
KEMMERER DRAFT
RESOURCE MANAGEMENT PLAN AND
ENVIRONMENTAL IMPACT STATEMENT

APPENDIX A

Conservation Measures, Conservation Agreements, and BLM-
Endorsed Management Strategies for Special Status Species

Appendix A Conservation Measures, Conservation Agreements, and BLM- Endorsed Management Strategies for Special Status Species

Management of special status species on public lands administered by the Bureau of Land Management (BLM) is directed by a variety of laws, policies, and other requirements. Special status species are those listed as threatened or endangered, are proposed for listing, or are candidates for listing under the provisions of the Endangered Species Act (ESA); those listed by a state implying potential endangerment or extinction (i.e., Native Species Status); or those designated by the BLM State Director as sensitive. Species in Wyoming are considered to be of special concern if (1) the species is vulnerable to extinction at the global or state level due to inherent rarity, (2) the species has experienced a significant loss of habitat, or (3) the species is sensitive to human-caused mortality or habitat disturbances.

The intent of the sensitive species designation is to ensure actions on the BLM-administered lands consider the welfare of these species and do not contribute to the need to list other Special Status Species under the provisions of the ESA.

The BLM Wyoming State Office conducts an annual review of its sensitive species list to make additions or deletions based on the most current information on species status. At the time of this writing, the planning area has 1 threatened plant species, 8 sensitive plant species, 4 endangered and 7 sensitive fish species, 3 wildlife species either threatened or endangered, 1 experimental/non-essential wildlife species, 1 candidate wildlife species, and 22 sensitive wildlife species that may be impacted in the planning area. Conservation measures, conservation agreements, and BLM-endorsed management strategies for federally threatened and endangered species are identified below.

CONSERVATION MEASURES

Plants

Ute Ladies'-tresses (Threatened)

The following section presents new conservation measures reviewed by all 10 Wyoming BLM field offices and agreed upon by all 10 field managers. These measures will be implemented upon acceptance of the statewide biological assessment (BA) (BLM 2005a) by the U.S Fish and Wildlife Service (USFWS). These measures are provided to outline opportunities to benefit populations of the orchid, and to help reduce or eliminate adverse effects from the spectrum of management activities on BLM land. These measures also outline opportunities to benefit the orchid, and to help avoid negative impacts through the thoughtful planning of activities. Implementation of these measures is expected to lead to conservation of the species.

These conservation measures are binding measures that the BLM will implement to facilitate conservation of the orchid. However, because it is impossible to provide measures that will address all possible actions in all locations across the range of the orchid, it is imperative that project-specific analysis and design be completed for all actions that could affect the orchid. Circumstances unique to individual projects or actions and their locations may still result in adverse effects to this plant. In these cases, additional or modified conservation measures may be necessary to avoid or minimize adverse effects; further consultation with the USFWS will be required. The order in which the conservation measures appear below does not imply their relative priorities.

**Appendix A – Conservation Measures, Conservation Agreements,
and BLM-Endorsed Management Strategies for Special Status Species**

1. Grazing will be managed intensively within known habitats containing populations from July through September to allow plants to bloom and seed.
2. Recreational site development will not be authorized in known Ute ladies'-tresses habitats.
3. The BLM will manage stream habitats with known populations of Ute ladies'-tresses to retain, re-create, or mimic natural hydrology, water quality, and related vegetation dynamics. Projects that may alter natural hydrology or water quality, change the vegetation of the riparian ecosystem and (or) cause direct ground disturbance will be evaluated and redesigned to ensure that adverse effects to populations of Ute ladies'-tresses do not occur.
4. The BLM will add the following two conservation measures to grazing permit renewals in allotments with known populations of Ute ladies'-tresses.
 - a. The BLM will ensure the placement of mineral supplements or new water sources (permanent or temporary) for livestock, wild horses, or wildlife at least 1 mile from known Ute ladies'-tresses populations. Supplemental feed for livestock, wildlife, or wild horses will not be authorized within 1 mile of known Ute ladies'-tresses populations. Straw or other feed must be certified weed-free. These restrictions are intended to keep free-ranging livestock away from Ute ladies'-tresses populations and potential overgrazing of the areas occupied by these orchids. Surveys for Ute ladies'-tresses will be conducted in potential Ute ladies'-tresses habitats prior to livestock operations-related construction projects.
 - b. The BLM will not increase permitted livestock stocking levels in any allotment with pastures containing known Ute ladies'-tresses populations without consulting with the USFWS.
5. Biological control of noxious plant species will be prohibited within 1 mile from known Ute ladies'-tresses orchid habitats until the impact of the control agent has been fully evaluated and determined not to adversely affecting the plant population. The BLM will monitor biological control vectors.
6. Except in cases of extreme ecological health (insect or weed outbreaks/infestations), herbicide treatment of noxious plants/weeds will be well-regulated within 0.25 miles of known populations of the orchid and insecticide/pesticide treatments will be well-regulated within 1 mile of known populations of Ute ladies'-tresses orchids to protect pollinators.

