures in the park and the western region.

We are interested in learning about any issues you would like addressed. The comment period for the White Grass Ranch Scoping Notice is from February 18 – March 21, 2004. We would appreciate receiving your response within this timeframe. If you would like to speak to a staff person, please contact Pam Holtman at 307-739-3671. We will mail you a copy of the environmental assessment once it is written. Thank you for your time and assistance.

Sincerely,

Ralph H. Tingey  
Acting Superintendent

Enclosure

cc:  
Historian  
Park Planner

## APPENDIX F: FWS CONSULTATION

Brian T. Kelly, Field Supervisor  
Wyoming Field Office  
U.S. Fish and Wildlife Office  
Ecological Services  
4000 Airport Parkway  
Cheyenne, WY 82001

Dear Mr. Bush:

Grand Teton National Park would like to notify you that we are conducting a scoping period for a project titled, *White Grass Ranch Rehabilitation and Adaptive Use Environmental Assessment*. The attached scoping notice explains the project background, purpose and need, and preliminary alternatives and resource considerations. It also provides a timeline for the National Environmental Policy Act timeline.

We are interested in learning about issues you would like addressed pertaining to endangered, threatened, and candidate species, as well as other species of special interest. If necessary, please also provide us with an updated species list for endangered, threatened, and candidate species that may occur within Grand Teton National Park. The comment period for the White Grass Ranch Scoping Notice is from February 18 – March 21, 2004. We would appreciate receiving your response within this timeframe. If you would like to speak to a staff person, you may contact Park Planner, Suzy Schulman at 307-739-3467.

We will use the listing you send us, as well as any other preliminary considerations you may have, for the protection of species and their habitat. We will then consult with our wildlife biologists to make our determination of effect and send you a copy of the environmental assessment for your review. The NPS expects to release the environmental assessment for the White Grass Ranch project in the summer of 2004.

Thank you for your time and assistance.

Sincerely,

Ralph H. Tingey  
Acting Superintendent

Enclosure

cc:  
Park Planner  
Chief of Science and Resource Management

## APPENDIX G: DESCRIPTION OF PROPOSED UNDERTAKINGS IN PREFERRED ALTERNATIVE FOR PURPOSES OF §106

### SCOPE OF WORK FOR REHABILITATING EACH STRUCTURE:

#### 1154 DOUBLE CABIN

#### 306 SF + 51 SF ADDITION

- Reconstruct wood entry stairs and landings in-kind
- Provide 7'-0" deep x 7'-6" wide addition (to west elevation) to accommodate shared bathroom:
  - Design, detail, and finish to match in-kind to adjacent cabin additions
  - Provide concrete foundation, wood floor structure, and wall framing
  - Roof pitch to match in-kind with existing cabin roof design and detail
  - Provide shingle roof finish to match in-kind with new roof finish of cabin
  - Finish exterior walls with clapboard siding to match in-kind to adjacent cabin additions
  - Treat clapboard siding with FPL wood preservation treatment
  - Saw-cut new access from cabin to shared bathroom addition
  - Provide new interior doors and frames joining bedrooms and bathroom
  - Coordinate applicable utilities, fixtures, and interior finishes; install new bathroom fixtures
  - In-fill wall separating bedrooms at location of cased opening with in-kind log work
- Remove existing log chinking and daubing and replace with new to match in-kind;
- Restore and re-glaze existing wood windows to match in-kind:
  - Provide new wood doors, frames, and hardware to match in-kind
  - Provide new wood screen doors and hardware to match in-kind
  - Provide new wood window screens to match in-kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Provide positive drainage around the cabin
- Upgrade existing wood floor structure:
  - Remove existing wood floor finish
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor in-kind
  - Finish wood floor to match in-kind
- Upgrade existing roof structure, provide new roof over-framing:
  - Remove existing roofing down to planking
  - Remove eaves to exterior wall line
  - Over-frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
- Provide a new wood shingle roof finish and flashing to match in-kind;
- Remove existing non-historic, collapsed, north stick frame, plywood addition;
- Remove and replace rotten and weather damaged wall logs to match in-kind:
  - Remove and replace sill logs typically to north and west elevations
- Remove rotten and damaged roof log ends to match in-kind:
  - Dutchman splice new log ends to 2 locations on north and south elevations
- Restore interior log finishes in-kind;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces.

