

# **Environmental Assessment**

**for**

## **Boulder Lake North Campground Improvement Project**

**Prepared by**

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**WY-100-EA10-308**



## 1.0 INTRODUCTION

The Boulder Lake North Campground Improvement Project, WY-100-EA10-308, is a recreation site improvement project within the Boulder Lake Common Allotment (BLCA). BLCA is a common use allotment encompassing approximately 5055 total acres (4900 federal, 155 private) in Sublette County approximately 7 miles southeast of Pinedale. The legal location of the allotment is T33 R108 S 12, 13, 14, 23, 24, 25, and 26, and T33 R107 S 18, 19, 29, and 30, the campground and proposed fencing is T33 R108 S12, the water well is T33 R108 S14. Bureau of Land Management (BLM) public lands in the BLCA are primarily used for livestock grazing, wildlife habitat, and recreation. The campground currently covers approximately 6 acres. This EA was prepared by the Pinedale Field Office (PFO), Pinedale Wyoming.

## 1.1 Background

Existing conditions in the analysis area present opportunities for improvements. Cultural resources have been impacted by direct and indirect actions and BLM is mandated to mitigate these effects. Livestock and off-highway vehicles (OHV) use along the lake shoreline line has caused damage to riparian habitat and cultural resources (Figures 1, 2, and 3). There is an opportunity to decrease resource damage around critical recreational and historic sites.

**Figures 1, 2, and 3. OHV damage and livestock use on the lake shoreline.**



## 1.2 Purpose and Need for the Proposed Action

The purpose of this project is to enhance the Boulder Lake North Campground for recreation and cultural resources by constructing new campground fence, setting boulders, drilling a water well, and placing informational signs in 2010 and 2011.

Existing conditions in the analysis area present opportunities for improvements. The following need for the proposed action was identified:

There is a **need** to decrease livestock and illegal OHV pressure around critical recreational and cultural resources while maintaining wildlife habitat and rangeland resources.

The goals and objectives are:

- Alleviate conflicts between livestock and recreationists by minimizing the presence of livestock at significant recreation site
- Alleviate the conflicts of OHV use and cultural resources by eliminating the illegal OHV use at the site
- Provide alternative water for livestock in the BLCA
- Enhance regional tourism by improving and maintaining the recreational setting for visitors and reducing resource conflicts
- Inform and educate the public about historic and prehistoric sites along Boulder Lake
- Enhance the protection of archaeological and historic resources known for the project area
- Improve the recreational setting of the Boulder Lake North Campground

### **Decision to be Made:**

There are two decisions to be made:

First determine whether impacts of the action alternatives are significant. If the impacts are significant, a NOI (Notice of Intent) to prepare an Environmental Impact Statement (EIS) will be prepared. If the impacts are not significant, a Finding of No Significant Impact (FONSI) will be prepared. If a FONSI is prepared, the second decision is to determine in the Decision Record (DR) whether to authorize an alternative.

## 1.3 Relationship to Statutes, Regulations, Plans or Other Environmental Analyses

**Name of Plan/s:** Pinedale Resource Management Plan (RMP)

**Date Approved:** November 26, 2008

Regulations at 1610.5-3 require actions to be in conformance with the approved land use plan. The Proposed Action is in conformance with the Pinedale RMP. RMP decisions pertaining to this proposal include:

### Pages 2-11 and 2-12 Cultural Resource Management

#### *Goal*

Protect and preserve significant cultural resources for appropriate use by present and future generations.

Promote stewardship, conservation, and appreciation of cultural resources.

Provide opportunities for scientific, educational, recreational, and traditional uses of cultural resources.

Reduce imminent threats to eligible and unevaluated cultural resources from natural or human-caused impacts or potential conflict with other resource uses.

#### *Objectives*

Protect National Register of Historic Places (NRHP)-eligible cultural sites and National Historic Trails.

#### *Actions*

Potential effects on cultural resources will be managed, to the extent possible, through avoidance and confidentiality of location. Where avoidance is not feasible or prudent, mitigation through data recovery, monitoring, or other data collection will be required.

Important cultural areas will be identified and inventoried to protect cultural resources before other management actions are proposed.

### Pages 2-17 and 2-18 Livestock Grazing Management

#### *Goal*

Maintain and/or enhance livestock grazing opportunities and rangeland health.

#### *Objectives*

Maintain, restore, or enhance livestock grazing to meet the Wyoming Standards for Rangeland Health and achieve allotment objectives.

#### *Actions*

The Wyoming Standards for Rangeland Health apply to all resource management decisions and activities, and Guidelines for Livestock Grazing Management apply to all livestock grazing activities on public lands.

Grazing systems will be designed to maintain or improve watershed and range condition.

Developed recreation sites (approximately 100 acres) and vegetation exclosures (approximately 75 acres or up to 150 AUMs) are closed to livestock grazing.

In allotments with riparian habitat, grazing management actions will be designed to maintain or achieve proper functioning condition.

## Pages 2-25 to 2-34 Recreation and Visitor Services Management

### *Goals*

Provide substantial personal, community, economic, and environmental benefits to local residents and visitors through recreational uses of the public lands.

### *Objectives*

Maintain or enhance the health and viability of recreation-dependent natural resources and settings within the planning area.

Manage Special Recreation Management Areas (SRMA) to provide for current and future recreation opportunities.

### *Actions*

Where applicable, recreation facilities development and management will maintain or improve riparian values.

Recreational use will be directed through the use of signs and publications to address trespass issues.

Boulder Lake SRMA—The Boulder Lake SRMA is retained (5,790 acres) and will be managed as a Front Country Zone.

The Boulder Lake SMRA Management Objective is to provide opportunities for the public to achieve targeted, high-quality recreation activities and experiences (i.e. viewing wildlife and scenery) that produce significant benefits to the visiting public. The SRMA will provide opportunities for visitors to engage in targeted activities (Lake and river fishing, boating, camping, hunting, and picnicking and day use), providing a 90% or better realization of targeted benefits (Personal: nature and aesthetic appreciation, social bonding and cooperation, personal health and fitness; Community: improved perceived quality of life, family bonding and better family life, improved image of land management agencies; Environmental: public awareness of environmental stewardship; Economic: contribution to tourism and local economy, increased attractiveness of region as a place to live).

## Pages 2-34 and 2-35 Soils Management

### *Goals*

Prevent or mitigate impacts on soil stability, productivity, and water infiltration to prevent accelerated erosion and chemical degradation of the soil resource, and provide for optimal plant growth.

### *Objectives*

Ensure that all newly disturbed areas are successfully reclaimed and that management actions are consistent with inherent soil resource capabilities.

### *Actions*

Disturbed areas will be reclaimed to achieve natural erosion rates and soil productivity to the extent practicable.

### Pages 2-37 to 2-40 Vegetation Management

#### *Goals*

Maintain and/or enhance native vegetation community health, composition, and diversity in conformance with Wyoming Standards for Rangeland Health. Reclaim disturbed areas to desired plant communities.

#### *Objectives*

Ensure Special Status Plant Species habitats are maintained at a level sufficient for long-term species sustainability.

Ensure disturbed areas are reclaimed to the original site plant composition and productivity over the long term.

#### *Actions*

Mitigation will be applied to all activities to control noxious weeds.

Special Status Plant Species surveys are required on potential habitats before any project or activity is approved.

The appropriate type and level of Endangered Species Act (ESA) Section 7 consultation with the United States Fish and Wildlife Service (USFWS) will occur for agency actions that may affect endangered, threatened, and proposed species or their designated or proposed critical habitat.

### Page 2-40 Visual Resources Management (VRM)

#### *Goals*

Manage public lands in accordance with VRM objectives. Minimize the impacts on visual resources.

#### *Objectives*

Manage the public lands in a manner that protects the quality of the scenic values of those lands.

#### *Actions*

Projects of all types within established VRM class areas are required to conform to the objectives and characteristics of the VRM classification.

VRM Class II areas will be managed to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

#### Pages 2-41 to 2-43 Watershed and Water Quality (Surface Water and Groundwater) Management

##### *Goals*

Maintain or reestablish proper watershed, wetland, riparian, and stream channel functions to support natural or desired surface water flow regimes and meet state water quality standards and the Wyoming Standards for Rangeland Health.

##### *Objectives.*

Meet the Wyoming Standards for Rangeland Health and maintain or enhance wetland and riparian vegetation to achieve Proper Functioning Condition (PFC).

##### *Actions*

BLM will take appropriate actions to protect the healthy stream channel form and function.

Achieve and/or maintain PFC as a minimum standard on all riparian and wetland areas to control nonpoint source pollution to the extent possible. Wetland and riparian areas that show a negative trend and/or do not achieve PFC will be addressed in activity or implementation plans that will move these areas to PFC.

#### Page 2-45 to 2-52: Wildlife and Fish Habitat Management

##### *Goals*

Maintain or enhance aquatic and wildlife habitat.

Maintain functioning big game habitats and migration corridors that allow free movement and use of habitats.

In and adjacent to elk feedgrounds, maintain and improve habitat quality and ensure the continued viability of the elk feedgrounds.

Sustain the sagebrush biome on a landscape scale to provide the amount, continuity, and quality of habitat necessary to maintain viable populations of sage-grouse and other sagebrush obligate species.

##### *Objectives*

Maintain sufficient undisturbed or minimally disturbed habitats to maintain persistent, well-distributed, self-sustaining, and productive populations of all native and desirable non-native fish (e.g., brook, brown, and rainbow trout) and wildlife species within the planning area.

Maintain sufficient undisturbed or minimally disturbed greater sage-grouse source habitats to maintain persistent, well-distributed, self-sustaining, productive populations of sage-grouse within the planning area.

Maintain and enhance big game habitats to support big game populations at Wyoming Game and Fish Department (WGFD) planning objective levels.

Maintain sufficient, undisturbed, or minimally disturbed sensitive species habitats to ensure persistent, well-distributed, self-sustaining, and productive populations of sensitive species within the planning area.

Conserve functioning sagebrush habitats on a landscape scale sufficient to support identified wildlife objectives.

Provide suitable habitat to ensure long-term species sustainability and widely distributed functioning habitats to support the Conservation Agreement and Strategy (CAS) for Colorado River Cutthroat Trout (CRCT) in the States of Colorado, Utah, and Wyoming; the “Three Species” CAS; and to support all other sensitive fish species.

Maintain raptor habitats and territories within the planning area to ensure long-term species sustainability and widely distributed functioning habitats in accordance with the Migratory Bird Treaty Act (MBTA).

Water developments will be constructed to avoid inadvertent injury to wildlife.

#### *Actions*

The appropriate type and level of ESA Section 7 consultation with the USFWS will occur for agency actions that may affect endangered, threatened, and proposed species or their designated or proposed critical habitat.

Water developments will be designed to protect animals from injury, and water will be made accessible for wildlife use with sufficient protective cover to the extent available.

#### *Actions in Unavailable Areas*

Surface disturbing and disruptive activities will be avoided in suitable nesting and early brood-rearing habitat within 2 miles of occupied greater sage-grouse leks from March 15 to July 15.

Human activity will be avoided between 8:00 p.m. and 8:00 a.m. from March 1 to May 15 within one-quarter mile of the perimeter of occupied sage-grouse leks.

Surface disturbing activities are prohibited in suitable habitat within one-quarter mile of occupied leks.

Placement of permanent and high-profile facilities (greater than 15 feet) is restricted within 1 mile (or the visual horizon, whichever is nearer) of leks, or mitigated with raptor anti-perching devices.

Wyoming Executive Order (EO) 2008-2, and the Wyoming Stipulations for Development in Core Sage-Grouse Population Areas, will be considered when permitting activities.

Big game migration routes will be protected.

No unauthorized human presence is permitted within 2 miles of elk feedgrounds from November 15 through April 30. Where the feedground location is split estate (private surface ownership and federal minerals), this restriction is limited to BLM-permitted mineral activities.

BLM-permitted activities are prohibited in big game parturition areas from May 1 through June 30.

No surface disturbing or disruptive activities are permitted in big game crucial winter ranges from November 15 through April 30.

Projects in CRCT and other sensitive fish species habitats will be evaluated on a case-by-case basis. Projects could be approved if no impacts on CRCT or other sensitive fish species are caused, or if impacts can be satisfactorily mitigated.

Projects that could impact habitats of roundtail chubs, flannelmouth suckers, and bluehead suckers (the “Three Species” designated in the CAS) will be designed to avoid or mitigate impacts to these or other sensitive fish species. Specific dates for avoidance of instream activities to protect spawning, redds, and fry vary by species, stream, and elevation and will be determined case by case and in coordination with the WGFD.

Permitted activities potentially affecting the habitat of Special Status Species will be considered on a case-by-case basis.

Surveys for Special Status Species will be conducted on BLM-administered public lands and mineral estate before any federal project or federal activity is approved.

- Pygmy rabbits: Surveys identifying pygmy rabbit burrows require avoidance of the burrow by 50 feet.
- Other Sensitive Species: If life-cycle activities of sensitive species are identified during a survey in an area not protected by timing limitations, surface disturbing activities will be delayed until wildlife activity is completed.

Before any surface disturbing activities are initiated within potential raptor habitat, surveys will be conducted for nesting, roosting, and foraging activity within 1 mile of the proposed activity.

The following seasonal restrictions for all activities near active raptor nests, roosting sites, and foraging areas will be imposed:

- February 1 through July 31, within one-half mile of all active raptor nests
- April 1 through August 15, within one-half mile of burrowing owl nesting habitat
- February 1 through July 31, within 1 mile of all active ferruginous hawk nests
- February 1 through August 15, within 1 mile of bald eagle nests.

Surface occupancy (permanent structures) is prohibited within 1,000 feet of active raptor (golden eagle, osprey, Swainson's hawk, goshawk, prairie falcon, northern harrier, great horned owl, red-tailed hawk, burrowing owl, and other raptors) nests, within 1,400 feet of active ferruginous hawk nests, or within 2,600 feet of active bald eagle nests.

Surface disturbing activities and placement of permanent and high-profile facilities are restricted within 1 mile of active raptor nests.

To minimize impacts on raptors, actions that prohibit raptors from successfully fledging offspring are prohibited.