Where insect or weed outbreaks have the potential to degrade area ecological health inside the buffers listed above, at the discretion of the BLM's authorized officer and with concurrence by the USFWS, the following will apply: where needed and only on a case-by-case basis, a pesticide-use proposal or other site-specific plan will address concerns of proper timing, methods of use, and chemicals. Pesticides specific to dicots will be preferred when these are adequate to control the noxious weeds present.

Aerial application of herbicides will be planned carefully to prevent drift in areas near known populations of Ute ladies'-tresses orchids (outside of the 0.25-mile buffer). The BLM will work with the Animal and Plant Health Inspection Service (APHIS), the USFWS, and county weed and pest agencies to select pesticides and methods of application that will most effectively manage the infestation while least likely affecting Ute ladies'-tresses orchids.

7. If revegetation projects are conducted within 0.25 miles of known habitats for Ute ladies'-tresses orchids, only native species will be selected. This conservation measure will reduce the possibility that nonnative species will be introduced and compete for habitats with Ute ladies'-tresses orchids.

**Appendix A – Conservation Measures, Conservation Agreements,
and BLM-Endorsed Management Strategies for Special Status Species**

8. The BLM will limit the use of off-road vehicles (OHVs) to designated roads and trails within 0.5 miles of known Ute ladies'-tresses populations, with no exceptions for the "performance of necessary tasks" other than fire fighting and hazardous material cleanup allowed using vehicles off of highways. No OHV competitive events will be allowed within 1 mile of known Ute ladies'-tresses populations. Roads that could impact Ute ladies'-tresses orchids and are not required for routine operations or maintenance of developed projects or lead to abandoned projects will be reclaimed as directed by the BLM.
9. The BLM will apply a condition of approval (COA) on all applications for a permit to drill (APD) oil and gas wells for sites within 0.25 miles of any known populations of Ute ladies'-tresses orchids. This condition will prohibit all authorized surface disturbance and OHV travel from sites containing populations of Ute ladies'-tresses orchids. Operations outside of the 0.25-mile buffer of orchid populations, such as "directional drilling" to reach oil or gas resources underneath the orchid's habitats, would be acceptable.
10. For known Ute ladies'-tresses populations, the BLM will place a controlled surface use stipulation prohibiting all surface disturbances on new oil and gas leases, buffering the area within 0.25 miles of known Ute ladies'-tresses populations. For existing oil and gas leases with known Ute ladies'-tresses populations (these would be for newly discovered populations, not currently documented), the BLM will require the COA in conservation measure 13 below, including the same 0.25-mile buffer area around those known Ute ladies'-tresses orchid populations.
11. The disposal (sale and removal) of salable minerals is a discretionary BLM action and is prohibited within a 0.25-mile buffer area of known populations of Ute ladies'-tresses orchids. To prevent loss of habitats for the orchid, the BLM "shall retain in Federal ownership all habitats essential for the survival and recovery of any listed species, including habitat that was used historically, that has retained its potential to sustain listed species, and is deemed to be essential to their survival" (BLM 2001). Prior to any land-tenure adjustments in known habitats for Ute ladies'-tresses orchids, the BLM will survey to assess the habitat boundary and retain that area in federal ownership. BLM-administered lands that contain identified habitats for the orchid will not be exchanged or sold, unless it benefits the species.
12. All proposed rights-of-way (ROW) projects (powerlines, pipelines, roads, etc.) will be designed and locations selected to be at least 0.25 miles from any known Ute ladies'-tresses orchid habitats to minimize disturbances. If avoidance of adverse effects is not possible, the BLM will reinitiate consultation with the USFWS.
13. All proposed projects will be designed and locations selected to minimize disturbances to known Ute ladies'-tresses orchid populations. If the avoidance of adverse effects is not possible, the BLM will reinitiate consultation with the USFWS. Projects will not be authorized closer than 0.25 miles from any known Ute ladies'-tresses populations without concurrence of the USFWS and the BLM authorized officer. No ground-disturbing construction activities will be authorized within 0.25 miles of any known Ute ladies'-tresses orchid populations during the essential growing season time period (from July through September-the growing, flowering and fruiting stages) to reduce impacts to the species.
14. To conserve and protect natural areas, planned recreational foot trails are created to control human traffic. The BLM will create programs that will strive to protect Ute ladies'-tresses orchid habitats and prevent new trails from being constructed within 0.25 miles from known occurrences of the orchid.