**1155 CABIN**                      **228 SF**  
(rehabilitated to be handicapped accessible)

- Reconstruct wood entry stair and landing:
  - Provide new landing to comply with *ADA Standards for Accessible Design*
- Remove existing bathroom fixtures and finishes:
  - Provide applicable utilities, ADA compliant fixtures, accessories, and new interior finishes
- Remove existing log chinking and daubing and replace with new to match in-kind;
- Restore and re-glaze existing wood windows to match in-kind:
  - Provide new wood door, frame to match in-kind, and ADA compliant hardware
  - Provide new wood screen door and hardware to match in-kind
  - Provide new wood window screens to match in-kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove tree from north foundation of cabin;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Provide positive drainage around cabin
- Upgrade existing wood floor structure:
  - Remove existing wood floor finish
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor in-kind
  - Finish wood floor to match in-kind
- Upgrade existing roof structure, provide new roof over-framing:
  - Remove existing roofing down to planking
  - Remove and replace damaged and rotten planking in-kind
  - Remove eaves to exterior wall line
  - Over-frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
- Provide a new wood shingle roof finish and flashing to match in-kind;
- Remove and replace rotten and weather damaged wall logs to match in-kind:
  - Remove and replace sill log on west elevation
- Re-nail existing half-log siding of bathroom addition;
- Remove rotten and damaged roof log ends to match in-kind:
  - Dutchman splice new log ends to 1 location on south elevation
- Restore interior log finishes in-kind;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces.

**1157 CABIN**    **246 SF**

- Reconstruct wood entry stair and porch in-kind;
- Remove existing bathroom fixtures and finishes:
  - Provide applicable utilities, fixtures, accessories, and new interior finishes; install new bathroom fixtures
  - Infill interior log wall in-kind to existing at bathroom to accommodate new door and frame
  - New door and frame and hardware to match in-kind with existing
- Remove existing log chinking and daubing and replace with new to match in-kind;
- Restore and re-glaze existing wood windows to match in-kind:
  - Restore existing wood door, frame, and provide new in-kind door hardware
  - Provide new wood screen door and hardware to match in-kind

- Provide new wood window screens to match in- kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove shrubs from foundation of existing bathroom addition;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Provide positive drainage around the cabin
- Upgrade existing wood floor structure:
  - Remove existing wood floor finish
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor in- kind
  - Finish wood floor to match in- kind
- Upgrade existing roof structure, provide new roof over- framing:
  - Remove existing roofing down to planking
  - Remove and replace damaged and rotten planking in- kind
  - Remove eaves to exterior wall line
  - Over- frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
- Remove and replace failed roof structure of bathroom addition:
  - Provide new roof structure, replicate exterior to match existing
- Reconstruct existing wood soffit brackets on bathroom addition;
- Provide a new wood shingle roof finish to match in- kind;
- Re- nail existing clapboard siding of bathroom addition;
- Remove and replace rotten and weather damaged wall logs to match in- kind:
  - Remove and replace sill log on north elevation
  - Remove and replace top wall log on north elevation
- Restore interior log finishes in- kind;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces.

**1158 DOUBLE CABIN**

**457 SF**

- Reconstruct existing wood entry stair in- kind;
- Remove and reconstruct existing wood porch and log supports in- kind;
- Remove existing bathroom fixtures and finishes:
  - Provide applicable utilities, fixtures, accessories, and new interior finishes; install new bathroom fixtures
  - Infill interior log wall in- kind to existing at opening between bedrooms
  - Restore bathrooms doors and frames
- Remove existing log chinking and daubing and replace with new to match in- kind;
- Restore and re- glaze existing wood windows to match in- kind:
  - Reconstruct existing wood doors to match in- kind
  - Provide new wood door frames and hardware to match in- kind
  - Provide new wood screen doors and hardware to match in- kind
  - Provide new wood window screens to match in- kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove trees and shrubs adjacent foundation on north and south elevations;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Provide positive drainage around the cabin
- Upgrade existing wood floor structure:
  - Remove existing wood floor finish
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor in- kind

- Finish wood floor to match in-kind
- Upgrade existing roof structure, provide new roof over-framing:
  - Remove existing roofing down to planking
  - Remove eaves to exterior wall line
  - Over-frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
- Provide a new wood shingle roof finish and flashing to match in-kind;
- Remove and replace rotten and weather damaged wall logs to match in-kind:
  - Remove and replace sill log and above wall log on west elevation, north of bathroom
  - Remove and replace sill log on west elevation, south of bathroom
  - Remove and replace sill log on south elevation of cabin and bathroom
  - Remove and replace sill log and above wall log on east elevation, north of porch
  - Remove and replace 2 top wall logs on east elevation, north of porch
  - Remove and replace sill log and above wall log on north elevation of bathroom
- Dutchman splice new log ends to 1 location on south elevation;
- Restore interior log finishes in-kind;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces.