#### Pages 2-54 to 2-59 Special Designations and Management Areas

##### *Goals*

Wind River Front Management Area Management Goal. Maintain the visual, recreation, and air quality resources in the management area, enhance wildlife habitat, and protect the integrity of the U.S. Air Force Detachment 489 Seismic Monitoring Station.

##### *Objectives*

Maintain and improve wildlife habitats, big game migration corridors and bottlenecks, scenic quality, and recreation values and uses in the Wind River Front area.

##### *Wind River Front Actions*

Public access to key recreation areas will be pursued as opportunities arise.

#### **BLM Instruction Memorandum (IM) No. WY-2010-012 for sage-grouse leks inside Core Areas.**

For sage-grouse leks inside Core Areas:

- Surface disturbing activity or surface occupancy is prohibited or restricted on or within a 0.6 mile radius of the perimeter of occupied or undetermined sage-grouse leks.
- Disruptive activity is restricted on or within 0.6 mile radius of the perimeter of occupied or undetermined sage-grouse leks from 6pm to 8am from March 15 – May 15.

For sage-grouse nesting/early brood-rearing habitat inside Core Areas:

- Surface disturbing and/or disruptive activities are prohibited or restricted from March 15 – June 30. This restriction should be applied to suitable sage-grouse nesting and early brood-rearing habitat within Core Areas.

For sage-grouse leks inside Core Areas:

- Surface disturbing activity or surface occupancy is prohibited or restricted on or within a 0.6 mile radius of the perimeter of occupied or undetermined sage-grouse leks.
- Disruptive activity is restricted on or within 0.6 mile radius of the perimeter of occupied or undetermined sage-grouse leks from 6pm to 8am from March 15 – May 15.

For sage-grouse nesting/early brood-rearing habitat inside Core Areas:

- Surface disturbing and/or disruptive activities are prohibited or restricted from March 15 – June 30. This restriction should be applied to suitable sage-grouse nesting and early brood-rearing habitat within Core Areas.

### **Other Authorities**

This EA fulfills the National Environmental Policy Act (NEPA) of 1969 requirement for site-specific analysis. The Proposed Action is in accordance with 43 Code of Federal Regulations (CFR) 1610.5-3(a); Federal Land Policy and Management Act (FLPMA) of 1976, as amended; Taylor Grazing Act of 1934; ESA of 1983, as amended; Clean Water Act of 1977; National Historic Preservation Act (NHPA), as amended; MBTA of 1918, as amended; and the Wyoming Standards for Healthy Rangelands and Guidelines for Livestock Grazing, August 12, 1997.

### **1.4 Scoping, Public Involvement and Issues**

The BLM decision-making process is conducted in accordance with the requirements of the Council on Environmental Quality (CEQ) regulations implementing NEPA, and the United States Department of Interior (USDI) and BLM policies and procedures implementing NEPA. NEPA and the associated regulatory and policy framework require federal agencies to involve the interested public in their decision-making.

This project was proposed to the Jonah Interagency Office (JIO) Mitigation Board in June 2009 and approved for funding in March 2010.

On August 6, 2009, a scoping package was mailed to 45 individuals and organizations. Also a press release was published in two local papers and the website Pinedale Online. The scoping package was posted on the BLM Wyoming NEPA webpage. The scoping package described the proposed action. Three (3) responses were received and analyzed (Appendix A). One issue was identified through the scoping process with the proposed cheatgrass treatment and associated effects. During the planning process, the High Desert District Integrated Pest Management Plan, EA# WY-090-EA09-52, was approved. The Integrated Pest Management Plan authorizes the cheatgrass treatment.

This EA has been developed in consultation and coordination with state and local agency personnel, other affected parties, and interested members of the public-at-large.

## **2.0 PROPOSED ACTION AND ALTERNATIVES**

### **2.1 Alternative 1 – No Action Alternative**

The No Action Alternative is not to take the action.

This alternative makes no changes to the project area. No new fence will be built; no boulders will be placed; no water well will be drilled; and no signs will be placed.

## 2.2 Alternative 2 – Proposed Action

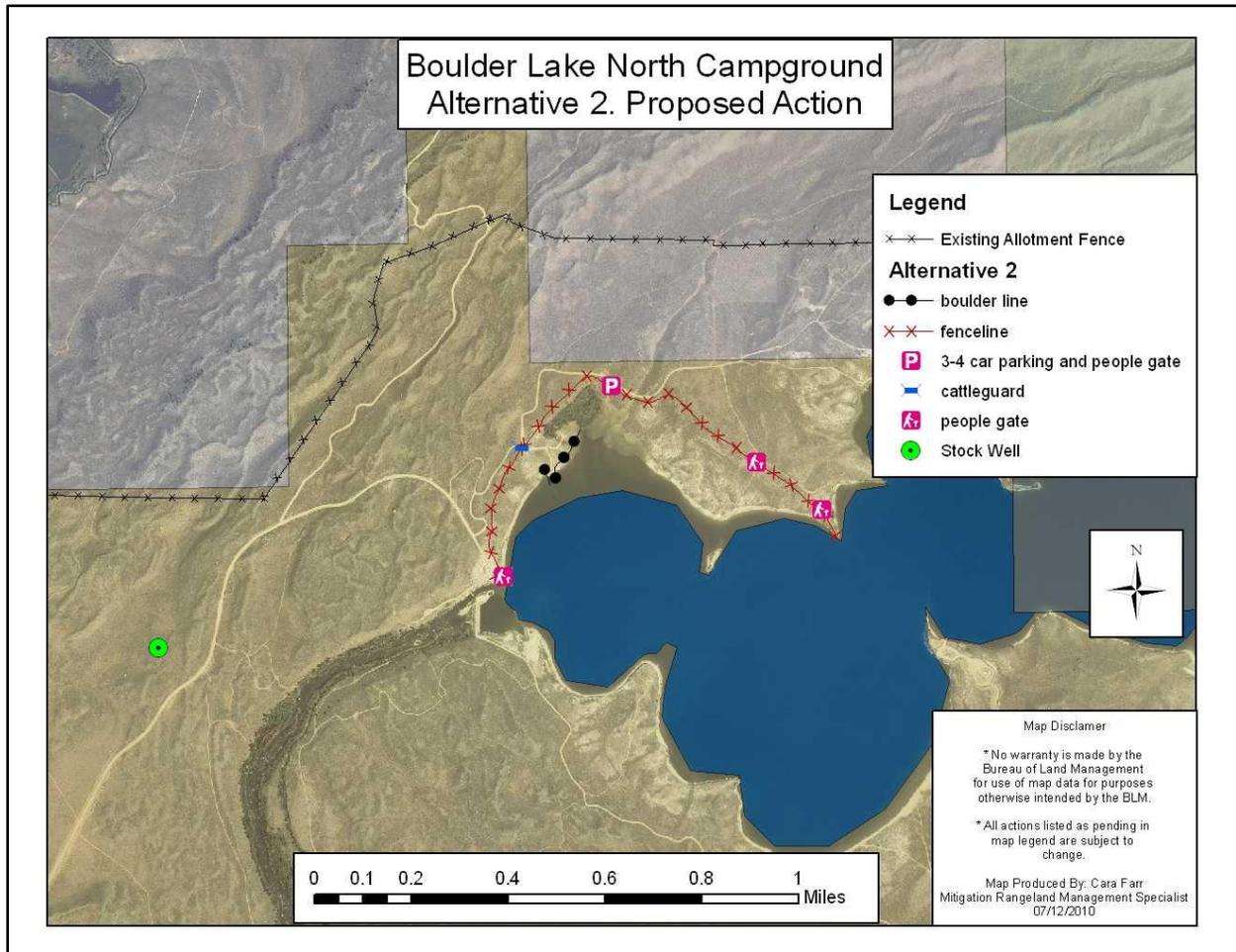
The proposed action was modified to exclude the cheatgrass treatment. The cheatgrass treatment has been authorized under EA# WY-090-EA09-52. Construction will occur in the fall (August 16 to November 14) of 2010 or fall of 2011.

The Proposed Action includes:

- Expansion of the fence around the North Boulder Lake Campground by adding 1.05 miles of new fence encompassing 60 acres.
  - Fence will be built to WGFD Wildlife Friendly Fencing Standards.
  - Four gates will be installed in the fence for pedestrian access.
    - Pedestrian gates will be 48” wide with a latch and spring/weight loaded.
    - Signs will be placed at each gate limiting access to non-motorized only.
  - A three to four car parking area with pedestrian gate will be constructed on the eastern side of the campground at approximately E606248 and N4744226 (Universal Transverse Mercator [UTM] North American Datum of 1983 [NAD 83]).
  - A cattleguard will be placed on the road into the campground at approximately E605952 and N4744023 (UTM NAD83).
  - A drop-down gate will be installed west of the campground to facilitate livestock removal from the campground.
  - Boulders will be placed inside the fence to limit access to the beach.
- Remove the majority of the existing campground fence leaving the northern boundary.
- Block motorized access to the beach with the expanded fence and an additional 0.19 miles of boulder placement.
- Drill a new well in the north portion of Boulder Lake Common Allotment to provide livestock water at approximately E604741 and N4743354 (UTM NAD83).
  - The well will be equipped with a stock watering tank and overflow into a wildlife area.
  - Water drinking tank will be placed such that the top of the rim of the tank is no more than 20 inches from the ground surface for wildlife use.
  - Water drinking tank will be equipped with wildlife escape ramps. Ramps will be placed every 20 linear feet around the perimeter of the tank.
  - Water well should be turned on early in the spring and left on as long as possible into the fall for wildlife use.
  - The end of the water overflow pipeline should be placed a good distance from the well site and on the side slope of the drainage. The end of the pipe should be perforated at the end allowing a greater area for wetland vegetation and forbs to establish. The location of the overflow pipe will be staked with a wildlife biologist prior to installation.
  - If a water storage tank is needed the tank will be low profile to deter nesting and to lower the perching height of raptors and ravens.
- An information kiosk will be placed in the campground giving the regulations on use, such as no motorized use on the beach, cultural resources and wildlife information.

- Additional signage will be placed in the recreation area giving the regulations on use, such as no motorized use on the beach.

**Map 1. Alternative 2. Proposed Action.**



### 2.3 Alternative 3 – Private Boundary Fence Alternative

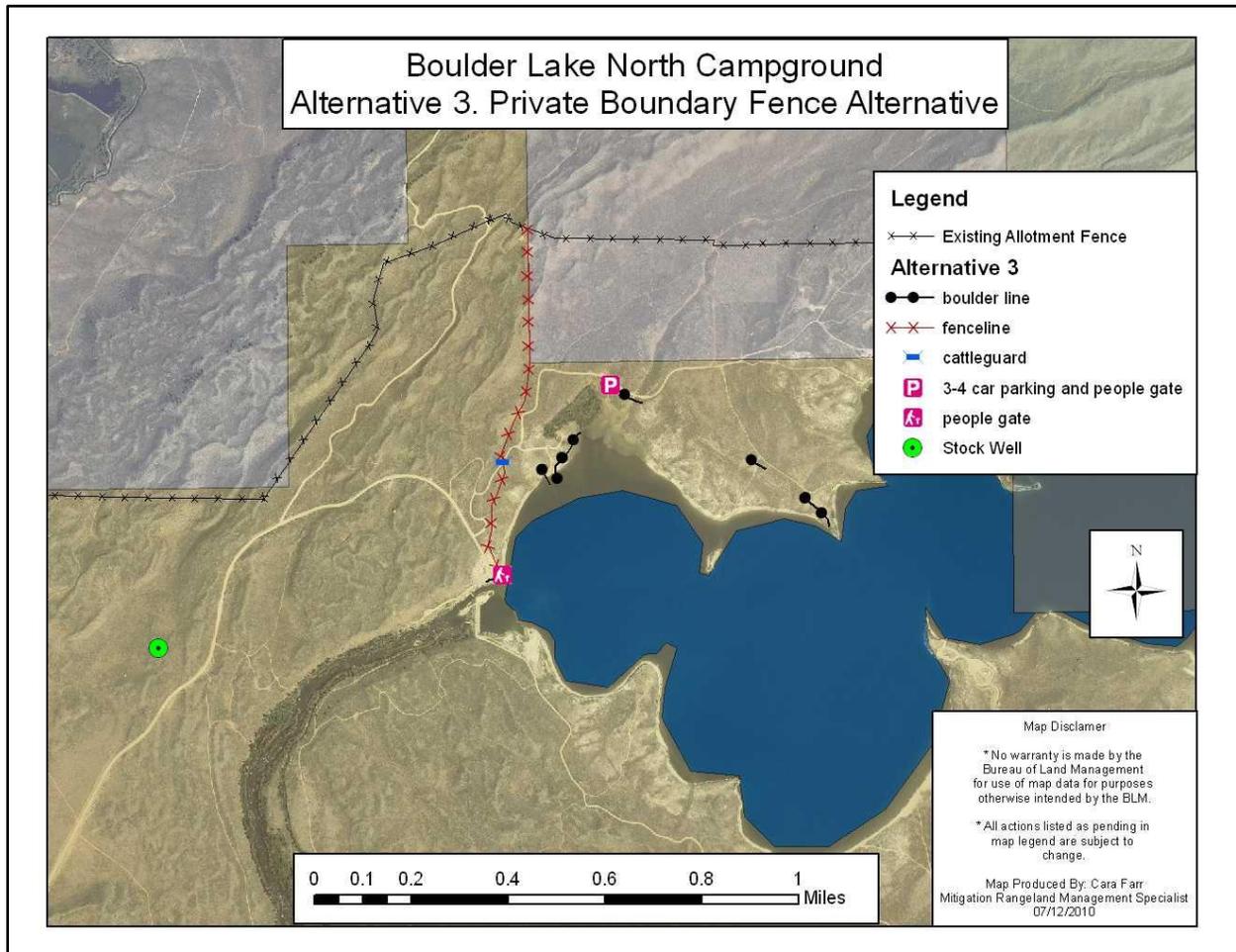
Construction will occur in the fall of 2010 or fall of 2011.