Fish

Colorado River Fishes (Endangered)

The following conservation measures are taken directly from the USFWS memorandum “Biological Opinion, Amoco Moxa Arch Project, Lincoln, Sweetwater and Uinta Counties, WY” (USFWS 1991).

Endangered fish species in the planning area include the Colorado pikeminnow (*Ptychocheilus lucius*), humpback chub (*Gila Cypha*), razorback sucker (*Xyrauchen texanus*), and bonytail (*Gila elegans*). Conservation measures are set forth by the “Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin” (Recovery Program), as signed on January 21 and 22, 1988, by the Secretary of the Interior; the governors of Wyoming, Colorado, and Utah; and the Administrator of the Western Area Power Administration. An objective of the Recovery Program was to identify reasonable and prudent alternatives that would ensure the survival and recovery of the listed species, while providing for new water development in the Upper Colorado River Basin.

The following excerpts are pertinent to the consultation because they summarize portions of the Recovery Program that address depletion impacts, section 7 consultation, and project proponent responsibilities:

“All future Section 7 consultations completed after approval and implementation of this program (establishment of the Implementation Committee, provision of congressional funding, and initiation of the elements) will result in a one-time contribution to be paid to the USFWS by water project proponents in the amount of \$10 per acre-foot based on the average annual depletion of the project This figure will be adjusted annually for inflation.... Concurrently with the completion of the Federal action which initiated the consultation...issuance of a 404 permit, 10 percent of the total contribution will be provided. The balance...will be... due at the time the construction commences... Funds from these contributions will be applied equally to flow acquisition and to other recovery activities...” (USFWS 1991).

It is important to note that these provisions of the Recovery Program were based on appropriate legal protection of the instream flow needs of the endangered Colorado River fishes. The Recovery Program further states:

“...it is necessary to protect and manage sufficient habitat to support self-sustaining populations of these species. One way to accomplish this is to provide long term protection of the habitat by acquiring or appropriating water rights to ensure instream flows.... Since this program sets in place a mechanism and a commitment to assure that the instream flows are protected under State law, the USFWS will consider these elements under Section 7 consultation as offsetting project depletion impacts.”

Thus, the USFWS has determined that project depletion impacts, which the USFWS has consistently maintained, are likely to jeopardize the listed fishes, can be offset by (a) the water project proponents one-time contribution to the Recovery Program in the amount of \$10.91 per acre-foot of the project’s average annual depletion, and (b) appropriate legal protection of instream flows pursuant to state law. The USFWS believes it is essential that protection of instream flows proceed expeditiously, before significant water depletions occur.

With respect to (a) above (i.e., the depletion charge), the applicant will make a one-time payment that has been calculated by multiplying the project’s annual average depletion (82 acre-feet) by the depletion charge in effect at the time payment is made. For fiscal year 1991 (October 1, 1990, to September 30, 1991), the depletion charge is \$10.91 per acre-foot of the depletion, which equals a payment of \$894.62

**Appendix A – Conservation Measures, Conservation Agreements,
and BLM-Endorsed Management Strategies for Special Status Species**

for this project. This amount will be adjusted annually for inflation on October 1 of each year based on the previous year's Composite Consumer Price Index. The USFWS will notify the applicant of any change in the depletion charge by September 1 of each year. Ten percent of the total contribution or total payment will be provided to the USFWS or its designated agent at the time of issuance of the federal approvals from the BLM. The balance will be due at the time construction commences. Fifty percent of the funds will be used for acquisition of water rights to meet the instream flow needs of the endangered fishes (unless otherwise recommended by the Implementation Committee); the balance will be used to support other recovery activities for the Colorado River endangered fishes. Payment should be made to the National Fish and Wildlife Foundation. If depletion is less than 100 acre-feet, payment is waived (Oles 2007).

Wildlife

Within the Kemmerer planning area, five wildlife species (bald eagle, black-footed ferret, grizzly bear, Canada lynx, and gray wolf) are listed as threatened or endangered, and one is listed as a candidate, the yellow-billed cuckoo. Twenty-one species are listed as sensitive in the Kemmerer planning area (BLM 2002). The conservation measures for the bald eagle, black-footed ferret, grizzly bear, Canada lynx, gray wolf, and yellow-billed cuckoo are identified below. These conservation measures are identified in each species' respective statewide biological assessment (BA).

Bald Eagle (Threatened)

The following recommended conservation measures may further reduce potential adverse effects to bald eagle behavior and their habitats. The measures were prepared in coordination with the USFWS and are identified in the statewide programmatic Bald Eagle (*Haliaeetus leucocephalus*) BA (BLM 2003a).