**1159 CABIN**

**268 SF**

- Reconstruct existing wood entry stair and porch in-kind;
- Remove existing bathroom fixtures and finishes:
  - Provide applicable utilities, fixtures, accessories, and new interior finishes; install new bathroom fixtures
  - Infill interior log wall in-kind to existing, at enlarged opening to bathroom
  - Provide new bathroom door and frame to match in-kind at bathroom
- Remove existing log chinking and daubing and replace with new to match in-kind;
- Restore and re-glaze existing wood windows to match in-kind:
  - Reconstruct existing wood doors to match in-kind
  - Provide new wood door frames and hardware to match in-kind
  - Provide new wood screen doors and hardware to match in-kind
  - Provide new wood window screens to match in-kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove trees and shrubs adjacent foundation on north, south, and east elevations;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Provide positive drainage around the cabin
- Upgrade existing wood floor structure:
  - Remove existing wood floor finish
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor in-kind
  - Finish wood floor to match in-kind
- Upgrade existing roof structure, provide new roof over-framing:
  - Remove existing roofing down to planking
  - Remove and replace rotten planking on north roof slope
  - Remove eaves to exterior wall line
  - Over-frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
- Re-point stone chimney and cap to match in-kind:
  - Chemically clean stone and fireplace hearth

- Provide a new wood shingle roof finish and flashing to match in-kind;
- Remove and replace rotten and weather damaged wall logs to match in-kind:
  - Remove and replace sill log on north elevation
  - Remove and replace 2 wall logs on north elevation
  - Remove and replace sill log on west elevation of bathroom
  - Remove and replace sill log on south elevation of bathroom
- Restore interior log finishes in-kind;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to log walls.

**1160 TRIPLEX CABIN**

**610 SF + 77 SF ADDITION**

- Reconstruct southeast wood entry stair in-kind;
- Remove and reconstruct existing southeast entry porch and log supports in-kind;
- Remove and reconstruct existing northwest entry porch and log supports in-kind;
- Expand existing 7'-0" x 9'-0" southwest bathroom addition to 9'-0" x 9'-0" addition;
- Provide new 7'-0" wide x 9'-4" deep bathroom addition to northwest elevation:
  - Design and detail addition to match in-kind to adjacent bathroom
  - Provide concrete foundation, wood floor, and wall framing
  - Shed roof to match in-kind with adjacent bathroom roof design and detail
  - Provide shingle roof finish to match in-kind with new roof finish of cabin
  - Finish exterior walls with clapboard siding to match in-kind to adjacent bathroom
  - Treat clapboard siding with FPL wood preservation treatment
  - Coordinate applicable utilities, fixtures, and interior finishes
- In each bathroom:
  - Provide new fixtures and finishes
  - Provide applicable utilities, fixtures, accessories, and new interior finishes
  - Restore bathrooms doors and frames to existing bathroom, provide new hardware
  - Saw-cut new door opening in existing log for access to new bathroom addition
  - Provide door and frame to new bathroom to match in-kind to existing bathroom doors
- Remove existing log chinking and daubing and replace with new to match in-kind;
- Restore and re-glaze existing wood windows to match in-kind:
  - Reconstruct existing wood doors to match in-kind
  - Provide new wood door frames and hardware to match in-kind
  - Provide new wood screen doors and hardware to match in-kind
  - Provide new wood window screens to match in-kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove trees and shrubs adjacent foundation;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Realign cabin on new foundation
  - Provide positive drainage around the cabin
- Upgrade existing wood floor structure:
  - Remove existing wood floor finish
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor in-kind
  - Finish wood floor to match in-kind
- Upgrade existing roof structure, provide new roof over-framing:
  - Remove existing roofing down to planking
  - Remove planking from existing bathroom roof and replace in-kind
  - Remove eaves to exterior wall line
  - Over-frame new structure above existing roof structure (existing ceiling to remain)

- Replicate original eave condition with new structure
- Replicate rake condition including exposed log ends with new structure
- Provide a new wood shingle roof finish and flashing to match in- kind;
- Remove and replace rotten and weather damaged wall logs to match in- kind:
  - Remove and replace sill log on northwest elevation
  - Remove and replace top wall log on northwest elevation
  - Remove and replace sill log on southeast elevation, east of existing bathroom
  - Remove and replace sill log on northeast elevation
- Restore interior log finishes in- kind;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces.