The Private Boundary Fence Alternative includes:

- Relocation of the fence around the North Boulder Lake Campground by adding 0.76 miles of new fence from the allotment boundary fence south along a private land boundary to the Boulder Lake dam encompassing approximately 160 acres.
  - Fence will be built to WGFD Wildlife Friendly Fencing Standards.
  - One gate will be installed in the fence for pedestrian access.
    - Pedestrian gates will be 48” wide with a latch and spring/weight loaded.
    - Signs will be placed at each gate limiting access to non-motorized only.
  - A three to four car parking area will be constructed on the eastern side of the campground at approximately E606248 and N4744226 (UTM NAD83).

- A cattleguard will be placed on the road into the campground at approximately E605884 and N4743982 (UTM NAD83).
- A drop-down gate will be installed west of the campground to facilitate livestock removal from the campground.
- Boulders will be placed inside the fence to limit access.
- Remove the existing campground fence.
- Block motorized access to the beach with the expanded fence and an additional 0.41 miles of boulder placement.
- Drill a new well in the north portion of Boulder Lake Common Allotment to provide livestock water at approximately E604741 and N4743354 (UTM NAD83).
  - The well will be equipped with a stock watering tank and overflow into a wildlife area.
  - Water drinking tank will be placed such that the top of the rim of the tank is no more than 20 inches from the ground surface for wildlife use.
  - Water drinking tank will be equipped with wildlife escape ramps. Ramps will be placed every 20 linear feet around the perimeter of the tank.
  - Water well should be turned on early in the spring and left on as long as possible into the fall for wildlife use.
  - The end of the water overflow pipeline should be placed a good distance from the well site and on the side slope of the drainage. The end of the pipe should be perforated at the end allowing a greater area for wetland vegetation and forbs to establish. The location of the overflow pipe will be staked with a wildlife biologist prior to installation.
  - If a water storage tank is needed the tank will be low profile to deter nesting and to lower the perching height of raptors and ravens.
- An information kiosk will be placed in the campground giving the regulations on use, such as no motorized use on the beach, cultural resources and wildlife information.
- Additional signage will placed in the recreation area giving the regulations on use, such as no motorized use on the beach.

**Map 2. Alternative 3. Private Boundary Fence Alternative**



## 2.4 Project Design Features

Project design features are elements of the project design that are applied in the action alternatives (Alternatives 2 and 3). These features were developed to reduce or avoid negative environmental effects of the proposed action on resources:

### Wildlife Mitigation Measures and Design Features

#### **Summary of Timing Stipulations for construction of proposed project**

- No surface disturbing or disruptive activities are permitted in big game crucial winter ranges from November 15 to April 30.
- No unauthorized human presence is permitted within 2 miles of elk feedgrounds from November 15 through April 30. Where the feedground location is split estate (private surface ownership and federal minerals), this restriction is limited to BLM-permitted mineral activities.
- BLM-permitted activities are prohibited in big game parturition areas from May 1 through June 30.

- Prior to initiating surface disturbing activities within potential raptor habitat, surveys will be conducted for nesting, roosting, and foraging activity within a 1-mile radius of the proposed activity.
- If a raptor nest is found within 1-mile of the project area, project implementation will be restricted by timing stipulations for raptor nests as directed in the RMP:
  - February 1 through July 31, within one-half mile of all active raptor nests
  - April 1 through August 15, within one-half mile of burrowing owl nesting habitat
  - February 1 through July 31, within 1 mile of all active ferruginous hawk nests
  - February 1 through August 15, within 1 mile of bald eagle nests.
  - Surface occupancy (permanent structures) is prohibited within 1,000 feet of an active raptor nest, within 1,400 feet of an active ferruginous hawk nest, or within 2,600 feet of an active bald eagle nest.
- Surface disturbing and disruptive activities will be avoided in suitable nesting and early brood-rearing habitat within 2 miles of occupied greater sage-grouse leks from March 15 to July 15.
- Human activity will be avoided between 8:00 p.m. and 8:00 a.m. from March 1 to May 15 within one-quarter mile of the perimeter of occupied sage-grouse leks.

#### **Summary of Design Features not related to timing**

- Surface disturbing activities are prohibited in suitable habitat within one-quarter mile of occupied leks.
- Wyoming Executive Order 2008-2, and the Wyoming Stipulations for Development in Core Sage-grouse Population Areas, will be considered when permitting activities.
- Projects in CRCT and other sensitive fish species habitats will be evaluated on a case-by-case basis. Projects could be approved if no impacts on CRCT or other sensitive fish species are caused, or if impacts can be satisfactorily mitigated.
- Projects that could impact habitats of roundtail chubs, flannelmouth suckers, and bluehead suckers (the “Three Species” designated in the CAS) will be designed to avoid or mitigate impacts to these or other sensitive fish species. Specific dates for avoidance of instream activities to protect spawning, redds, and fry vary by species, stream, and elevation and will be determined case by case and in coordination with the WGFD.
- Permitted activities potentially affecting the habitat of Special Status Species will be considered on a case-by-case basis.
- Surveys for Special Status Species will be conducted on BLM-administered public lands and mineral estate before any federal project or federal activity is approved.
- Other Sensitive Species: If surveys conducted within areas not subject to timing limitations identify sensitive species’ life-cycle activities, surface disturbing activities will be delayed until wildlife activity is completed.
- Water developments will be designed to protect animals from injury, and water will be made accessible for wildlife use with sufficient protective cover to the extent available.
- Pygmy rabbits: Surveys identifying pygmy rabbit burrows require avoidance of the burrow by 50 feet. Pipeline crossings and surface disturbing activities through

ephemeral drainages and in basin, Wyoming, and big sagebrush communities will be minimized.

- Escape ramps will be installed in all tanks around the perimeter providing an escape route for any animal in peril within the tank.
- A lower profile tank will be used to deter raptor nesting and lower perching height thereby reducing the associated impact on sage-grouse and other raptor prey species.
- The fence will be constructed with wood and steel posts to decrease the perching opportunities for raptor species.

The entire project area is located within the Governor’s Designated Sage-grouse Core Areas. According to BLM IM No. WY-2010-012 the following conservation measures must be considered and evaluated for sage-grouse leks inside Core Areas:

For sage-grouse leks inside Core Areas:

- Surface disturbing activity or surface occupancy is prohibited or restricted on or within a 0.6 mile radius of the perimeter of occupied or undetermined sage-grouse leks.
- Disruptive activity is restricted on or within 0.6 mile radius of the perimeter of occupied or undetermined sage-grouse leks from 6pm to 8am from March 15 – May 15.

For sage-grouse nesting/early brood-rearing habitat inside Core Areas:

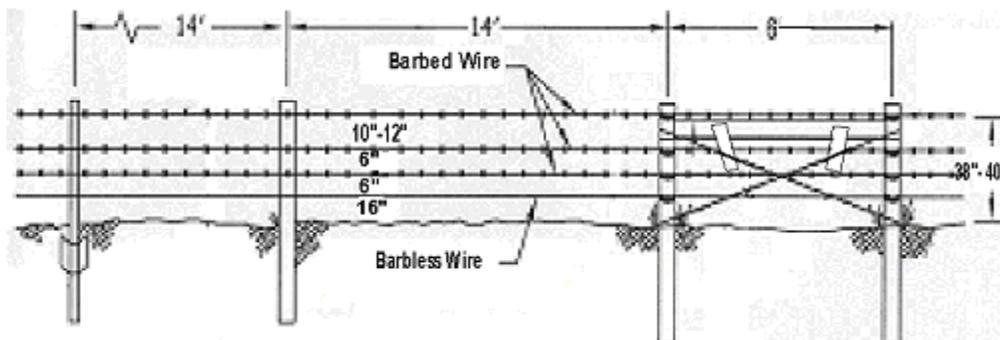
- Surface disturbing and/or disruptive activities are prohibited or restricted from March 15 – June 30. This restriction should be applied to suitable sage-grouse nesting and early brood-rearing habitat within Core Areas.

### Fence Design Features

- Fence will be built according to WGFD specifications for a four-wire stock fence:

WGFD Standard Four-Wire Stock Fence

A. Standards—See **Diagram A.**



**Diagram A. WGFD standard fence**

1. Three steel “T”-posts to one wood post.
2. Line posts and steel “T”-posts are on 14-ft. spacing.
3. The top three wires are barbed wire and the bottom wire is barbless wire.

4. Maximum top wire height is 40 in. with a 12-in. spacing between the top wire and the second wire. The spacing from the ground to the bottom wire is 16 in. The spacing for the middle two wires is 6 in. (See **Diagram A.**)
5. Stretch panels shall be spaced no less than a quarter mile apart.

#### B. Variances

1. Post spacing may be decreased to no less than 10 ft. and increased to no greater than 16 ft. 6 in. The reduced spacing may be used on slopes, side hills, draws, or when the required post depth (30 in.) is unobtainable due to obstructions. The wider spacing may be used only when compliance with other outside agency standards are required.
2. Post spacing of greater than 14 ft. shall have one or two equally spaced wood stays between line posts.
3. Wire spacing may be adjusted as needed; however, the spacing between the top wire and the second wire shall be no less than 12 in. The space between the ground and the bottom wire shall be no less than 16 in. All other wire spacing shall be no less than 6 in. and no greater than 10 in.
4. The steel "T" post to wood post ratio may be varied from all wood to all steel, as terrain and livestock pressure requires. General recommendations are that all steel "T" posts only be used on level ground, gravely soils, where minimal snow load occurs, and on boundary fence where there is little or no livestock pressure. All steel "T" post fences may also be installed where it is cost prohibitive to install wood posts. Circumstances dictating an all-wood post fence include severe terrain, moderate snow loads, and heavy livestock pressure.
5. If all wood construction is used, a steel "T" post shall be installed every half-mile. Secure the wires to the post so the post may act as a lightening rod.
6. One or two wood stays may be added per stretch to strengthen fence against snow load or livestock pressure.
7. Fifty-ft. wire gates may be added to corners or known travel routes in big game winter ranges, in lieu of drop fences, to provide escape routes for wildlife. Gates shall meet WGFD specifications and have four wood stays placed on 10-ft. spacing.
8. Poly-tape may be wrapped around the top wire to increase visibility for wildlife on big game winter ranges.

## **3.0 AFFECTED ENVIRONMENT**

### **3.1 Introduction**

Bureau of Land Management-administered public lands in the BLCA are primarily used for livestock grazing, wildlife habitat, and recreation. Four individuals share the livestock grazing use within the allotment on four grazing permits totaling 835 AUMs. Wildlife uses in the allotment include crucial winter range for mule deer and moose, mule deer parturition range, migration routes for pronghorn and mule deer, sage grouse breeding, nesting and brood rearing habitat, pygmy rabbit habitat, and nesting and foraging habitat for raptors and other migratory birds. Recreational use in the allotment includes camping, fishing, boating, hiking,

and OHV use. There are also historic sites located in the allotment including John Fremont's camp and Stoke's Crossing.

**The following are not present or will not be impacted and will not be further analyzed:**

Air Quality  
Areas of Critical Environmental Concern (ACEC)  
Environmental Justice  
Prime or Unique Farmlands  
Flood Plains  
Hazardous or Solid Wastes  
Mineral Resources  
Paleontology  
Wild and Scenic Rivers  
Wilderness Values

**3.2 Wildlife**  
**Big Game**

The project area provides several different big game ranges and migration corridors throughout the year for big game species including pronghorn antelope, mule deer and moose.

*Pronghorn*

Pronghorn use the area primarily in the spring, summer and fall and travel through the area while migrating to and from winter ranges to the south. Pronghorn migration corridors have been identified by the WGFD within the project area.

*Mule deer*

Mule deer use the area yearlong with the area providing spring, summer and fall range, crucial winter range and parturition range. Mule deer migration corridors have been identified by WGFD within the project area. Large numbers of mule deer winter in the area or migrate through the area on their way to and from winter ranges along the Pinedale Front (Sawyer and Kauffman 2008).

*Moose*

The upland habitats in the project area provide spring, summer and fall range for moose while the riparian areas along Boulder Creek provide crucial winter yearlong range.

*Elk*

There are no WGFD designated elk seasonal habitats within the allotment. The area to the north of the allotment provides spring, summer and fall range, winter yearlong range and crucial winter year long range for elk. The Fall Creek elk feedground is located approximately 1-mile to the north of the project area.

## **Raptors**

Raptor nesting may take place in various habitats throughout the PFO, but often nest site selection depends on prey availability, habitat quality, and the level of raptor populations and competition. Nesting raptors typically exhibit fidelity to a nesting territory and may be present for years. Tolerance levels to disturbance can be species specific and responses of nesting raptors to human disturbances are generally determined by the type, duration, magnitude, noise level, and timing of activity relative to nesting phenology (FEIS).

Raptor habitat is present throughout the project area. Birds of prey commonly observed hunting in the area include the Northern harrier, Swainson's hawk, red-tailed hawk, Cooper's hawk, sharp-shinned hawk, golden eagle, bald eagle, American kestrel and great horned owl. Raptor nesting habitat is present along ridgelines and in treed areas along Boulder Lake and Boulder Creek. An unknown raptor nest was documented in the forested riparian habitat downstream of the outlet of Boulder Lake in 2009. There are two historic raptor nests located within 1-mile of the project area.

## **Fisheries**

Native fishes known to currently occupy Boulder Lake include mountain sucker (MTS), mottled sculpin (MSC), longnose dace (LND), and speckled dace (SPD). Currently, the status of native fishes in Boulder Lake is poorly understood. MTS, LND, and SPD are frequently captured with standard gillnets and trap nets and appear to be high in relative abundance. Non-native redbreast shiner (RSS) occupy similar habitat as other non-game fish in Boulder Lake, and are equally high in relative abundance (WGFD 2008).

Three native fishes, mountain whitefish (MWF), flannelmouth sucker (FMS), and roundtail chub (RTC), historically occupied Boulder Lake, however, records collected over the past thirty years indicate that all three species have likely been extirpated from the lake. The last documented occurrence of RTC was in 1970, and FMS have not been collected since 1973. Mountain whitefish were last observed in Boulder Lake in 1956, and have not been collected since the completion of Boulder Lake dam (WGFD 2008).