1. When project proposals are received, the BLM should initiate coordination with the USFWS at the earliest possible date so that USFWS can advise on project design. This should minimize the need to redesign projects at a later date to include bald eagle conservation measures, determined as appropriate by the USFWS.
2. Appropriately timed surveys in bald eagle habitats should be conducted prior to any activities and subsequent authorization that may disturb bald eagles or their habitats. A qualified biologist (not limited by job title) would be approved by the BLM to conduct such bald eagle surveys. All nest surveys should be conducted using procedures that minimize the potential for adverse effects to nesting raptors.

In the event species occurrence is verified, the proponent may be required to modify operational plans, at the discretion of the authorized officer, to include the appropriate measures for minimization of effects to the bald eagle and its habitats.

3. Appropriate survey methodologies are listed in Appendix C of the statewide programmatic Bald Eagle (*Haliaeetus leucocephalus*) biological assessment (BLM 2003a).
4. Each year the BLM should verify the status of known bald eagle nests, communal winter roosts, and concentration areas on lands administered by the BLM. As a matter of maintaining inventory information, the BLM should coordinate annually with USFWS, the Wyoming Game and Fish Department (WGFD), and other appropriate entities to determine the status of known and new bald eagle nests, communal winter roosts, and other concentration areas. Known bald eagle nests, communal winter roosts, and concentration areas will be assumed active if status has not been verified.
5. Activities and habitat alterations that may disturb bald eagles will be restricted within suitable habitats that occur within bald eagle buffer zones (see statewide BA for further description).

**Appendix A – Conservation Measures, Conservation Agreements,
and BLM-Endorsed Management Strategies for Special Status Species**

Zone 1 (within ½ mile 1 February to 15 August) is intended to protect active and alternative nests. For active nests, minimal human activity levels are allowed during the period of first occupancy to 2 weeks after fledging.

Zone 2 (within ½ -1 mile from the nest) is intended to protect bald eagle primary use areas and permits light human-activity levels.

Zone 3 is designated to protect foraging/concentration areas year-round. Zone 3 would include one of two larger areas, depending on the following habitat types: (a) 2.5 miles extending in all directions from the nest or (b) ½ mile from the stream bank of all streams within 2.5 miles of the nest. Site-specific habitat types and foraging areas will be evaluated to determine which Zone 3 buffer applies. Zone delineation depends on habitat types. Exceptions may be made after consultation with the USFWS.

6. Activities that may disturb bald eagles will be restricted within 1 mile of known communal winter roosts during the period of November 1 through April 1. No ground-disturbing activities will be permitted within 1 mile of active roost sites year round.
7. BLM-administered lands within 1 mile of an integral part of bald eagle habitats including nests, communal winter roosts, and foraging/concentration areas should not be exchanged or sold.
8. Powerlines should be built to standards identified by the Avian Power Line Interaction Committee.
9. Proponents of BLM-authorized actions should be advised that roadside carrion can attract foraging bald eagles and potentially increase the risk of vehicle collisions with bald eagles feeding on the carrion. When large carrion occurs on the road, appropriate officials should be notified for necessary removal.
10. BLM should coordinate with the APHIS -Wildlife Services Division to minimize potential impacts to the bald eagle and its habitats from pest/predator control programs that may be included in the local animal damage control plan. The USFWS also should be included in this coordination.
11. Proposed and future water projects should not be designed to discharge into drainages or reservoirs occurring within 500 feet of county roads and highways. This measure is intended to minimize vehicle collisions with wildlife, using the water source and subsequent eagle-vehicle collisions.
12. The BLM should provide educational information to project proponents and the public pertaining to the following topics: appropriate vehicle speeds and the associated benefit of reduced vehicle collisions with wildlife, use of lead shot (particularly over water bodies), use of lead fishing weights, and general ecological awareness of habitat disturbance.
13. In the event a dead or injured bald eagle is found, the USFWS Wyoming Field Office (307-772-2374) and the USFWS Law Enforcement Office (307-261-6365) should be notified within 24 hours of the discovery.
14. The BLM should coordinate with other agencies and private landowners to identify voluntary opportunities to modify current land stewardship practices that may impact the bald eagle and its habitats.
15. The BLM should monitor and restrict, when and where necessary, authorized or casual-use activities that may impact bald eagles or their habitats, including, but not limited to, recreational mining and oil and gas activities.

**Appendix A – Conservation Measures, Conservation Agreements,
and BLM-Endorsed Management Strategies for Special Status Species**

16. The BLM should periodically review existing water quality records (e.g., Wyoming Department of Environmental Quality [DEQ], WGFD, U.S. Geological Survey [USGS], etc.) from monitoring stations on, or near, important bald eagle habitats (i.e., nests, roosts, concentration areas) on public land for any conditions that could adversely affect the species. If water quality problems are identified, the BLM should contact the appropriate jurisdictional entity to cooperatively monitor the condition and (or) take corrective action.
17. Projects that could disturb bald eagles should be completed in the least amount of time and during periods least likely to affect the bald eagle.
18. Projects that could disturb bald eagles or their habitats should be monitored and the monitoring results should be considered in the design and implementation of future projects.