## 1161 DOUBLE CABIN

419 SF

- Reconstruct west wood entry stair in- kind;
- Remove and reconstruct existing west entry porch and log supports in- kind;
- Remove existing bathroom fixtures and finishes:
- Provide applicable utilities, fixtures, accessories, and new interior finishes; install new bathroom fixtures
  - Infill southwest window location with log to match in- kind to existing
  - Restore existing bathroom door and frame
  - Provide new bathroom door and frame to missing location to match in- kind
- Remove existing log chinking and daubing and replace with new to match in- kind;
- Restore and re- glaze existing wood windows to match in- kind:
  - Reconstruct existing northwest wood entry door to match in- kind
  - Provide new southwest entry door
  - Provide new wood door frames and hardware to match in- kind
  - Provide new wood screen doors and hardware to match in- kind
  - Provide new wood window screens to match in- kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove trees and shrubs adjacent foundation;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Provide positive drainage around the cabin
- Upgrade existing wood floor structure:
  - Remove existing wood floor finish
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor in- kind
  - Finish wood floor to match in- kind
- Upgrade existing roof structure, provide new roof over- framing:
  - Remove existing roofing down to planking
  - Remove failed planking from existing bathroom roof and replace in- kind
  - Remove eaves to exterior wall line
  - Over- frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
- Provide a new wood shingle roof finish and flashing to match in- kind;
- Remove and replace rotten and weather damaged wall logs to match in- kind:
  - Remove and replace sill log on north elevation of bathroom addition
  - Remove and replace top 2 wall logs on north elevation of bathroom addition
  - Remove and replace sill log on west elevation
  - Remove and replace second wall log on west elevation, south side
- Restore interior log finishes in- kind;

- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces.

**1163 DOUBLE CABIN**

**432 SF**

- Reconstruct southeast wood entry stair in- kind;
- Remove and reconstruct existing southeast porch and log supports in- kind;
- Remove existing bathroom fixtures and finishes:
  - Provide applicable utilities, fixtures, accessories, and new interior finishes; install new bathroom fixtures
  - Infill northwest window of addition to match in- kind to existing finishes
  - Restore existing shared bathroom doors and frames
  - Provide new hardware to bathroom doors to match in- kind
- Remove existing log chinking and daubing and replace with new to match in- kind;
- Restore and re- glaze existing wood windows to match in- kind:
  - Reconstruct wood entry doors to match in- kind
  - Provide new wood door frames and hardware to match in- kind
  - Provide new wood screen doors and hardware to match in- kind
  - Provide new wood window screens to match in- kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove trees adjacent foundation;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Realign cabin on new foundation
  - Provide positive drainage around the cabin
- Upgrade existing wood floor structure:
  - Remove existing wood floor finish
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor in- kind
  - Finish wood floor to match in- kind
- Upgrade existing roof structure, provide new roof over- framing:
  - Remove existing roofing down to planking
  - Remove failed planking from cabin and existing bathroom roof and replace in- kind
  - Remove eaves to exterior wall line
  - Over- frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
- Provide a new wood shingle roof finish and flashing to match in- kind;
- Re- nail existing half- log siding of bathroom addition;
- Remove and replace rotten and weather damaged wall logs to match in- kind:
  - Remove and replace sill log on north elevation
  - Remove and replace sill log and above wall log on west elevation
  - Remove and replace sill log on south elevation
- Restore interior log finishes in- kind;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces.

**1164 DOUBLE CABIN**

**500 SF**

- Reconstruct southeast entry stair in- kind;
- Remove and reconstruct existing southeast entry porch and log supports in- kind:
  - Provide code compliant log handrails to porch detail to match main cabin 1168
- Remove existing bathroom fixtures and finishes:

- Provide applicable utilities, fixtures, accessories, and new interior finishes; install new bathroom fixtures
- Infill northwest window of addition with half- log siding to match in- kind to existing
- Restore existing shared bathroom doors and frames
- Provide new hardware to bathroom doors to match in- kind
- Remove existing log chinking and daubing and replace with new to match in- kind;
- Restore and re- glaze existing wood windows to match in- kind:
  - Reconstruct wood entry doors to match in- kind
  - Restore wood door frames and provide new hardware to match in- kind
  - Provide new wood screen doors and hardware to match in- kind
  - Provide new wood window screens to match in- kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove shrubs adjacent foundation;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Provide positive drainage around the cabin
- Upgrade existing wood floor structure:
  - Remove existing wood floor finish
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor in- kind
  - Finish wood floor to match in- kind
- Upgrade existing roof structure, provide new roof over- framing:
  - Remove existing roofing down to planking
  - Remove failed planking from bathroom roof and replace in- kind
  - Remove eaves to exterior wall line
  - Over- frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
- Provide a new wood shingle roof finish and flashing to match in- kind;
- Re- nail existing half- log siding of bathroom addition;
- Remove and replace rotten and weather damaged wall logs to match in- kind:
  - Remove and replace sill log on northeast elevation
  - Remove and replace sill log northwest elevation each side of bathroom
  - Remove and replace wall log, above sill log, on north side of northwest elevation
- Restore interior log finishes in- kind;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces.