Brook trout (BKT), brown trout (BNT), cutthroat trout (CUT), kokanee (KOE), lake trout (LAT), and rainbow trout (RBT), have all been introduced into Boulder Lake or have become established in Boulder Lake from introductions within the drainage. Cutthroat trout were first stocked in Boulder Lake in 1938 and were the primary focus of fisheries management during much of the 20th century. Cutthroat trout (various species) were stocked during 27 of 40 years from 1938-1978, including Snake River cutthroat trout plants from 1965-1977, which averaged 160,934 fish annually (range 18,581-258,966). Cutthroat trout stocking was discontinued in 1978 because the average catch rate from a 1976 creel survey was only 0.02 fish/hr. Brook trout and BNT have become established within the Boulder Creek drainage and are occasionally observed in standard sampling gear or reported being caught by anglers in Boulder Lake (WGFD 2008).

## Federally Threatened, Endangered Species and Candidate Species

Federally threatened, endangered and candidate species that may occur within the PFO are listed in Table 1.

**Table 1. Threatened, Endangered and Candidate Species that may occur within the PFO and occurrence in the project area.**

SPECIES	STATUS	HABITAT	OCCURRENCE IN PROJECT AREA
<b>Black-footed ferret (<i>Mustela nigripes</i>)</b>	Endangered	Prairie dog towns	Does not occur
<b>Canada lynx (<i>Lynx canadensis</i>)</b>	Threatened	Montane forests	Does not occur
<b>Colorado River Fish Species</b>	Endangered	Yampa, Green and Colorado River systems downstream of Wyoming	Occurs downstream
<b>Gray wolf (<i>Canis lupus</i>)</b>	Nonessential/experimental populations	Greater Yellowstone Ecosystem	May occur
<b>Greater sage-grouse (<i>Centrocercus urophasianus</i>)</b>	Candidate	Basin prairie shrub, mountain foothill shrub	Present
<b>Grizzly bear (<i>Ursus arctos horribilis</i>)</b>	Threatened	Montane forests	Does not occur
<b>Kendall Warm Springs dace (<i>Rhinichthys osculus thermalis</i>)</b>	Endangered	Kendall Warm Springs, Sublette County	Does not occur
<b>Yellow-billed cuckoo (<i>Coccyzus americanus</i>)</b>	Candidate	Riparian areas west of Continental Divide	May occur

### *Colorado River Fish Species*

The four federally endangered Colorado Fish species include the bonytail (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), and razorback sucker (*Xyrauchen texanus*). Federal agency actions resulting in water depletions to the Colorado River system may affect these endangered species and their designated critical habitats and requires formal consultation with the USFWS when the projected amount of water consumption is 0.1 acre-feet or more.

### *Gray Wolf*

The gray wolf is a habitat generalist and may occur in many different types of habitats. In western Wyoming, they are dependent on movements of big game populations and may occur in large ungulate migration, wintering, or parturition areas. Gray wolves are not commonly

observed within the project area but may hunt the area particularly in the fall, winter and spring during big game migrations and when elk are concentrated at the Fall Creek feedground.

#### *Greater sage-grouse*

Greater sage-grouse are dependent on sagebrush habitats year-round. The general distribution of greater sage-grouse is associated with the distribution of sagebrush (*Artemisia* spp.), and in particular, big sagebrush (*A. tridentata*). Greater sage-grouse require open areas within the sagebrush community for leks where they perform courtship rituals. These strutting grounds (lek sites) are considered “traditional” or “historic” because the birds return to them annually. Adult male greater sage-grouse arrive first on leks, usually by mid-March, thereafter joined by sub-adult males and females. Females move to nest site vicinities several days after copulation. Although reports indicate that most females nest within 2 miles of leks where they breed, some greater sage-grouse hens in the Pinedale Anticline Project Area (PAPA) have nested farther than that. Greater sage-grouse hens tend to nest in the same vicinity in consecutive years.

After nesting, the hens move to brood areas that support forb understory or succulent vegetation (i.e., riparian areas or irrigated fields) and large populations of insects in late spring and late summer. The sage-grouse diet consists almost entirely of sagebrush during late fall and winter (FEIS).

Greater sage-grouse breeding, nesting, brood-rearing and foraging habitats are present within the project area. According to the WGFD 2009 greater sage-grouse database, there are 4 occupied leks within approximately 4-miles of the project area. According to BLM records, several historic nest locations have been documented within 4-miles of the project area.

The nearest winter habitat area for sage-grouse is located approximately 5 miles southwest of the project area. Greater sage-grouse movements to winter ranges can take some time and may occur between late August and December. Wintering greater sage-grouse depend, in part, on sagebrush extending above the snow (FEIS).

According to BLM IM No. WY-2010-012 it is the policy of the Wyoming BLM to manage sage-grouse seasonal habitats and maintain habitat connectivity to support population objectives set by the WGFD. This guidance is consistent with the guidelines provided in the Governor’s Sage-grouse Implementation Team’s Core Population Area strategy and the Governor’s EO (State of Wyoming Executive Department EO 2008-2) that delineates core population areas and stipulations. The entire project area is located within the Governor’s Designated Sage-grouse Core Area in the “South Pass” core area.

#### *Yellow-billed cuckoo*

The yellow-billed cuckoo occurs in riparian areas west of the Continental Divide. In Wyoming, the cuckoo is dependent on large woody, riparian areas that combine both a dense shrubby understory for nesting and a cottonwood overstory for foraging. Riparian areas along Boulder Creek and the Howard Routh Ditch may provide habitat for the yellow-billed cuckoo. Project

developments will avoid yellow-billed cuckoo habitat. There are no anticipated effects to the yellow-billed cuckoo from the proposed action and this species will not be discussed further.

### **Wyoming BLM Sensitive Species**

Wyoming BLM sensitive species that may occur within the PFO are listed in **Table 2**.

#### *Idaho pocket gopher*

Idaho pocket gopher habitat includes subalpine mountain meadows, shrub steppes and various grasslands, and rocky, shallow soils. Pocket gophers stay underground most of the time and forage above ground only at night or on overcast days (WYNDD). Idaho pocket gophers have been documented near Big Piney and in the extreme eastern region of the Pinedale BLM planning area (FEIS). It is unknown whether Idaho pocket gophers inhabit the project area.

#### *Long-eared myotis*

In Wyoming, the long-eared myotis are scattered throughout most of the state at elevations between 1525 and 2990 m (5000 and 9800 ft), although the species is considered uncommon. The long-eared myotis primarily inhabits coniferous forest and woodland, including juniper, ponderosa pine, and spruce-fir. It typically forages over rivers, streams, and ponds within the forest-woodland environment. During summer, it roosts in a wide variety of structures, including cavities in snags, under loose bark, stumps, buildings, rock crevices, caves, and abandoned mines. During winter, it likely hibernates primarily in caves and abandoned mines (WGFD 2005). It is unknown whether long-eared myotis inhabit the project area.

#### *Pygmy rabbit*

Dense sagebrush and relatively deep, loose soils are important characteristics of pygmy rabbit habitat. Overall shrub canopy in pygmy rabbit habitat typically ranges from 21-36%. The diet of the pygmy rabbit primarily consists of sagebrush, but also includes grasses and forbs in the spring and summer (WDFW 1995). Pygmy rabbit habitat is present within the allotment and pygmy rabbits were observed during 2008 surveys.

#### *Bald eagle*

The bald eagle was listed as an endangered species in 1967 and subsequently reclassified as threatened in 1995. The USFWS removed (delisted) the bald eagle in the lower 48 states of the United States from the Federal List of Endangered and Threatened Wildlife by final rule dated July 9, 2007, effective August 8, 2007 (FEIS).

Bald eagles generally occur in areas with open water and near concentrations of winter ungulates, waterfowl, and/or fish. Nesting habitat is defined as any mature stand of conifer or cottonwood trees in association with rivers, streams, reservoirs, lakes, or any significant body of water. Although their main food item is fish, additional food items may include ducks, coots, rabbits, carrion, and small rodents. Bald eagles are sensitive to various human activities. Responses to human disturbance vary and may include short-term, temporal, or spatial avoidance of the disturbance, to total reproductive failure and abandonment of breeding areas (FEIS).

**Table 2. BLM Wyoming Sensitive Species that May Occur within the PFO and occurrence in the project area.**

<b>SENSITIVE SPECIES COMMON NAME</b>	<b>SCIENTIFIC NAME</b>	<b>HABITAT</b>	<b>OCCURRENCE IN PROJECT AREA</b>
<b>Mammals</b>			
<b>Idaho pocket gopher</b>	<i>Thomomys idahoensis</i>	Shallow stony soils	May occur
<b>Long-eared myotis</b>	<i>Myotis evotis</i>	Conifer and deciduous forests, caves and mines	May occur
<b>Pygmy rabbit</b>	<i>Brachylagus idahoensis</i>	Prairie-basin shrub and riparian shrub	Present
<b>White-tailed prairie dog</b>	<i>Cynomys leucurus</i>	Basin prairie shrub, grasslands	Does not occur
<b>Birds</b>			
<b>Bald eagle</b>	<i>Haliaeetus leucocephalus</i>	Areas with open water and near concentrations of winter ungulates, waterfowl, and/or fish	May occur
<b>Brewer's sparrow</b>	<i>Spizella breweri</i>	Basin prairie shrub	May occur
<b>Burrowing owl</b>	<i>Athene cunicularia</i>	Grasslands, basin prairie shrub	Does not occur
<b>Ferruginous hawk</b>	<i>Buteo regalis</i>	Basin prairie shrub, grassland, rock outcrops	May occur
<b>Loggerhead shrike</b>	<i>Lanius ludovicianus</i>	Basin prairie shrub, mountain foothill shrub	May occur
<b>Long-billed curlew</b>	<i>Numenius americanus</i>	Grasslands, plains, foothills, wet meadows	May occur
<b>Mountain plover</b>	<i>Charadrius montanus</i>	Grasslands, basin prairie shrub	Does not occur
<b>Northern goshawk</b>	<i>Accipter gentilis</i>	Conifer and deciduous forest	Does not occur
<b>Peregrine falcon</b>	<i>Falco peregrines</i>	Tall cliffs	May occur
<b>Sage sparrow</b>	<i>Amphispiza belli</i>	Basin prairie shrub, mountain foothill shrub	May occur
<b>Sage thrasher</b>	<i>Oreoscoptes montanus</i>	Basin prairie shrub, mountain foothill shrub	May occur

<b>Trumpeter swan</b>	<i>Cygnus buccinator</i>	Open woodlands, streamside willow and alder groves	May occur
<b>White-faced ibis</b>	<i>Plegadis chihi</i>	Marshes, wet meadows	May occur
<b>Fish</b>			
<b>Bluehead sucker</b>	<i>Catostomus discobolus</i>	Bear, Snake and Green river drainages, all waters	Does not occur
<b>Flannelmouth sucker</b>	<i>Catostomus latipinnis</i>	Colorado River drainage, large rivers, streams and lakes	Does not occur
<b>Roundtail chub</b>	<i>Gila robusta</i>	Colorado River drainage, large rivers, streams and lakes	Does not occur
<b>Northern leatherside chub</b>	<i>Lepidomeda copei</i>	Bear, Snake and Green River drainages, clear, cool streams and pools	Does not occur
<b>Hornyhead Chub</b>	<i>Nocomis biguttatus</i>	Lower Laramie and North Laramie River Watersheds	Does not occur
<b>Colorado River cutthroat trout</b>	<i>Oncorhynchus clarki</i> spp.	Colorado River drainage, clear mountain streams	May occur
<b>Fine-spotted Snake River cutthroat trout</b>	<i>Oncorhynchus clarki</i> spp.	Snake River Drainage, clear, fast water	May occur
<b>Yellowstone cutthroat trout</b>	<i>Oncorhynchus clarki bouvieri</i>	Yellowstone Drainage, small mountain streams and large rivers	May occur
<b>Amphibians</b>			
<b>Boreal toad (Northern Rocky Mountain population)</b>	<i>Bufo boreas boreas</i>	Pond margins, wet meadows, riparian areas	May occur
<b>Northern leopard frog</b>	<i>Rana pipiens</i>	Beaver ponds, permanent water in plains and foothills	May occur
<b>Spotted frog</b>	<i>Ranus pretiosa (lutiventris)</i>	Ponds, sloughs, small streams	May occur

Wintering bald eagles regularly occur in western Wyoming, generally from November 1 through April 15 and may occur during any time of year along the Green and New Fork River corridors. Migratory bald eagles have been observed during April and November generally throughout the Green River Basin which is also potential bald eagle nesting and roosting habitat. Wintering bald eagles have been observed at the Fontenelle Reservoir, near Pinedale, west of Daniel and southwest of Boulder (FEIS).

Known bald eagle nesting and roosting habitat is located over 3-miles to the south of the allotment along the New Fork River. Roosting and nesting habitat within the allotment may be present along the riparian areas of Boulder Creek although there are no known occurrences of bald eagles nesting or roosting within the allotment. Bald eagles have been observed foraging in the project area year round.

#### *Ferruginous hawk*

Ferruginous hawks construct their big, bulky nests on the ground or occasionally in lone trees or on rock ledges. They nest only in areas with abundant prey, typically small rodents. During winter, ferruginous hawks are often found around colonies of prairie dogs, which make up much of their winter diet.

There are no known ferruginous hawk nests within 1-mile of the project area and no suitable nesting habitat within 1-mile of the project area. Ferruginous hawks may use the upland sagebrush habitat for foraging on small rodents such as ground squirrels.

#### *Loggerhead shrike*

The loggerhead shrike generally prefers open country with shrubs and low trees for nesting and spiny shrubs for impaling prey items (FEIS). The project area may contain suitable foraging and potential nesting habitat for loggerhead shrikes.

#### *Long-billed curlew*

The long-billed curlew is North America's largest shorebird. Long-billed curlews are ground nesters and typically nest in prairie and grassy meadows near water but occasionally choose dry upland sites. Long-billed curlews have been found throughout the northern half of the PFO and near Fontenelle Reservoir (FEIS). Long-billed curlew habitat is present in wet meadows near Boulder Lake and the riparian areas of Boulder Creek.