Black-footed Ferret (Endangered)

The following conservation measures are taken directly from the *Final Statewide Programmatic Biological Assessment: Black-footed Ferret (Mustela nigripes)* (BLM 2005b). These conservation measures aim to reduce potential effects to black-footed ferrets and their habitats and highlight the steps the BLM can take to work toward recovery of the species.

The conservation measures listed below are separated into Species Conservation Measures, which affect the species directly; Habitat and Mapping Measures, which protect habitat and address prairie dog colonies and mapping activities; and Recovery/Reintroduction Measures, which address the BLM's role in and commitment to recovery of the species.

Species Conservation Measures

1. When project proposals are received for areas that still require black-footed ferret surveys and meet potential habitat criteria as defined by the USFWS guidelines, the BLM shall initiate coordination with the USFWS at the earliest possible date so that the USFWS can provide input. This should minimize the need to redesign projects at a later date to include black-footed ferret conservation measures, determined as appropriate by the USFWS.
2. In areas identified in conservation measure number one above (non-block cleared areas), if suitable prairie dog town/complex avoidance is not possible, surveys of towns/complexes for black-footed ferrets shall be conducted according to USFWS guidelines and recommendations. This information shall be provided to the BLM and the USFWS in accordance with Section 7 of the Endangered Species Act, and the Interagency Cooperation Regulations.
3. Observations of black-footed ferrets, their sign, or carcasses on a project area and the location of the suspected observation, however obtained, shall be reported within 24 hours to the appropriate local BLM wildlife biologist and Field Supervisor of the USFWS office in Cheyenne, Wyoming, at (307) 772-2374. Observations should include a description including what was seen, time, date, exact location, suspected cause of death, and the observer's name and telephone number. Carcasses or other "suspected" ferret remains shall be collected by the BLM or USFWS employees and deposited with the USFWS Wyoming Field Office or USFWS law enforcement office. While BLM employees would not likely have a permit to "collect" a black-footed ferret carcass, it is imperative that a carcass be salvaged and immediately transported to the USFWS so that the carcass is not scavenged and as much pertinent information concerning the cause of death be gathered, including photographs, so that an accurate depiction of the fatality can be documented.

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

4. If black-footed ferrets or their signs are found on public lands outside of the Shirley Basin non-essential experimental population boundary (even within a prairie dog town or complex previously determined to be unsuitable for, or free, of ferrets), all previously authorized project-related activities (or actions on any future application that may directly, indirectly, or cumulatively affect the colony/complex) ongoing in such towns or complexes shall be suspended immediately and Section 7 consultation reinitiated with the USFWS. An emergency road closure for other than official travel (official travel would be defined as only those activities that are necessary to evaluate the black-footed ferret find) will be enacted by the BLM within 48 hours of the find to protect newly discovered black-footed ferrets. This emergency road closure would be for all nonpaved roads within at least 1 mile of the find. A task force including at least one member of the BLM, USFWS, WGFD and USGS-BRD will be formed within 48 hours of the find to assess the needs of protecting the newly discovered black-footed ferrets. The BLM shall coordinate with these three agencies to ensure that ferret surveys or other appropriate actions are conducted at such locations.
5. Information shall be provided and posted in common areas and circulated in a memorandum among all employees and service providers. This information shall illustrate the black-footed ferret and its signs; describe morphology, tracks, scat, skull, habitat characteristics, behavior, and current status; and explain the relationship between project development and impacts to black-footed ferrets, especially regarding canine distemper.

Habitat and Mapping Measures

1. All white-tailed prairie dog towns/complexes greater than 200 acres in size and black-tailed prairie dog towns/complexes greater than 80 acres shall be assessed and mapped for any projects that are proposed within such areas. Associated burrow densities on potentially affected towns shall be determined, when necessary, pursuant to USFWS- and BLM-approved techniques to determine whether the criteria established for ferret occupancy in the USFWS (1989) guidelines for black-footed ferrets are met.
2. New prairie dog towns can be established on public lands in all circumstances where they would not interfere with other previously established activities.