## 1165 CABIN

275 SF

- Remove and reconstruct existing entry stair and porch in- kind;
- Provide code compliant handrail to porch to match in- kind to main cabin 1168;
- Remove existing bathroom fixtures and finishes:
  - Provide applicable utilities, fixtures, accessories, and new interior finishes; install new bathroom fixtures
  - Infill northwest window opening with half- log siding in- kind to existing
  - Restore bathroom door and frame
  - Provide new hardware to match in- kind
- Remove existing log chinking and daubing and replace with new to match in- kind;
- Restore and re- glaze existing wood windows to match in- kind:
  - Reconstruct existing wood doors to match in- kind
  - Provide new wood screen door and hardware to match in- kind
  - Provide new wood window screens to match in- kind

- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove trees from foundation of northeast elevation;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Provide positive drainage around the cabin
- Upgrade existing wood floor structure:
  - Remove existing wood floor finish
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor in- kind
  - Finish wood floor to match in- kind
- Upgrade existing roof structure, provide new roof over- framing:
  - Remove existing roofing down to planking
  - Remove rotten, failed planking from bathroom addition and replace in- kind
  - Remove eaves to exterior wall line
  - Over- frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
- Provide a new wood shingle roof finish and flashing to match in- kind;
- Remove and replace rotten and weather damaged wall logs to match in- kind:
  - Remove and replace sill log on northeast elevation
  - Remove and replace sill log on northwest elevation each side of bathroom
  - Remove and replace sill log on southwest elevation
  - Remove and replace rotten log end, Dutchman splice, at southwest corner
- Restore interior log finishes in- kind;
- Re- nail half- log siding of bathroom addition;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to log walls.

#### HAMMOND CABIN 1156

1,752 SF

- Reconstruct existing southwest entry porch in- kind;
- Reconstruct the southwest entry stair and bench to north cabin extension in- kind;
- Reconstruct west stoop, north of fireplace, in- kind;
- Reconstruct existing south entry, benches, and stair of north cabin extension in- kind;
- Remove and reconstruct log supports to south entry of north cabin extension in- kind;
- Reconstruct southeast main entry porch and stair in- kind;
- Remove and reconstruct southeast main entry log supports in- kind;
- Reconstruct wood porch at southeast to meet *ADA Standards for Accessible Design*:
  - Provide new wood ramp, landing, and handrails
  - Design and detail to match in- kind with porch design main cabin 1168
- Remove existing bathroom fixtures and finishes (2 bathroom locations);
- Remove damaged and deteriorating bathroom addition on southwest side of cabin:
  - At location of new commercial kitchen for training/dining facility
- Divide interior into a single family residence (north) and training/dining facility (south);
- Single family residence to include:
  - Reconstruct 2 bedrooms/closets, interior bathroom, living/dining room and kitchen
  - Separate north residence from south training facility with interior framed closets
  - Provide centrally located mechanical room servicing entire cabin
- Reconstruct centrally located interior bathroom of residence:
  - Provide applicable utilities, fixtures, accessories, and new interior finishes
  - Infill north and south log walls at door locations
  - Establish corridor and storage closet
  - Relocate restored bathroom door and frame

- Provide new hardware to match in-kind
- Install kitchen within second north bathroom addition of residence:
  - Install windows to north and east elevations, match in-kind to historic conditions
  - Remove original bathroom door, enlarge opening to 5'-0" wide
  - Provide applicable utilities, fixtures, accessories, appliances, and interior finishes
- Restore interior finishes in residence portion of cabin;
- Training facility to include:
  - Training/dining facility (main room)
  - Handicap accessible restroom and commercial kitchen (south of main room)
- Install handicap accessible, ADA compliant restroom opposite ADA entry to facility:
  - Frame new walls separating restroom from kitchen
  - Infill southwest log wall in-kind at location of door accessing removed bathroom addition
  - Provide applicable utilities, ADA compliant fixtures, accessories, and new interior finishes
- Install handicap accessible, ADA compliant commercial kitchen to facility:
  - Enlarge southwest entry door to accommodate code compliant access
  - Infill modern double southeast entry with in-kind log construction establish ADA entry
  - Provide applicable utilities, fixtures, accessories, appliances, and interior finishes
- Remove existing log chinking and daubing and replace with new to match in-kind;
- Restore and re-glaze existing wood windows to match in-kind:
  - Provide new wood doors, frames, and ADA compliant hardware in training/dining facility
  - Restore doors and frames in residence, provide new hardware in-kind
  - Provide new wood screen doors and hardware typically to exterior doors
  - Provide new wood window screens to match in-kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove trees and shrubs growing adjacent foundation of cabin;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Provide positive drainage around cabin
  - Realign north plywood addition (new kitchen)
- Upgrade existing wood floor structure:
  - Remove existing wood floor finish throughout
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor in-kind to existing
  - Finish wood floor to match in-kind to removed floor finish
- Upgrade existing roof structure, provide new roof over-framing:
  - Remove existing roofing down to planking
  - Remove and replace damaged and rotten planking in-kind
  - Remove eaves to exterior wall line
  - Over-frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
- Remove and reconstruct north entry remodeled kitchen addition of residence:
  - Remove non-historic plywood exterior finish to expose framing
  - Install new wood wall framing to existing failed wall framing
  - Remove entire roof from north remodeled kitchen space of residence
  - Frame new roof structure to remodeled kitchen space of residence
  - Realign addition on new concrete foundation
  - Provide new ceiling finish to kitchen space to match in-kind
  - Install half-log wall finish to exterior of addition to match in-kind to cabin additions