#### *Peregrine falcon*

The peregrine falcon is found scattered throughout most of Wyoming, but breeds mostly in the western half of the state. Some individuals are year-round residents in Wyoming, while others winter south to Mexico. The peregrine falcon is considered a rare resident in Wyoming. This falcon preys on smaller birds and forages in a variety of open habitats from open woodlands and forests to shrub-steppe, grasslands, marshes, and riparian habitats. It nests in cliffs that are

usually proximate to habitats with abundant prey (WGFD 2005). The project area may contain suitable habitat for peregrine falcon.

#### *Sagebrush Obligate Songbirds*

The Brewer's sparrow, sage sparrow and sage thrasher are sagebrush obligate songbirds that depend on sagebrush habitats for nesting and foraging (FEIS). Sagebrush steppe habitat is present throughout the project area and provides suitable habitat for sagebrush obligate songbirds.

#### *Trumpeter swan*

Trumpeter swans are found in Wyoming in the extreme eastern and western regions in lakes, ponds, marshes, and other wetland areas. This species summers southwest of Boulder and winters in the southeast region of the field office if open water persists. Trumpeter swans have been observed in the PFO and have been periodically released on public land in the New Fork Potholes area. Currently the native reproducing population has been more successful at producing cygnets than the historic Snake River breeding population (FEIS). The project area does not contain suitable nesting habitat for trumpeter swans but swans may use the lake during migration and winter if open water persists.

#### *White-faced ibis*

The white-faced ibis breeding habitat is shallow freshwater marshland, especially where islands of vegetation are available. It also makes extensive use of agricultural lands, frequenting flooded pastures, fields, irrigated areas, and even damp meadows for foraging and during migration. Suitable foraging habitat for the white-faced ibis may be present along the riparian areas of Boulder Lake and Boulder Creek.

#### *Sensitive Fish Species*

See fisheries discussion above.

#### *Sensitive Amphibian Species*

Boreal toads can be found breeding in wet meadows, ponds, marshes, and other shallow water in spring. In summer, this species uses upland montane sites usually within 300 to 1,500 feet of the breeding ponds. Within the PFO, boreal toads have been documented downstream of the confluence of the Middle and South Sawmill Creeks near LaBarge with confirmation of breeding. Northern leopard frogs are found in permanent ponds, swamps, marshes and slow moving streams throughout forest, open and urban areas. Northern leopard frogs have been observed in the central and east central regions of the PFO but evidence of breeding was not confirmed (FEIS). Columbia spotted frogs occur in the western and north central parts of Wyoming. Columbia spotted frogs can be found in a variety of vegetation communities including subalpine forest grasslands and riparian habitats of sagebrush habitats (WGFD 2005). The wet areas along Boulder Lake and Boulder Creek likely provide suitable habitat for amphibians from spring into the fall.

### 3.3 Rangeland and Soil Resources

#### ***Livestock Grazing:***

The project area lies within the BLCA (#22020). There are approximately 4900 acres of public land and 155 acres of private land within the Allotment. The Allotment is run in common with four permittees holding 861 AUMs (835 public, 26 private). The allotment is permitted for horse and cattle use from May 15<sup>th</sup> through November 9<sup>th</sup>. The area of the allotment west of Boulder Creek is only utilized by one permit, 271 AUMs for the time period July 8<sup>th</sup> through August 31<sup>st</sup>.

In the 2008 PFO RMP, the Allotment was noted as being in unsatisfactory condition not due to grazing with the livestock management satisfactory. Therefore, the Allotment was assigned to the Improve category. Permitted grazing use on the Allotment was analyzed in the following EAs: WY-100-EA05-032 (FONSI/DR signed 2/1/2005), WY-100-EA99-312 (FONSI/DR signed 12/2/1999), and WY-100-EA98-125 (FONSI/DR signed 5/18/1998). No changes in the grazing permit are being proposed.

Livestock utilization in the allotment is low in most areas, especially in the upland areas west of Boulder Creek. There are zones of high utilization along the lake shore and in the southeast corner of the allotment known as Elk Meadows.

#### ***Vegetation:***

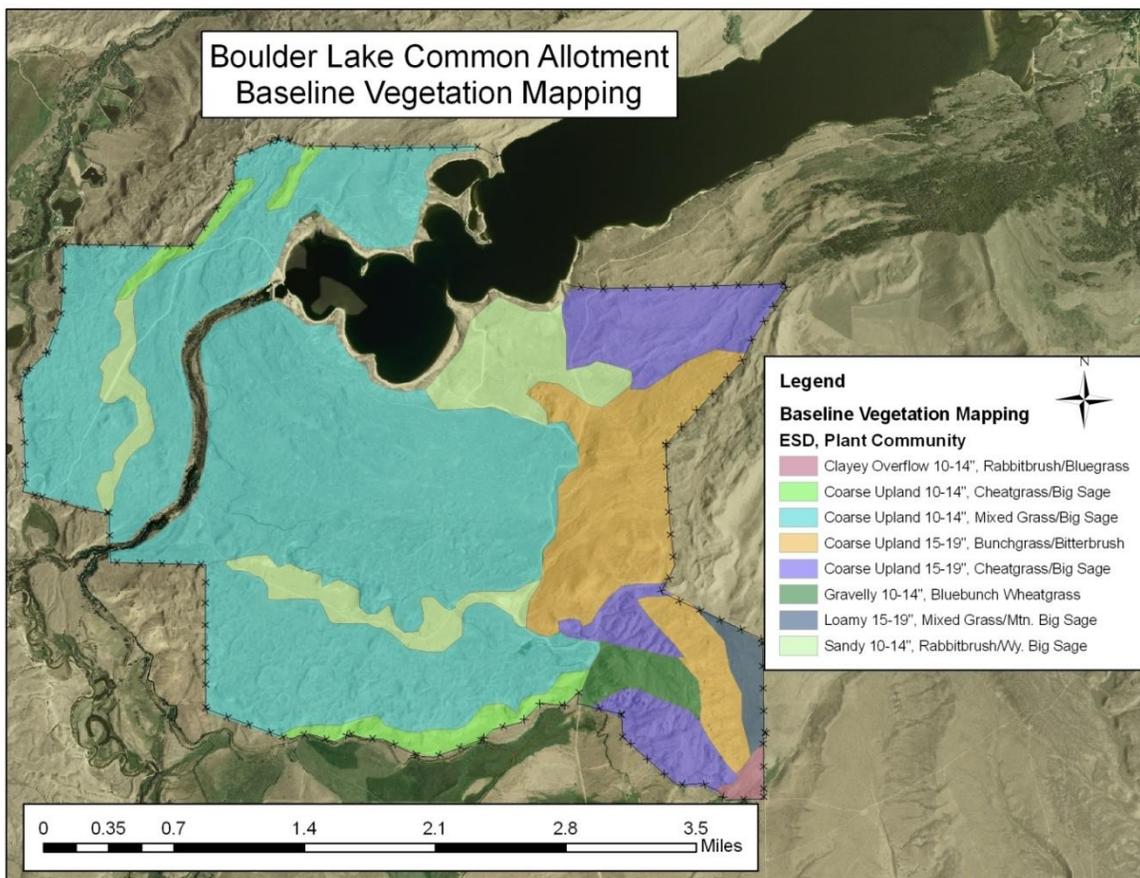
A baseline vegetation inventory of the allotment was conducted in 2008. The Allotment lies within Major Land Resource Areas (MLRA) 034A Cool Central Desertic Basins and Plateaus and 43B Central Rocky Mountains with an annual precipitation range from 10 to 19 inches per year. There are six dominant ecological sites in the allotment with seven plant communities (Map 3).

1. The Sandy (Sy) 10-14" ecological site was found to be in one plant community, Rabbitbrush/Big Sage. This plant community is not currently in the State and Transition Diagram for this ecological site. This plant community is the result of past chemical brush management with grazing.
2. The Gravelly (Gr) 10-14" ecological site was determined to be in the Bluebunch Wheatgrass plant community, the Historic Climax Plant Community (HCPC) as defined by Natural Resources Conservation Service (NRCS). This site is stable and well adapted to the climatic conditions of the site.
3. The Coarse Upland (CU) 10-14" ecological site was found to be in two plant communities: Mixed Grass/Big Sage and Cheatgrass/Big Sage. The Mixed Grass/Big Sage site is not currently on the State and Transition Model. The grass species composition and diversity found is optimum for this site. There are areas of this plant community in the allotment with a higher amounts of rabbitbrush than expected, predominately on the west of Boulder Creek and south of the Howard

Routh Ditch. The Cheatgrass/Big Sage site is not currently on the State and Transition Model. This site is the result of the invasion of cheatgrass promoted by fire and climatic conditions.

4. The Coarse Upland (CU) 15-19" ecological site was found to be in two plant communities: Bunchgrass/Bitterbrush and Cheatgrass/Big Sage. The Bunchgrass/Bitterbrush site is the HCPC for the ecological site as defined by NRCS. The Cheatgrass/Big Sage site is not currently on the State and Transition Model. This site is the result of the invasion of cheatgrass promoted by fire and climatic conditions.
5. The Loamy (Ly) 15-19" ecological site was determined to be in the Mixed Grass/Mountain Big Sage plant community. This is the HCPC for the ecological site.
6. The Clayey Overflow (CyO) 10-14" was found to be in the Rabbitbrush/Bluegrass community. This plant community is not currently in the State and Transition Diagram for this ecological site. This site is the result of annual early season use.

**Map 3. Baseline Vegetation Mapping showing Ecological Sites and Plant Communities**



The plant communities found in the allotment show diversity among species and across state and transition models found in the Ecological Site Description (ESD) reports. This type of diversity has been shown to provide forage for cattle while providing habitat for wildlife (McAdoo et al., 2004).

***Riparian/Wetland:***

Riparian vegetation is found in three areas of the allotment: along the shoreline of Boulder Lake, the spring in the campground, and along Boulder Creek below the lake. The riparian communities of these systems are very different. The riparian community along the lake consists of low growing grasses and sedges. This area is heavily affected by recreationist and livestock. There are approximately two miles of BLM managed shoreline north of Boulder Creek and Boulder Lake. The riparian community in the campground is an emergent wetland formed by a spring within an overstory aspen grove. The community along Boulder Creek consists of a lodgepole pine forest. The riparian community along Boulder Creek was evaluated in 1998 and found to be in PFC. PFC has not been conducted on the lake shoreline or along the spring in the campground.

The only riparian area affected by the project is the Boulder Lake shoreline. The most sensitive portion of the shoreline is directly south of the campground where the spring enters the lake. This is the most sensitive portion of the shoreline due to the extended period of time that the area is wet. Wet soils are more susceptible to compaction and degradation. The remaining portions of the shoreline are predominately sandy soils much less susceptible to compaction and degradation.

The wetland/spring in the campground and Boulder Creek will not be affected by the project and will not be discussed further.

***Special Status Plants:***

*Threatened and Endangered Plants:*

*Ute Ladies'-tresses Orchid.*

Ute ladies'-tresses orchid (*Spiranthes diluvialis*) was listed as threatened in 1992. In Wyoming, Ute ladies'-tresses orchid have been located on old oxbows or flood plain terraces associated with small streams on sites that remain moist (meadow plant communities) throughout the summer, either due to seasonal flooding or sub-irrigation (Fertig, 2000). All four of the known populations in Wyoming occur in the eastern half of the state. Searches were conducted in western Wyoming (Jackson Hole, National Elk Refuge, and Green River Basin) during the 1990s (Fertig, 2000). Given the elevation ranges and precipitation regimes associated with site occurrence, the species' presence is unlikely. There are no known occurrences of the Ute ladies'-tresses orchid within the project area. There is no habitat in the project area fitting the requirements of the plant. There are no anticipated effects to the Ute ladies'-tresses orchid and this species will not be discussed further.

### *Blowout Penstemon*

Blowout penstemon (*Penstemon haydenii*) was declared an endangered species in 1987. In Wyoming, blowout penstemon is found on sandy blowouts and sand dunes in the early stages of plant development (Heidel et al., 2007). There are no known records of blowout penstemon in the or near the project area. There is no habitat in the project area fitting the requirements of the plant. There are no anticipated effects to the blowout penstemon and this species will not be discussed further.

### BLM Sensitive Species:

Wyoming BLM sensitive plant species that may occur within the PFO are listed in **Table 3**.

**Table 3. BLM Sensitive Species in the PFO and their occurrence in the Boulder Lake Allotment.**

<b>Species Common Name</b>	<b>Scientific Name</b>	<b>Habitat</b>	<b>Occurrence in BLCA</b>
<b>Meadow Pussytoes</b>	<i>Antennaria arcuata</i>	Moist, hummocky meadows, seeps or springs surrounded by sage/grasslands 4,950-7,900'	Does not occur
<b>Trelease 's Milkvetch</b>	<i>Astragalus racemosus</i> var. <i>treleasei</i>	Sparsely vegetated sagebrush communities on shale or limestone outcrops & barren clay slopes at 6500-8200'	Does not occur
<b>Cedar Rim Thistle</b>	<i>Cirsium aridum</i>	Barren, chalky hills, gravelly slopes, & fine textured, sandy- shaley draws 6,700-7,200'	Does not occur
<b>Large-fruited Bladderpod</b>	<i>Lesquerella macrocarpa</i>	Gypsum-clay hills & benches, clay flats, & barren hills 7,200-7,700'	Does not occur
<b>Beaver Rim Phlox</b>	<i>Phlox pungens</i>	Sparsely vegetated slopes on sandstone, siltstone, or limestone substrates 6,000-7,400'	Does not occur
<b>Tufted Twinpod</b>	<i>Physaria condensata</i>	Sparsely vegetated shale slopes & ridges 6,500-7,000'	Does not occur
<b>Whitebark Pine</b>	<i>Pinus albicaulis</i>	Montane forests and on thin, rocky, cold soils at or near timberline at 4265-12140'	May occur
<b>Limber Pine</b>	<i>Pinus flexilis</i>	Timberline and at lower elevation with sagebrush. Associated species are Rocky Mountain lodgepole pine, Engelmann spruce, whitebark pine, Rocky Mountain Douglas-fir, subalpine fir, Rocky Mountain juniper, Mountain Mahogany, and common juniper	May occur

### *Whitebark Pine and Limber Pine*

These two tree species may occur along the forested riparian area along Boulder Creek. There are no anticipated effects to whitebark and limber pine and these species will not be discussed further.