Recovery/Reintroduction Measures

The BLM shall work with the USFWS and the WGFD to establish Management Areas (MAs) for potential reintroduction sites for black-footed ferrets. These areas will be selected based on a number of factors, including BLM's ability to protect and manage them, their size (optimally 5,000 to 10,000 acre sites), and potential utility to black-footed ferrets. Because of the need to manage reintroduction sites (of prairie dog complexes) on a landscape scale, and because plague is a significant but unpredictable event, MAs may be selected that are currently "plagued out," but may recover in time. Complexes can be selected from, but not necessarily restricted to, those shown in Map 3. Protective measures shall be drawn up for these MAs, and may include being withdrawn from leasing and protected from commercial development (i.e., land disposal through Recreation and Public Purpose Act actions, etc.). Examples of protective measures that will be included in these MAs are:

- Work with the WGFD and other state agencies, as appropriate and respective USFWS offices to ensure that enough reintroduction sites are maintained to successfully recover the black-footed ferret. If areas available for reintroduction are removed through BLM's authorized actions below a threshold level so the black-footed ferret can no longer be recovered, then those actions reducing availability of reintroduction sites will be modified or discontinued until the black-footed ferret has been recovered.

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

- The BLM shall monitor and post restrictions, if necessary, on recreational opportunities and other uses on BLM-administered lands within 1 mile of formally proposed and active reintroduction sites for black-footed ferrets.
- The BLM and operators shall conduct educational outreach to employees regarding the nature, hosts, and symptoms of canine distemper and its effects on black-footed ferrets, focusing attention on why employees should not have pets on worksites during or after hours. The BLM shall encourage operators to develop policies to prohibit dogs from operation sites or require current distemper vaccinations within black-footed ferret reintroduction areas. It is recommended that vaccinated puppies not be allowed into the black-footed ferret reintroduction areas until 1 month after their final distemper vaccination due to potential effects of the modified live virus vaccine.

Grizzly Bear (BLM Sensitive)

The grizzly bear was delisted from threatened status on March 29, 2007 (USDI 2007), but remains a BLM sensitive species. The following conservation measures are taken directly from the *Final Statewide Programmatic Biological Assessment: Grizzly Bear (Ursus arctos)* (BLM 2005c). These BLM-committed conservation measures are to be implemented in grizzly bear habitats, and are intended to minimize or eliminate adverse impacts likely to result from implementation of the management actions provided in the Resource Management Plans (RMPs). The BLM is committed to the implementation of these 12 conservation measures. In the future, it is expected that grizzly bears will reoccupy historic ranges and move into new areas. The BLM will ensure the implementation of these conservation strategies for the protection and management of newly established populations.

The most important factors affecting grizzly bears on the landscape are the levels of human activities including food storage, livestock allotments, motorized access, and site development. One of the key habitat factors in the maintenance of grizzly bear populations is the protection of secure habitats, defined as all areas more than 500 meters from an open or gated motorized access route or high use non-motorized trail larger than 10 acres and providing all the key elements needed for the survival and life functions of these animals (such as food sources, cover, denning areas, and security from human disturbance and disruptive activities). Human behavior and habitat are both addressed in the following conservation measures.

1. The BLM shall ensure that authorized activities planned to occur in currently occupied grizzly bear habitat shall be analyzed and planned with active grizzly bear protection measures. Restrictions on timing of activity and spatial considerations for grizzly bears, or other parameters, will be implemented to avoid or prevent significant disruptions of normal or expected bear behavior and activity in the area.
2. The BLM shall provide a packet of educational materials to authorized permittees in grizzly habitats, including, but not limited to, special recreation permittees, livestock permittees/lessees, and timber operators.
3. In occupied grizzly bear habitats and in areas of bear conflicts, the BLM shall install bear-resistant refuse containers in developed campgrounds and picnic areas where refuse containers are provided and maintained. In areas receiving dispersed recreational use, the BLM shall inform the public of proper storage techniques for food and refuse.
4. The BLM shall ensure that operation plans and special use permits in occupied grizzly bear habitats will specify food storage and handling and garbage disposal standards. All temporary living facilities under temporary use permits in occupied grizzly bear habitats will be required to practice proper food storage and keep all potential attractants stored so they are unavailable to