- Provide a new wood shingle roof finish and flashing to match in-kind;
- Remove and replace rotten and weather damaged wall logs to match in-kind:
  - Remove and replace sill log on southeast corner, at new ramp
  - Remove and replace sill log on central portion of southwest elevation, at bedroom/hall
  - Remove and replace sill log and 6 wall logs on north elevation, main entry extension
  - Remove and replace sill log on north elevation, west of fireplace
  - Remove and replace sill log on entire length of west elevation
  - Remove and replace wall log, above sill log, on northwest end of west elevation
  - Remove and replace wall log, above sill log, on south west end of west elevation
- Restore interior log finishes in-kind;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces.
- Additional work includes:
  - Remove and replace cracked east-west log roof structure in-kind at training/dining facility
  - Remove and replace cracked and damage roof planking in-kind
  - Chemically clean interior and exterior of 2 stone fireplaces and hearths
  - Re-point stone fireplaces and chimney caps in-kind
- Restore historic chimney cap of north fireplace (in residence).

#### **1162 SHOWER/LAUNDRY BUILDING 853 SF**

- Reconstruct southwest entry stoop in-kind;
- Reconstruct northwest entry stoop in-kind;
- Reconstruct 2 entry stoops on northeast elevation in-kind;
- Reconstruct southeast entry stoop at double doors in-kind;
- Remove existing interior stud wall framing;
- Remove existing log chinking and daubing and replace with new to match in-kind;
- Restore and re-glaze existing wood windows to match in-kind:
  - Reconstruct and replace wood entry doors to match in-kind
  - Provide new doors, frame and hardware to southeast entry door location to match in-kind
  - Restore and replace wood door frames and provide new hardware to match in-kind
  - Provide new wood screen doors and hardware to match in-kind
  - Provide new wood window screens to match in-kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove shrubs and trees adjacent cabin and new foundation;
- Reset cabin on a new concrete foundation:
  - Provide positive drainage around the cabin
- Remove existing damaged interior concrete floor finish in its entirety;
- Install new concrete floor finish to match in-kind
- Upgrade existing roof structure, provide new roof over-framing:
  - Remove and replace existing interior log columns in-kind
  - Provide additional interior log columns to support existing and new roof structure
  - Remove existing roofing down to planking
  - Remove and replace failed planking on north roof slope match in-kind
  - Remove eaves to exterior wall line
  - Over-frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
- Remove and Dutchman splice exposed log ends 4 locations on southeast gable roof end;
- Remove and Dutchman splice exposed log end 5 locations on northwest gable roof end;

- Provide a new wood shingle roof finish and flashing to match in- kind;
- Remove collapsed brick chimney and rebuild in- kind;
- Remove and replace rotten and weather damaged wall logs to match in- kind:
  - Remove and replace sill log on northeast elevation
  - Remove and replace sill log southwest elevation
  - Remove and replace wall log, above sill log, on southwest elevation
- Restore interior log finishes in- kind;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces.
- Additional work includes:
  - Remove and replace 2 cracked east- west log perkins in- kind at south corner of roof
  - Install 10,000 gallon water storage tank within open space of cabin
  - Reset exterior boiler unit to coordinate with site grading around building foundation
  - Stabilize metal chimney to exterior boiler unit with in- kind metal straps to cabin roof