### ***Invasive, Non-Native Species:***

Invasive, non-native species in the project area include cheatgrass (*Bromus tectorum L.*), Canada thistle (*Cirsium arvense L. Scop*), and Russian thistle (*Salsola iberica*). Other State of Wyoming listed Noxious weed species have not been recorded. Current management includes annual monitoring and treatment of identified infestations.

Cheatgrass (*Bromus tectorum L.*) is also known as “Downy Brome”. It is in the Poaceae family and can be 4 to 30 inches tall. Cheatgrass is located in large patches on the South East facing slopes. It is also found in areas along the road and throughout the upland area. Cheatgrass is an introduced, or non-native, invasive grass species. Cheatgrass has two germinating periods, early spring before native grasses emerge and in the fall after native grasses have gone dormant. This physiological adaptation has allowed Cheatgrass to outcompete native grasses. Cheatgrass is highly flammable and densely growing populations provide ample, fine-textured fuels that increase fire intensity and regimes.

### ***Soils:***

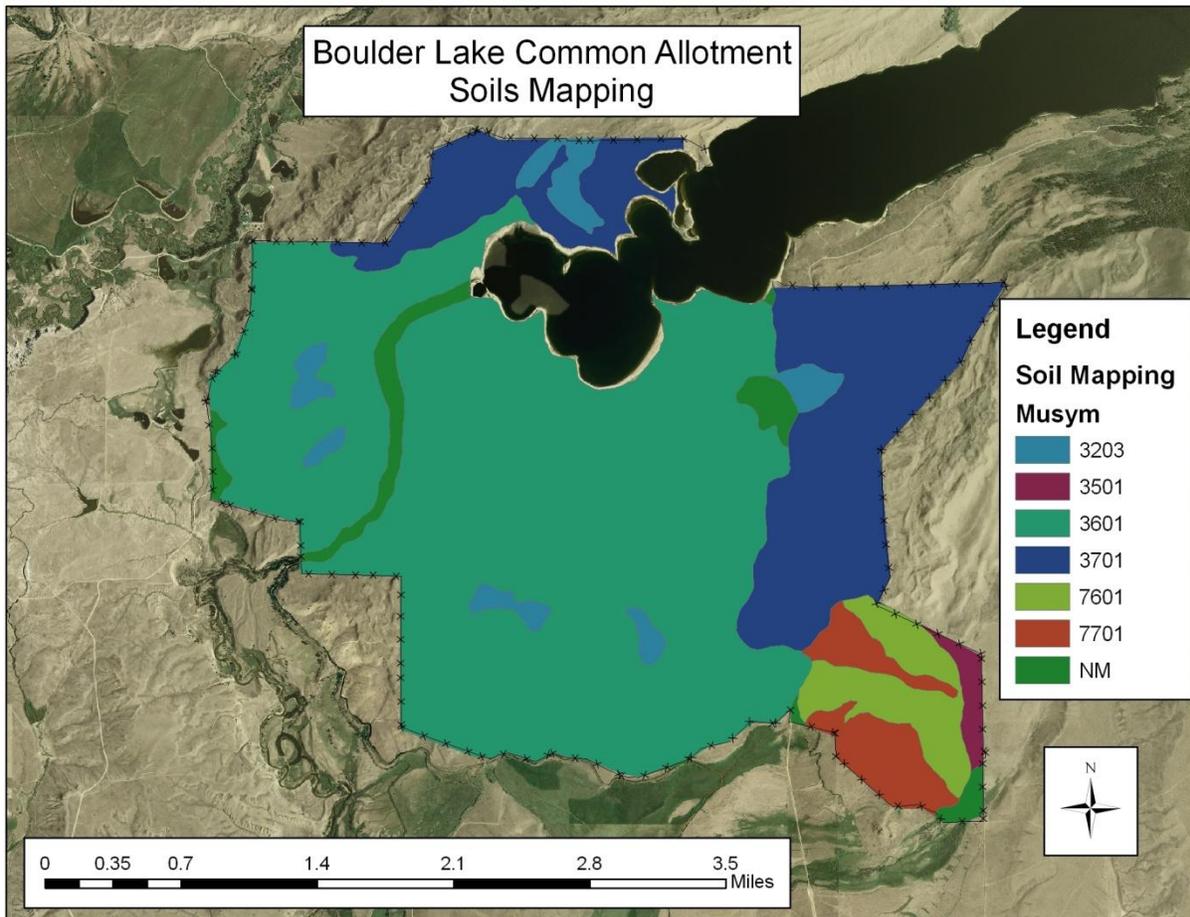
Parent materials include glacial till, colluvium in the form of landslide and earthflow deposits, and alluvium on footslopes and drainages. Slopes range from gently sloping to very steep (3% to 70%) with very shallow to deep gravelly, loamy, and clayey soils predominating. Coniferous vegetation is often present along Boulder Creek resulting in higher productivity and organic matter enrichment. The steep slopes, shallow soils, short growing season, and high landslide potentials limit management opportunities in these areas. There are six soil map units within the Boulder Lake Common Allotment (Map 4).

3203 Brushfire-Wissikihon-Tine Complex, 0 to 4 percent slopes- This map unit is found on outwash terraces and foothills derived from granite. Mean annual precipitation is 15 to 19 inches and mean annual air temp is 33 to 35 degrees Fahrenheit. The frost-free period for this map unit is 25 to 45 consecutive days. These are well drained soils with a depth to water table of greater than 80 inches. Characteristics of the soils include a slightly sodic horizon within 30 inches from the soil surface.

3501 Pinedale, very bouldery-Igor, very bouldery- Noclios, extremely bouldery complex, 2 to 20 percent slopes- This map unit is found on foothills and moraines formed by glacial till derived from granite. This map unit is found at elevations of 7500 to 8000 feet with a mean annual precipitation of 15 to 19 inches. The mean annual air temperature is 33 to 35 degrees Fahrenheit with 25 to 45 consecutive frost-free days a year. These are well drained soils with a depth to water table of greater than 80 inches. Characteristics of these soils are slightly sodic and/or saline horizons within 30 inches from the soil surface and 1 to 15 percent of the surface is covered by cobbles, stones, or boulders.

3601 Pointer-Willsod complex, 2 to 45 percent slopes, extremely bouldery- This map unit is found on foothills and moraines formed by glacial till derived from igneous rock at 7190 to 8410 feet in elevation. Mean annual precipitation is 15 to 19 inches and mean annual air temperature is 33 to 35 degrees Fahrenheit. The frost free period for this map unit is 25 to 45 consecutive days. These are well drained soils with a depth to water table of greater than 80 inches. Characteristics of the soils include a slightly sodic horizon within 30 inches from the soil surface and 7 to 20 percent of the surface is covered by cobbles, stones, or boulders.

**Map 4. Soil Mapping of the Boulder Lake Common Allotment.**



3701 Pointer-Lateral complex, 15 to 60 percent slopes, extremely bouldery- This map unit is found on foothills and moraines formed by glacial till at 7420 to 8150 feet in elevation. Mean annual precipitation is 15 to 19 inches and mean annual air temperature is 33 to 35 degrees Fahrenheit. The frost free period for this map unit is 25 to 45 consecutive days. These are well drained soils with a depth to water table of greater than 80 inches. Characteristics of the soils include 0 to 10 percent of the surface is covered by cobbles, stones, or boulders.

7601 Sebud, extremely bouldery-Taglake, extremely stony-Gelkie complex, 4 to 60 percent slopes- This map unit is found on mountain slopes and foothills formed by colluvium and alluvium of granite at 7220 to 8530 feet in elevation. Mean annual precipitation is 15 to 19 inches and mean annual air temperature is 33 to 35 degrees Fahrenheit. The frost free period for this map unit is 25 to 45 consecutive days. These are well drained soils with a depth to water table of greater than 80 inches. Characteristics of the soils include bedrock within 60 inches or a slightly sodic horizon within 30 inches from the soil surface and 0 to 14 percent of the surface is covered by cobbles, stones, or boulders.

7701 Rock outcrop-Sebud, extremely bouldery-Ansel, extremely stony complex, 15 to 70 percent slopes- This map unit is found on mountain slopes and foothills formed by colluvium and alluvium of granite at 7220 to 8530 feet in elevation. Mean annual precipitation is 15 to 19 inches and mean annual air temperature is 33 to 35 degrees Fahrenheit. The frost free period for this map unit is 25 to 45 consecutive days. These are well drained soils with a depth to water table of greater than 80 inches. Characteristics of the soils include bedrock within 40 inches and/or a slightly sodic horizon within 30 inches from the soil surface and greater than 10 percent of the surface is covered by cobbles, stones, or boulders.

### **3.4 Cultural Resources**

The proposed project area is located along the western edge of Boulder Lake, Sublette County, Wyoming. The area immediately surrounding the Boulder Lake shoreline is known to possess a high density of cultural resource sites primarily associated with prehistoric use of the lake area. Boulder Lake offered a wide variety of subsistence resource opportunities that were exploited seasonally for approximately 11,000 years. The majority of these cultural resource sites have not been documented and our understanding of prehistoric use of the area is limited in nature. Efforts by PFO staff archaeologist Dave Vlcek to document the nature of cultural resources within a portion of the project area (Boulder Lake North Campground) are ongoing, but as of the time of this document preparation, this work has not been completed. The cultural resource sites in the immediate area of Boulder Lake have been routinely subjected to vandalism and collection during the last 80 years. These impacts appear to be on the rise as the local population increases and the unmanaged recreational use of the Boulder Lake area is magnified. A known, but undocumented archaeological site is located within and surrounding the Boulder Lake North Campground. This area also contains a springhead (Johnson Springs) which causes a large area of the campground to be perpetually inundated. This inundation creates a situation in which subsurface cultural materials in the area are particularly susceptible to impacts due to livestock trampling and OHV travel. Use of this area during wet times to spin vehicles in 360 degree loops (doughnuts) appears to be a popular activity. This type of use is a new phenomenon to the location and is causing accelerated archaeological resource damage. Archaeological site density declines sharply away from Boulder Lake and the Boulder Creek drainage.

The project area associated with the additional project feature (water well and associated infrastructure) required a Class III cultural inventory to assess potential project effects to cultural resources. The proposed project location is in an area with a generally low site density. The

geography is composed of glacial moraine formations with few areas conducive for prehistoric habitation or occupation. In other words, the proposed location is a granite boulder field. The well location has been block inventoried at a Class III level and the results of this inventory are contained in the report entitled *A Class III Cultural Resources Inventory for the Jonah Interagency Office Boulder Lake Common Allotment Project, Sublette County, Wyoming* (Schweitzer 2010). The currently proposed well location will not impact any known cultural resources.

The proposed undertaking to modify allotment fencing to wildlife fencing will not impact any cultural resources and is considered an action exempt from case-by-case review as per the 2006 State Protocol Section VI.C.1 and Appendix B, Item 26; *New fence construction and modifications of existing fence lines that do not require disturbance beyond placement of posts and will not result in concentrations of animals or creation of two track trails from vehicles.*

### **3.5 Recreation and Visual Resources**

#### ***Recreation***

##### Overview

The Boulder Lake North Campground is located upslope of the north shore of Boulder Lake in Sublette County, Wyoming. The non-fee campground provides 4 campsites with fire rings and picnic tables and a double unit restroom. The campground unit and associated spring, aspen grove and meadow and are fenced to exclude livestock. In 1964, the BLM Recreation Resource Inventory identified this area of public land as possessing good recreation opportunities. The inventory recommended the site for development because of high potential for the public to enjoy the area's variety of available natural resources. The public has accessed this site for recreation purposes for many years prior to formal development as a BLM recreation site during the early 1970's.

This recreation site is a BLM managed campground within the Boulder Lake SRMA. The stated recreation management goal from the Pinedale RMP, dated 10/2008 is: Provide substantial personal, community, economic, and environmental benefits to local residents and visitors through recreational uses of the public lands. The first management objective is: Maintain or enhance the health and viability of recreation-dependent natural resources and settings within the planning area. The first recreation action is: Recreation facilities will be developed, where needed, to accommodate anticipated recreation uses, use levels and to provide for adequate public health and safety and resource protection. The management objective specific to the Boulder Lake SRMA is to manage each zone to provide opportunities for the public to achieve targeted, high-quality recreation activities and experiences that produce significant benefits to the visiting public.

The primary recreation activities and values for the site are water based, such as fishing and boating; associated activities are camping, wildlife watching, hunting, and hiking.

### Area Description, Access and Recreation Use

This area is accessible year-round, but most frequently visited during the summer months. Area rivers and lakes typically ice over during the winter and snow generally blocks vehicle access to the site from January through March. This site and the lakes north shoreline, dam and adjacent private land developments are accessed via BLM Road 5106. The recreational setting is comprised of lake and glacial scenery with open vistas of rugged mountains. Uplands adjacent to the lake shore are dominated by sagebrush and grasses. The lake shore is predominately sandy but silt deposits dominate in the vicinity of the campground. These deposits create boggy situations not conducive to foot or motorized travel. The available beach shoreline expands through the summer as the lake is drawn down for agricultural irrigation. An informal but often used boat launch is located immediately west of the campground. This user created lake access is marginally suitable for launching light watercraft. The campground, bordered by an aspen grove and grassy meadow provides a desirable location for camping and easy access to the lake and other nearby natural attractions. There is currently no onsite user or regulatory information provided. The site is a designated recreation facility managed within BLMs Facility Management System; however the BLM recognizes the aged facilities are inadequate and do not meet current recreation standards. Funding for improvements to this site and other Boulder Lake SRMA recreation facilities are being requested.

Camping is not restricted to the campground. Group and family camping commonly occurs on the lake shoreline adjacent to the campground. Full sized motor vehicles, recreational camper units, All Terrain Vehicles (ATV) and motorcycles are used in pursuit of recreation activities. Access to the shoreline is by user created two-track roads. Motor vehicles are limited to existing roads and trails; however people have pioneered new routes to the lake shore. Evidence of motor vehicle use and camping on the shoreline is evident from ruts, campfire rings and some trash. There is potential increased risk for contamination of surface waters by human waste and motor vehicle fluids.