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

- bears. Edibles and (or) garbage will be secured from access by grizzly bears. Bear-proof refuse containers and timely refuse collection to prevent container overflow shall be required.
5. Important grizzly bear food resources that may occur on BLM land, particularly whitebark pine, army cutworm moths, ungulates (primarily elk calving grounds), and spawning cutthroat trout shall be noted and monitored. Other important foods may be added to those listed above as the understanding of grizzly bear food resources on BLM land grows. Monitoring protocols for these food resources can be adapted from the statewide BA, Appendix E of the Conservation Strategy (<http://www.fs.fed.us/r1/wildlife/igbc/ConservationStrategy/CSappendices.pdf>).
 6. The BLM shall continue to attend, and be a member of, the Yellowstone Ecosystem Subcommittee of the Interagency Grizzly Bear Committee. After delisting, the BLM shall continue to participate in the appropriate coordination group(s).
 7. The BLM shall not approve commercial cutting or other removal of whitebark pine in the six field offices analyzed in this document in occupied or potential grizzly bear habitats.
 8. The BLM shall implement strategies to reduce human-bear and domestic livestock-bear conflicts by conducting an evaluation of the causes of such conflicts when they do occur and determining what can be done to avoid or reduce such conflicts in the future. Currently, these conflicts are discussed at the Northwest Wyoming Level One Streamlining Team meetings held approximately every 45 to 60 days.
 9. All permit holders conducting activities on public lands in occupied grizzly bear habitats that could result in livestock carcasses being left in locations where bears might be attracted to them shall be informed that all livestock carcasses or parts of carcasses must either be packed, dragged, or otherwise transported to a location a minimum of ½ mile from any inhabited dwelling, sleeping area, tent, road, trail, or recreation site in as timely a manner as possible, unless otherwise directed by a BLM range/wildlife specialist or ranger. Carcasses must be moved at least 100 yards from live water. Other options for carcass disposal may include using explosives or burning the carcass at the discretion of a BLM range/wildlife specialist or ranger. In cases of uncertainty on carcass disposition the permit holder (or lessee) shall contact the appropriate BLM field office.
 10. The BLM shall require that the proper functioning condition of existing aquatic systems and riparian zones in occupied grizzly bear habitats will be maintained for all BLM-administered public lands. If these areas are polluted and (or) damaged from activities, lessee/permittee/grantee or BLM will be required to assume full responsibility for rehabilitation and restoration of such areas.
 11. The BLM shall require that existing roads, drilling pads, and other areas with vegetation removed due to authorized activities in occupied grizzly bear habitats will be revegetated and reclaimed by lessee/permittee/grantee in a fashion that considers all grizzly bear needs or requirements.
 12. Wild horse roundups and other intensive wild horse management activities shall avoid areas in or immediately adjacent to occupied grizzly bear habitats.

Canada Lynx (Threatened)

The following conservation measures are taken directly from the *Final Statewide Programmatic Biological Assessment: Canada Lynx (Lynx canadensis)* (BLM 2005d). These conservation measures are intended to conserve the lynx and to reduce or eliminate adverse effects from the spectrum of management activities on BLM land. These measures are provided to outline opportunities to benefit the lynx and to help avoid negative impacts through thoughtful planning of activities.

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

These conservation measures are binding measures that the BLM shall implement to facilitate conservation of lynx. Lynx analysis units (LAUs) typically encompass lynx habitats (may or may not be currently in suitable condition for denning or foraging habitat) and other areas (such as lakes, low elevation ponderosa pine forest, and alpine tundra). The conservation measures listed below generally apply only to lynx habitats within the LAUs; however, their use in areas of lynx habitats or potential lynx habitats not fitting the criteria of an LAU is encouraged.

Because it is impossible to provide measures that will address all possible actions in all locations across the broad range of the lynx, it is imperative that project-specific analysis and design be completed for all actions that could affect lynx. Circumstances unique to individual projects or actions and their locations may still result in adverse effects on lynx. In these cases, additional or modified conservation measures may be necessary to avoid or minimize adverse effects.

All Programs

1. Within an LAU, the BLM shall ensure that mapping occurs of lynx habitats and nonhabitats, as well as their denning habitats, foraging habitats, and topographic features important for lynx movement. The BLM or project proponent shall identify whether all lynx habitats within an LAU are in suitable or unsuitable conditions. This will involve interagency coordination when LAUs cross administrative boundaries.
2. The BLM shall limit disturbance within each LAU to 30 percent of the suitable habitats within the LAU. If 30 percent of the habitats within an LAU are currently in unsuitable conditions, no further reduction of suitable conditions shall occur as a result of management activities. The BLM shall map oil and gas production and transmission facilities, mining activities and facilities, dams, forest management, and agricultural lands on public lands and evaluate projects on adjacent private lands to assess cumulative effects. This will involve interagency coordination when LAUs cross administrative boundaries, primarily with the U.S. Forest Service (USFS).
3. BLM management actions shall not change more than 15 percent of lynx habitats within an LAU to an unsuitable condition within a 10-year period. This will involve interagency coordination where LAUs cross administrative boundaries.
4. The BLM shall maintain denning habitats in patches generally larger than 5 acres, comprising at least 10 percent of lynx habitats. When less than 10 percent is currently present within an LAU, management actions that would delay development of denning habitat structures shall be deferred. This will involve interagency coordination when LAUs cross administrative boundaries.
5. The BLM, using best available science, shall ensure that key linkage areas that may be important in providing landscape connectivity within and between geographic areas across all ownerships are identified.
6. The BLM shall ensure that habitat connectivity within and between LAUs is maintained.
7. The BLM shall document lynx observations (tracks, sightings, as well as date, location, and habitat) and provide these to the Wyoming Natural Diversity Database (WYNDD). The BLM also shall request an annual update from the WYNDD on all sightings for review in each field office.