## 1168 MAIN CABIN

2,596 SF

- Remove and reconstruct southeast porch, stair, benches, and handrail:
  - Base design on historic photographs
- Remove and reconstruct central porch of east elevation:
  - Base design on historic photographs
- Reconstruct stoop on west elevation in- kind;
- Provide ADA compliant stoops to meet *ADA Standards for Accessible Design* at:
  - North entry of west elevation
  - West entry of north elevation of southern portion of cabin
- Reconstruct shed roof and log roof structure of wood storage, in- kind;
- Remove existing log chinking and daubing and replace with new to match in- kind;
- Restore and re- glaze existing wood windows to match in- kind:
  - Provide new wood doors, frames, and ADA compliant hardware to 2 entries
  - Restore doors and frames re- swing doors to meet code requirements:
    - Provide new hardware to meet code
    - Restore transom window above door, north of wood storage
  - Restore wood doors and screens accessing porch at main entry (north and south sides)
  - Provide new doors to location of sliding glass door to match historic photographs
  - Provide new wood screen doors and hardware typically to exterior doors
  - Provide new wood window screens to match in- kind
  - Remove and replace window trim to match in- kind
- Remove and replace utilities with new electrical, heat, water, sewer, and smoke detection;
- Remove trees and shrubs growing adjacent foundation of cabin;
- Reset cabin on a new concrete foundation with a crawlspace:
  - Provide positive drainage around cabin
  - Realign north portion of main cabin on new foundation wall
- Remove existing damaged interior concrete floor finish of southern, east- west building addition:
  - Install new concrete floor finish to match in- kind
- Upgrade existing wood floor structure of main cabin:
  - Remove existing wood floor finish throughout
  - Provide new floor joists and sheathing to existing structure
  - Provide new floor to match in- kind to existing
  - Finish wood floor to match in- kind to removed floor finish
- Reconstruct log wall, windows, and door on central portion of main cabin:
  - Base design on historic photographs

- Re- establish original roof bearing conditions
- Remove and replace collapsed, damaged and failed roof structure in- kind
- Upgrade existing roof structure, provide new roof over- framing:
  - Remove existing roofing down to planking
  - Remove and replace damaged and rotten planking in- kind
  - Remove eaves to exterior wall line
  - Over- frame new structure above existing roof structure (existing ceiling to remain)
  - Replicate original eave condition with new structure
  - Replicate rake condition including exposed log ends with new structure
  - Replicate roof brackets on north elevation of east- west building addition
  - Replicate roof brackets to roof north of wood storage
- Re- establish structural integrity of roof of east- west building addition:
  - Remove non- historic interior roof ties
- Remove non- historic wall and ceiling finishes and light fixtures from cabin interior;
- Remove non- historic carpet floor finishes from cabin interior;
- Remove non- historic sliding glass door at south end of east elevation;
- Remove non- historic wall infill to central porch of east elevation;
- Remove collapsed and damaged shelving from south side of east- west building addition;
- Remove interior cabinets and ancillary wall framing in east- west building addition:
  - Remove and replace failed roof logs and framing
  - Remove coverings from roof ventilator, re- establish ventilator
- Install ADA compliant restrooms and laundry room to north side of east- west building addition:
  - Provide applicable utilities, ADA compliant fixtures, accessories, and new interior finishes
  - Remove 30- inch x 48- inch and 36- inch x 50- inch windows on north elevation, east end:
    - Infill log wall construction in- kind to accommodate new windows
    - Install new 30- inch x 32- inch windows design to match historic conditions
  - Provide new wall framing and furring, ceiling and wall finishes
  - Install new cabinets, appliances and venting to laundry room
  - Provide new ADA compliant doors and hardware to rooms
- Establish mechanical room on west end of east- west building addition to accommodate:
  - New utility services to the cabin and mechanical equipment
  - Provide new code compliant door and hardware to room
- Remove existing doors to south storage room addition of east- west addition:
  - Enlarge door openings to meet code requirements for exiting
  - Provide new doors to match in- kind to historic conditions
  - Provide new ADA compliant door hardware
- Within interior of main cabin, north end provide the following:
  - 3 offices within existing wall framing
  - ADA compliant doors and door hardware to match in- kind
- Provide a new wood shingle roof finish and flashing to match in- kind;
- Chemically clean interior and exterior of 2 stone fireplaces and hearths:
  - Realign northern most chimney to realigned cabin
  - Chemically clean and re- point stone benches adjacent interior of northern most fireplace
  - Reconstruct stone chimney cap to northern most fireplace to match in- kind
  - Re- point stone fireplaces and chimneys
  - Re- point terracotta clay chimney pots of central fireplace on west elevation of main cabin

- Restore interior fireplace surround of central fireplace of main cabin in-kind to existing
- Remove and replace rotten and weather damaged wall logs to match in-kind:
  - Remove and replace sill log on west elevation, north end of main cabin
  - Remove and replace sill log and 2 wall logs on north elevation of east-west addition
  - Remove and replace top wall log on north elevation of east-west addition
  - Remove and replace 2 wall logs west of west entry, north elevation of east-west addition
  - Remove and replace sill log on west elevation of main cabin and east-west addition
  - Remove and replace 2 wall logs each side of central fireplace, west elevation, main cabin
  - Remove and replace 3 wall logs, west side of east-west addition
  - Remove and replace sill logs all elevation of south addition of east-west building addition
  - Remove and replace sill log and above wall log entire length of south elevation
  - Remove and replace sill log on entire length of east elevation
- Remove and Dutchman splice log ends to:
  - 2 locations, west elevation of east-west building addition
- Restore interior log finishes in-kind;
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces.