The campground enclosure fence is in disrepair because of snowpack and wetland soils. Livestock commonly enter the campground and associated riparian area seeking forage and shade. Livestock manure, trampled vegetation and muddy water are evident during the grazing season. Maintenance of the fence is difficult and a problem because of annual lake water inundation of the meadow and spring creek. Livestock also enter the campground and spring area when visitors fail to close a drop gate located on the northeast end of the enclosure fence. This gate is to allow motor vehicle access to the meadow located on the east side of the spring creek.

### Visitor Use Estimate and Trends

As evident from site conditions, public use of the area has increased since mid-1970. Accurate visitor use data is not available, but annual minimum use estimates for the campground and north shore of Boulder Lake (BLM) is about 2,500 visits. Casual observations and personal communications with visitors and BLM staff indicate recreational activities have changed in recent years. More visitors now access the lakeshore and utilize more equipment for recreation

activities. Substantial population growth in nearby subdivisions has increased day use of the Boulder Lake SRMA.

Regional growth and development combined with increased public interest in water based recreation contribute to high visitor use of this recreation site. In Wyoming, public access to rivers and lakes outside of National Forest Boundaries and National Parks is limited. In the upper Green River basin visitors tend to concentrate use at the few available river and lake side locations. Lake and river related activities are expected to increase as the population of Sublette County expands and outdoor leisure activities are sought

### ***Visual Resources***

The Visual Resource Management Objective for this area of the PFO is VRM Class II.

#### **Class II Objective:**

The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The scenic quality of Boulder Lake is high. The general setting is natural with few human created intrusions. This facility and other recreation facilities associated with the west end of Boulder Lake are not visually obtrusive or discordant with the landscape. The most prominent features are the access road and lake dam. Several small residences are visible from the lake, ridgelines and prominences. The landscape depicts a variety of color with water, vegetation and landform.

The campground is situated adjacent to the lake on an upward sloping bench bounded by glacial moraine. Soil colors are predominately light tan to grey and moderately contrast with the various shades of vegetation. As vegetation loses moisture during late summer, the green color of grasses and shrubs tend to become drab green to silver grey. Soil and vegetation colors tend to blend except where soils are substantially disturbed.

## **4.0 ENVIRONMENTAL EFFECTS**

### **4.1 Direct and Indirect Effects**

#### ***4.1.1 Wildlife***

##### **Alternative 1 – No Action Alternative**

The No Action Alternative would result in no change from current status for wildlife resources. There would be no affect to threatened and endangered species and no impacts to habitat for these species. Recreational use of the area would likely continue and potentially increase over time. Grazing would also continue to occur in the allotment. There would continue to be disturbance to wildlife and habitat degradation from recreational activities and grazing that would continue to occur along the shoreline of Boulder Lake.

**Summary of Impacts**  
**Common to Alternatives 2 and 3**

Fencing off livestock access to Boulder Lake and providing a new water source may improve livestock distribution in the Boulder Lake Common allotment. Better livestock distribution would help maintain the overall health of the rangelands for both livestock and wildlife in general. Maintaining healthy rangelands will benefit wildlife by allowing for maintenance of plant vigor and diversity, plant community composition, age class distribution and overall production within the allotment. The water tank and overflow would provide drinking water for wildlife from late spring to early fall. Excess water from the wells would be allowed to flow into the overflow area and would provide the opportunity for wetland vegetation and forbs to inhabit the area providing foraging habitat for wildlife. Preventing livestock access and unauthorized OHV use along Boulder Lake within the project area would decrease habitat degradation that is occurring around the lake and in riparian areas. Over time wetland vegetation will likely re-establish in these degraded areas and will provide cover and foraging habitat for wildlife.

There will be a small loss of sagebrush habitat associated with the proposed fence, well location and facilities. Livestock trampling of the area around the stock water tank and along the fence line may also reduce sagebrush habitat resulting in the loss of some sagebrush habitat. Placing the fence, access, well and facilities in low density sage areas will reduce the impact associated with this new infrastructure. For wildlife in general, the installation of the fence, well and associated facilities may cause some localized disturbance to wildlife that are in the area during these activities.

**Big Game**

Providing an additional water source may benefit big game in the area from late spring through early fall. Mule deer and pronghorn migrating through the area during the spring and fall and those using the area throughout the summer would have access to the stock water tank and overflow area. Maintaining the overall health of the rangelands will benefit big game by providing necessary forage and cover throughout the allotment. Big game that are in the area during installation of the fence, proposed well and associated facilities may be temporarily disturbed and displaced by the activity but should return to the area once installation is complete. Decreasing or eliminating the habitat degradation that is occurring around the lake and in riparian areas will likely allow wetland vegetation to establish in these areas and will provide cover and foraging habitat for big game.

The proposed fence is located within a WGFD designated mule deer migration corridor. The fence does not bisect the corridor and should not impede migration. The proposed fence will be constructed according to WGFD wildlife friendly fence specifications (see wildlife design features). The fence will be monitored for wildlife movement and will be modified as necessary to allow wildlife to move freely throughout the area.

## **Raptors**

The maintenance of healthy rangelands and plant communities will benefit raptor species by providing cover and forage for raptor prey species. Raptor species that are in the area during installation of the proposed fence, well and associated facilities may be temporarily disturbed and displaced by the activity but should return to the area once installation is complete. No active raptor nests have been documented within 1-mile of the project area.

## **Fisheries**

Preventing livestock and unauthorized OHV use along Boulder Lake will decrease the erosion and sedimentation into the lake and may improve the quality of fisheries habitat in Boulder Lake and Boulder Creek.

## **Federally Threatened, Endangered Species and Candidate Species**

### *Colorado River Fish Species*

The proposed project would result in an annual average water depletion of 0.0177 acre-feet from the Colorado River system. Because the projected amount of water consumption is below the threshold of 0.1 acre-feet, formal Section 7 consultation with the USFWS is not necessary.

### *Gray Wolf*

Gray wolves are dependent on movements of big game populations and may occur in large ungulate migration, wintering, or parturition areas. During project activities wolves may change their use of the project area based upon changes to big game population numbers and changes in movement of herds. The proposed project would provide drinking water and forage for big game inhabiting or migrating through the area and would not change the population numbers or the movement of herds. The proposed project would have no affect on gray wolves.

### *Greater sage-grouse*

The entire project area is located within the Governor's Designated Sage-grouse Core Areas. As stated in the WY-2010-012 IM, "timing, distance, and density restrictions will be considered across all Field Offices in NEPA Analyses. Field offices may vary in their application of these restrictions when that variance is based on locally collected scientific data and information and is included in the NEPA analyses". Dates used for timing stipulations applied to this project were identified in the 2008 RMP. These dates were developed from locally based scientific studies and are slightly different than the suggested dates that are in the WY-2010-012 IM.

Healthy rangelands could benefit sage-grouse by providing vegetative diversity for nesting, foraging and cover. Excess water from the proposed well would be allowed to flow into the overflow area and would provide the opportunity for wetland vegetation and forbs to inhabit the area providing foraging and brood-rearing habitat for sage-grouse.

Access to the well location, drilling the well and installing proposed well facilities and fence line may reduce sagebrush habitat. Livestock trampling of the area along the fence line and around the water tank may also reduce sagebrush habitat resulting in the loss of some sage-grouse nesting habitat. Placing the fence, access, well and facilities in low density sage areas will reduce the impact associated with installation and livestock trampling. Sage-grouse that are in

the area during installation of the proposed fence, well and associated facilities may be temporarily disturbed and displaced by the activity but should return to the area once installation is complete.

The proposed fence and water storage tank may provide perching and nesting opportunities for raptors and common ravens which could increase predation on sage-grouse. A lower profile tank will be used to deter raptor nesting and lower perching height thereby reducing the associated impact on sage-grouse and other raptor prey species. The fence will be constructed with wood and steel posts to decrease the perching opportunities for raptor species.

The majority of the proposed fence is located outside of the 0.6 mile buffer of the nearest sage-grouse lek but is less than a mile from the same lek. Approximately 400 feet of the proposed fence is located within the 0.6 mile buffer the lek perimeter. This portion of fence is located near the shoreline of Boulder Lake. The new fence line will be monitored for sage-grouse strikes and other bird mortalities. If it is found that the fence is causing sage-grouse or other bird mortalities, then markers will be placed along the fence line as deemed necessary.

Water tanks that have no escape structures may result in drowning of small birds and mammals, including sage-grouse. Escape ramps will be installed in the stock water tank around the perimeter providing an escape route for any animal in peril within the tank.

### **Sensitive Species**

#### *Idaho pocket gopher*

Installation of the proposed fence, well and associated facilities may temporarily disturb Idaho pocket gophers. It is likely that gophers would flee or retreat in burrows during installation of the facilities. The maintenance of healthy rangelands and plant communities will benefit Idaho pocket gophers by providing cover and forage. The small loss of sagebrush that is likely to occur along the fence line and around the well and associated facilities may reduce the amount of suitable habitat available to Idaho pocket gophers.

#### *Long-eared myotis*

Installation of the proposed fence, well and associated facilities should not affect the long-eared myotis or the functionality of the associated habitat that the bat may use. The new stock water tank may provide drinking water for the long-eared myotis as bats have been documented using stock water tanks at night (Taylor and Tuttle, 2007). Allowing wetland vegetation to establish in areas that are currently degraded around the lake may improve the riparian foraging areas that the long-eared myotis may use.

Water tanks that have no escape structures may result in drowning of small birds and mammals. Escape ramps will be installed in the stock water tank around the perimeter providing an escape route for any animal in peril within the tank.

### *Pygmy rabbits*

Installation of the proposed fence, well and associated facilities could cause some localized disturbance to pygmy rabbits in the area during the installation including dispersal and/or avoidance. The maintenance of healthy rangelands and plant communities will benefit pygmy rabbits by providing cover and forage. The small loss of sagebrush that is likely to occur along the fence line and around the well and associated facilities will reduce the amount of suitable sagebrush habitat available to pygmy rabbits.

### *Bald eagle*

The maintenance of healthy rangelands and plant communities will benefit bald eagles by providing cover and forage for eagle prey species. Installation of the proposed fence, well and associated facilities could cause some localized disturbance to bald eagles that are in the area during the installation including dispersal and/or avoidance.

### *Ferruginous hawk*

The maintenance of healthy rangelands and plant communities will benefit ferruginous hawks by providing cover and forage for raptor prey species. Hawks that are in the area during installation of the proposed fence, well and associated facilities may be temporarily disturbed and displaced by the activity but should return to the area once installation is complete. No active ferruginous hawk nests are documented within 1-mile of the project area.

### *Sensitive Bird Species - (loggerhead shrike, long-billed curlew, peregrine falcon, trumpeter swan, white-faced ibis, sagebrush obligate songbirds)*

Installation of the proposed fence, well and associated facilities could cause some localized disturbance to sensitive bird species in the area during the installation including dispersal and/or avoidance. The loss of sagebrush habitat associated with the proposed fence, well location and proposed facilities will reduce the amount of sagebrush cover and nesting habitat for a variety of bird species.

Water tanks that have no escape structures may result in drowning of small birds and mammals. Escape ramps will be installed in all tanks around the perimeter providing an escape route for any animal in peril within the tank.

### *Sensitive Fish Species*

See fisheries discussion above.

### *Sensitive Amphibian Species*

Protecting the shoreline of the lake from livestock use and unauthorized OHV use will decrease the erosion and sedimentation into Boulder Lake and may improve the quality of aquatic habitat for amphibians around the lake and Boulder Creek.

### **Alternative 3 – Private Boundary Fence Action**

For wildlife in general, Alternatives 2 and 3 have similar effects. In Alternative 3, OHV use would likely not be as limited due to the ability of OHVs to drive around boulders. It is

unlikely the boulder placements proposed in Alternative 3 would prevent OHVs from accessing the area near the lakeshore. Continued unauthorized OHV use would cause disturbance to wildlife and would further degrade wildlife habitats around the lakeshore and in riparian areas. The entire fence line in Alternative 3 would be located outside of 0.6 miles of an occupied sage-grouse lek. Other impacts that would occur with Alternative 3 were discussed in the “Summary of Impacts Common to Alternatives 2 and 3” section above.

#### ***4.1.2 Watershed and Rangeland Resources***

The effects analysis for the Rangeland and Soil resources will be focused on the portion of the allotment on the west side of Boulder Creek. There are no anticipated effects from the project east of Boulder Creek.

#### **Alternative 1 – No Action Alternative**

##### ***Livestock Grazing:***

There would be no changes to the livestock distribution west of Boulder Creek. The only available water sources would be Boulder Lake, Boulder Creek and on some years a ditch in the far west portion of the allotment. With this alternative the cattle would continue to “hang out” on the beach and conflict with recreationists. The average acres per AUM for the allotment are 5.9.

##### ***Vegetation/Riparian:***

With no change in distribution, vegetation would remain in the current state. The areas currently around water sources, especially the beach area, would continue to see heavy use.

##### ***Invasive, Non-native Species:***

Cheatgrass will be treated according to current management plans and protocols. The spread of cheatgrass will be minimized with integrated pest management using early detection, rapid response. No other invasive non-natives are noted in the allotment. The current integrated pest management plan will ensure that the spread of these species is minimized.

##### ***Soils:***

The current soil degradation by livestock, OHV use, and cultural resource looting along the lake shoreline will continue. The uplands of the allotment would remain stable.

#### **Common Effects for Alternatives 2 and 3**

##### ***Livestock Grazing:***

New functioning water sources would improve overall livestock distribution throughout the Allotment. Livestock concentration around water sources may compact the soil or reduce the vegetation resulting in localized increased water runoff (Steinfeld et al, 1998). However, erosion has not been identified as a problem in the Allotment as perennial vegetation (shrubs and perennial bunchgrasses) is abundant and acts to stabilize the area. The proposed well and watering facility would provide reliable water to livestock and wildlife away from the lake shore, currently receiving heavy to severe utilization, and Boulder Creek. This

combined with the fencing of the shoreline will promote improved livestock distribution and more uniform utilization patterns in the uplands of the allotment (Bailey, 2004).

***Invasive, Non-native Species:***

During the initial short-term development of the infrastructure, the incidence of invasive, non-native plant species may increase in those areas disturbed. However, the continuation of current weed management activities (early detection, rapid response, continuous monitoring) will ensure any potential impacts are minimized. Cheatgrass, Russian thistle and Canada thistle will be treated according to current management plans and protocols. The spread of cheatgrass, Russian thistle and Canada thistle will be minimized with integrated pest management using early detection and rapid response. No other invasive non-natives are noted in the allotment. The current integrated pest management plan will ensure that the spread of these species is minimized.

***Soils:***

Initially erosion in the allotment will increase for short period directly after new disturbance for construction of the watering facility. Over time with the recovery of vegetation around the site erosion will decrease. The erosion will not return to pre-construction levels due to the higher livestock use and soil compaction expected around the watering facility (Steinfeld et al, 1998).

***Vegetation:***

Livestock will be better distributed in the uplands of the allotment due to the new watering source. Vegetation immediately around the new water facility will be reduced due to higher use from livestock (Steinfeld et al, 1998). Vegetative species, including shrubs, forbs and grasses, would be more evenly used in the west portion of the allotment by improved animal distribution. The plant communities identified for the ecological sites in the allotment are expected to remain in the same state. Livestock utilization is expected to remain light with most utilization occurring in July and August. No early season grazing occurs in this portion of the allotment.

**Alternative 2 –Proposed Action**

***Livestock Grazing:***

This alternative removes approximately 40 acres from grazing constituting a 0.8% change. The portion of the allotment removed from grazing is receiving high utilization along the beach south of the campground. The average acres per AUM for the allotment are 5.8. The fence alignment in this alternative may funnel cattle east of the campground towards the unfenced portion of the shoreline and private lands. The new water well in the uplands of the allotment may mitigate this effect.

***Riparian/Soils:***

This alternative protects approximately 1 mile of shoreline from livestock trampling and OHV use. The most sensitive portion of the shoreline for compaction and degradation is protected

within the fenced area. The riparian vegetation along the shoreline will recover with limited OHV traffic and cessation of grazing on the shoreline (Leonard et al, 1997).

The remaining mile of shoreline will continue to see livestock and OHV usage.

### **Alternative 3 –Private Boundary Fence Action**

#### ***Livestock Grazing:***

This alternative removes approximately 140 acres from grazing constituting a 2.9% change. The portion of the allotment removed from grazing is receiving high utilization along the beach south of the campground. The average acres per AUM for the allotment are 5.7. This alternative would prevent the cattle from funneling towards private lands.

#### ***Riparian/Soils:***

This alternative protects approximately 2 miles of shoreline from livestock trampling. OHV use is less limited in this alternative. Blocking access to the beach for OHVs will be less effective with the use of boulders than the fencing in Alternative 2. The riparian vegetation along the shoreline will recover with limited OHV traffic and cessation of grazing on the shoreline (Leonard et al, 1997). The extent of recovery of the vegetation will be dependent on the extent of effective OHV limitation.

### **4.1.3 Cultural Resources**

#### **Alternative 1 – No Action Alternative**

Cultural resource sites within and directly adjacent to the North Boulder Lake Campground would continue to be periodically adversely impacted by the effects of livestock trampling and unrestricted OHV use. The accelerated rate of erosion caused by these activities will result in the continued loss of archaeological data unique to the Boulder Lake region.

#### **Alternative 2 – Proposed Action**

Cultural resources within the expanded fence boundary will receive protection from OHV and livestock trampling impacts. The removal of livestock from the area will allow for the growth of additional vegetation that will provide enhanced soil stabilization along the shoreline. Stable vegetation along the shoreline will help prevent the erosion occurring naturally due to wave action.

Restricting OHV access to the culturally sensitive sediments along the shoreline will end the adverse impacts caused by riding during wet periods.

#### **Alternative 3 – Private Boundary Fence Action**

This alternative will provide less protection to cultural resources located along the shoreline as the fenceline is less restrictive to OHV use on the shore. The larger livestock exclusion fence will not enhance the protection of cultural resources along the sensitive shoreline and will continue to leave them vulnerable to OHV impacts. The effects from livestock are only negatively impacting cultural resources in the areas of the campground that are seasonally inundated. The upland areas are located in granitic glacial moraines that have a limited potential

to be impacted due to livestock. This proposed alignment offers less protection to cultural resources and will still result in adverse OHV impacts to the shoreline resources.

#### **4.1.4 Recreation and Visual Resources**

##### **Alternative 1 – No Action Alternative**

###### ***Recreation***

The recreational setting within the campground area and lake shore would continue to deteriorate from use by livestock. Unregulated motor vehicle access and camping along portions of the lake shore would continue to damage cultural and natural resources. People seeking solitude and natural conditions may seek other areas to recreate.

The continued lack of adequate visitor use information, regulations and defined use areas would increase the likelihood of unintended misuse of resources by the public. Adverse impacts to resources and visitor experiences would likely increase as demand for outdoor recreation activities and experiences increase.

A certain portion of the public would continue to enjoy motorized activities without restrictions.

###### ***Visual Resources***

Visual impacts to soils and vegetation generated by livestock and unregulated camping would continue. These impacts would be site specific and adverse but minor in context with the larger landscape.

##### **Alternative 2 – Proposed Action**

###### ***Recreation***

Implementing the proposed action would benefit the public and natural resources. All components of the proposed action would enhance visitor satisfaction related to the recreational setting. Placement of the fence, visitor use information, boulder barricades and livestock well would generate positive changes for public use. These actions would enhance the visitor's recreational experience and better protect important natural resources.

Public access to the shoreline would continue as pedestrian gates would be provided. Some visitors would be deprived of unrestricted shoreline access for vehicle camping and motorized off-road activities; other visitors would appreciate more natural conditions and solitude. Visitor use of the campground may increase as a result of less motorized access of the lake shoreline. Improved natural conditions within the campground may attract additional campers.

###### ***Visual Resources***

The placement of boulders, new fencing and minimal signing would add some elements of change to the existing environment. However, the change would not be substantially different than what currently exists within the landscape. The removal of the existing fence would decrease visible structures within the campground. The landscape would appear more natural.

Visual impacts to soils and vegetation generated by livestock and unregulated camping would be reduced. The livestock water well would be low in height and visibly screened by terrain from frequently visited public use areas.

The VRM Class II management objective would be achieved as the existing visual conditions would be improved and contrasts lessened.

### **Alternative 3 – Private Boundary Fence Action** **Recreation**

The affects would be similar to the proposed action; however opportunities to reduce motorized access to the lakeshore would be reduced. Signing and boulder barricades alone would not eliminate motorized access to the lake shoreline. Motorized equipment could go around barricades at the existing two track roads. New disturbance would be created as vegetation is trampled. Shoreline impacts from motorized recreational use and camping could continue. Potential adverse impacts to water quality and area aesthetics could continue to occur.

### ***Visual Resources***

The visual impacts would be similar but greater than Alternative 2.

## **4.2 Cumulative Effects**

There is a cheatgrass treatment proposed in the allotment anticipated to occur in the fall of 2010. This treatment will control or reduce the advance of this invasive non-native grass in the allotment. Combined with current weed management policy, this treatment will further the efforts to control cheatgrass in the allotment.

### **Alternative 1 – No Action Alternative**

Cultural resource sites within and directly adjacent to the North Boulder Lake Campground would continue to be periodically impacted by the effects of livestock trampling and unrestricted OHV use. These significant, NRHP eligible cultural resources would continue to be adversely effected. The archaeological data contained within the buried sites will be eroded away at an enhanced rate.

Other than the aforementioned potential for future improvements to existing facilities within the Boulder Lake SRMA, no other known reasonably foreseeable actions exist. Not maintaining this site to protect recreational facilities and natural resources could create adverse indirect cumulative impacts to other recreation facilities within the Boulder Lake SRMA and area. Visitors may seek other areas to recreate if conditions further deteriorate. Increased use at other sites may generate indirect adverse effects to the recreational setting and or facilities.

There would be no direct cumulative affects to visual resources. Indirect cumulative effects to visual resources would be evident but minor as livestock and recreation generated incremental increases in change to the landscape from this project and other's within the area occur.

### **Alternative 2 – Proposed Action**

Cultural resources within the expanded fence boundary will receive additional protection from OHV and livestock trampling impacts. The removal of livestock from the area will allow for the growth of additional vegetation that should provide enhanced soil stabilization. Stable vegetation along the shoreline will help prevent the erosion occurring naturally due to wave action.

Restricting OHV access to the culturally sensitive sediments along the shoreline will end the adverse impacts caused by riding during wet periods.

The cumulative effects of livestock upon the Boulder lake shoreline would be reduced as livestock forage and water, in areas separated from the lake. Recreational experiences and benefits would be enhanced. The mitigation of existing visual intrusions associated with the site would reduce overall cumulative effects within the Boulder Lake SRMA.

### **Alternative 3 – Private Boundary Fence Action**

This alternative will provide less protection to cultural resources located along the shoreline as the fenceline is less restrictive to OHV use on the shore. The larger livestock exclusion fence will not enhance the protection of cultural resources along the sensitive shoreline and will continue to leave them vulnerable to adverse OHV impacts. The effects from livestock are only negatively impacting cultural resources in the areas of the campground that are seasonally inundated. The upland areas are located in granitic glacial moraines that have a limited potential to be impacted due to livestock use. Additional fencing in these areas is not required for the protection of cultural resources that are sensitive to surface disturbance. This alternative would result in continued long term adverse effects to sensitive archaeological resources located in the project area.

The cumulative effects for recreation and visual resources would be similar but greater than Alternative 2.

## **5.0 TRIBES, INDIVIDUALS, ORGANIZATIONS, or AGENCIES CONSULTED**

The BLM consulted the following individuals, Federal, State, and local agencies, and non-BLM persons during the development of this environmental assessment:

### ***FEDERAL, STATE, AND LOCAL AGENCIES:***

Jonah Interagency Office, US EPA Region 8, Wyoming Department of Agriculture, Wyoming Landscape Conservation Initiative, Sublette County Conservation District, US Fish and Wildlife Service, Wyoming DEQ, Wyoming Game and Fish, State of Wyoming- Governor's Office, Wyoming Office of State Lands and Investments, Sublette County Commissioners, Sublette County Extension Office, Natural Resources Conservation Service, Sublette County Road and Bridge, Sublette County Weed and Pest

### ***OTHERS:***

Western Watersheds Project, neighboring landowners, and affected and interested public.

## **6.0 LIST OF PREPARERS**

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## **6.1 List of Reviewers**

Shelley Gregory, Planning and Environmental Coordinator

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# Appendices

## Appendix A.

### Public Comments Received During Public Scoping

Comment	Response
"I would agree with the need to replace fences and the other improvements listed in the draft."	Thank you for your comment.
"I would hope that along with the improvement the road to the campground would be graded, graveled, and widened so that it is less damaging to drive to the campground."	This will be addressed in future BLM landscape planning.
"The Weed and Pest supports the cheatgrass treatment and will be involved as a cooperator in the treatment."	The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.
"We support replacing the Boulder Lake campground fence to preclude livestock and OHV use, directly adjacent to Boulder Lake. This action will likely enhance the natural shoreline vegetative composition in the area."	Thank you for your comment.
"These efforts may be enhanced by revegetation work, as well as additional travel management in areas adjacent to the shoreline."	This will be addressed in future BLM landscape planning.
"In order to effectively manage livestock . . . A new well would be required . . . The location of this new well is very important and could cause substantial impacts . . ."	Thank you for your comment.
"Soil types, current vegetation composition, and proximity to weed infestations should be considered . . . Nearby sage grouse lek should be avoided with an appropriate buffer, and spring/fall migration routes for pronghorn and mule deer . . ." when choosing a well location.	The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.
"The opportunity to utilize solar power and create a green space for wildlife throughout the summer should be considered . . ."	Thank you for your comment.
"Any new fencing that would be used to redistribute livestock should be done in accordance with wildlife friendly fence standards."	Thank you for your comment.

Comment	Response
<p><b>"Cheatgrass control is greatly needed in the Boulder Lake Common Allotment."</b></p>	<p>The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.</p>
<p><b>"Treating 100 acres on BLM is not adequate when compared to the acres of cheatgrass infestation on BLM lands . . ."</b></p>	<p>The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.</p>
<p><b>"Any actions to control cheatgrass should include all of these lands [private, Wyoming Game and Fish Commission, Bridger Teton National Forest] simultaneously, regardless of ownership, or no single landowner/manager will be completely successful."</b></p>	<p>The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.</p>
<p><b>"Travel management should be addressed, due to the high level of recreation in the area and cheatgrass infestations along the roadway approaching Boulder Lake from a nearby subdivision."</b></p>	<p>This will be addressed in future BLM landscape planning.</p>
<p><b>"A new chemical, <i>Matrix</i>, should be considered for incorporation into permitted chemicals used on BLM lands. . ."</b></p>	<p>The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.</p>
<p><b>"There may be an opportunity to enhance the land by incorporating forbs into the re-seeding mix [ESD based], rather than just grasses. . ."</b></p>	<p>The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.</p>
<p><b>"We recommend the BLM identify what has changed on the landscape that has allowed cheatgrass to become established . . . And address those issues before attempting to control or eliminate cheatgrass."</b></p>	<p>The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.</p>
<p><b>"We recommend that the BLM coordinate this project with the WGFD and the Forest Service."</b></p>	<p>The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.</p>

<b>Comment</b>	<b>Response</b>
<p><b>". . . Specific measures should be observed to ensure that chemical contamination of the surrounding waterways does not occur and riparian vegetation is not impacted."</b></p>	<p>The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.</p>
<p><b>". . . we recommend no chemical application within 150 feet of water . . . If application would occur within 150 feet of water it should be applied by hand . . ."</b></p>	<p>The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.</p>
<p><b>"Application should be avoided where seasonal precipitation or excess irrigation water is likely to wash residual toxic substances into waterways."</b></p>	<p>The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.</p>
<p><b>". . . We recommend that the BLM develop a spill plan that includes mitigation should one occur."</b></p>	<p>The project was modified to exclude the cheatgrass treatment. The cheatgrass treatment is authorized under Invasive Plant Management EA# WY-090-EA09-52.</p>