#### **JY RANCH HAY SHED**

**1,477 SF**

- Restore existing exterior doors accessing hay loft;
- Upgrade existing loft floor structure:
  - Remove damaged and deteriorating wood floor and replace in-kind
  - Upgrade and re-nail existing structural ties and connections
  - Provide new floor joists to underside of existing floor finish
- Upgrade existing post and pole log roof structure, provide new framing:
  - Secure new framing adjacent to existing framing
- Remove existing roofing down to planking
- Remove damaged and rotten planking and replace with new
- Upgrade existing structural ties and connections in roof structure
- Replicate original eave condition with new structure
- Replicate rake condition including exposed rafter tips with new roof structure
- Remove existing metal roof and replace with historically compatible shingle roof:
  - Provide a new wood shingle roof finish and flashing
- Provide new electrical;
- Reset moved barn on concrete piers corresponding to barn structure:
  - Provide hard-packed, drainable floor surface within hay shed
- Provide positive drainage around hay shed
- Restore loft finishes in-kind;
- Provide new wood ladder access from grade to loft floor level:
  - Provide access at 2 locations
- Clean wood surfaces to remove mold, algae, and surface dirt;
- Provide FPL wood preservation treatment finish to wood surfaces;

#### **SITE AND WELL HOUSE**

- Construct 10-foot deep x 18-foot wide single story well house addition to north side of JY Ranch hay shed;

- Well house addition includes:
  - New concrete, slab on grade floor structure
  - Frame walls and finish with half- log siding to match similar historic conditions
  - Frame roof structure to match in- kind to hay shed
  - Finish roof to match new shingle roof to hay shed
  - Provide new wood door, frame, and hardware
  - Provide new electrical
  - Provide FPL wood preservation treatment finish to wood surfaces
  
- Site work includes:
  - Installation of new underground power and telephone service:
    - Access power and telephone from existing utility service line west of site
    - Set new transformer adjacent drop from existing utility service line
    - Bury power and phone within confines of existing site access road
    - Extend buried utilities to 1162 shower/laundry building (historic use)
  - Install water service extending from new well house to 1162 shower/laundry building:
    - Bury water service line within confines of existing site access road
  - Utility distribution:
    - From 1162 shower/laundry building distribute utilities to each cabin
    - Bury utilities
  - Install new sewage drain field to east side of Hammond cabin:
    - Provide underground sewer system from each cabin
  - Provide 70- foot x 75- foot fence southwest of relocated JY Ranch hay shed:
    - Design fence to match in- kind to historic fence conditions
    - Area to be used for construction staging
  - Provide leveled gravel finished parking area between JY Ranch hay shed and fenced area:
    - Parking to accommodate 6 vehicles
  - Install perimeter pole and rail fence with gates immediately around buildings:
    - Install fence to historic fence line location
    - Design fence to match in- kind to historic fence conditions

**SCOPE OF WORK FOR STABILIZING STRUCTURES:**

To stabilize the structures, improvements to the foundations, sill and wall logs, and roofs would be made as described above.

## APPENDIX H: CULTURAL RESOURCES SPECIALISTS REVIEW

I have reviewed the preferred alternative for conformity with the requirements for the §106 process, with the 1995 Servicewide Programmatic Agreement, and applicable parts of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, NPS Management Policies, and Director's Order 28. I have stated any additional stipulations that should apply and I concur with the recommended assessment of effect in this document.

Signed: \_\_\_\_\_  
                    **Park Archaeologist/Tribal Liaison**  
Date \_\_\_\_\_

Comments: \_\_\_\_\_

Signed: \_\_\_\_\_  
                    **Cultural Landscape Architect**  
Date \_\_\_\_\_

Comments: \_\_\_\_\_

Signed: \_\_\_\_\_  
                    **Park Historian**  
Date \_\_\_\_\_

Comments: \_\_\_\_\_

Signed: \_\_\_\_\_  
                    **Park Compliance Officer**  
Date \_\_\_\_\_

Comments: \_\_\_\_\_

Signed: \_\_\_\_\_  
                    **Superintendent**  
Date \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_