Forest Management

1. Following a disturbance (blowdown, fire, insects) that could impact lynx denning habitats, the BLM shall allow no salvage harvest when the affected area is smaller than 5 acres. Some exceptions apply, as specified in the LCAS timber management project planning standards.
2. The BLM shall allow precommercial thinning only when stands no longer provide snowshoe hare habitats.

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

3. In aspen stands, the BLM shall ensure the application of harvest prescriptions that favor regeneration of aspen.
4. The BLM shall ensure that improvement harvests (commercial thinning, selection, etc.) are designed to retain and improve recruitment of an understory of small diameter conifers and shrubs preferred by hares.

Fire Management

1. In the event of a large wildfire, the BLM shall ensure that a post-disturbance assessment prior to salvage harvest be conducted, particularly for stands that were formerly in late successional stages, to evaluate the potential for lynx denning and foraging habitats.
2. The BLM shall ensure that construction of temporary roads and fire lines are minimized to the extent possible during fire-suppression activities, and shall ensure revegetation of roads and firelines that are necessary. Construction on ridges and saddles should be avoided, if possible.

Recreation

1. The BLM shall allow no net increase in groomed or designated over-snow routes and snowmobile play areas in LAUs unless the designation serves to consolidate unregulated use and improves lynx habitats through a net reduction of compacted snow areas. This is intended to apply to dispersed recreation rather than existing ski areas. Winter logging activity is not subject to this restriction.
2. In lynx habitats within an LAU, the BLM shall ensure that federal actions do not degrade or compromise landscape connectivity or linkage areas when planning and operating new or expanded recreation developments.
3. The BLM shall ensure that trails, roads, and lift termini are designed to direct winter activities away from diurnal security habitats.
4. To protect the integrity of lynx habitats, the BLM shall ensure that (as new information becomes available) winter recreational special use permits (outside of permitted ski areas) that promote snow-compacting activities in lynx habitats are evaluated and amended, as needed.

Livestock Grazing

1. The BLM shall ensure that livestock use in openings created by fire or forest management that would delay successful regeneration of the shrub and tree components is not allowed. This regeneration may take 3 years or longer and will depend on site-specific conditions.
2. The BLM shall ensure that grazing in aspen stands is managed to ensure sprouting and sprout survival sufficient to perpetuate the long-term viability of the clones.
3. Within lynx habitats, the BLM shall ensure that livestock grazing in riparian areas and willow patches is managed to maintain or achieve mid seral or higher conditions to provide cover and forage for prey species.
4. On projects where over-snow access is required, the BLM shall ensure use is restricted to designated routes.
5. Predator control activities, including trapping or poisoning on domestic livestock allotments on federal lands within lynx habitat, shall be conducted by Wildlife Services personnel in accordance with USFWS recommendations established through a formal Section 7 consultation process.
6. The BLM shall ensure that the potential importance of shrub-steppe habitats in the lynx habitat matrix and in providing landscape connectivity between blocks of lynx habitats is evaluated and considered as integral to overall lynx habitats, where appropriate. Livestock grazing within shrub-

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

steppe habitats in such areas should be managed to maintain or achieve mid seral or higher conditions to maximize cover and prey availability. Such areas currently in late seral conditions should not be degraded.

7. In high-elevation riparian areas, especially those subject to grazing, the BLM shall ensure that weed assessments and weed control are conducted to optimize habitat for snowshoe hares.

Access

1. Within lynx habitats, the BLM shall ensure, using best available science, that key linkage areas and potential highway crossing areas are identified.
2. The BLM shall work cooperatively and proactively with the Federal Highway Administration and State Departments of Transportation to identify land corridors necessary to maintain connectivity of lynx habitats and map the location of "key linkage areas" where highway crossings may be needed to provide habitat connectivity and reduce mortality of lynx (and other wildlife).
3. Dirt and gravel roads traversing lynx habitats (particularly those that could become highways) should not be paved or otherwise upgraded (e.g., straightening of curves, widening of roadway, etc.) in a manner that is likely to lead to substantial increases in traffic volumes, traffic speeds, increased width of the cleared ROW, or would foreseeably contribute to development or increases in human activity in lynx habitats. Whenever rural dirt and gravel roads traversing lynx habitat are proposed for such upgrades, a thorough analysis should be conducted on the potential direct and indirect effects to lynx and lynx habitat.

Lands Management

1. The BLM shall ensure that proposed land exchanges, land sales, and special use permits are evaluated for effects on lynx habitats and key linkage areas.

Energy Development

1. If activities are proposed in lynx habitats, the BLM shall ensure that stipulations and conditions of approval for limitations on the timing of activities and surface use and occupancy are developed at the leasing and notice of staking/APD stages. For example, the BLM would require that activities not be conducted at night, when lynx are active, and avoid activity near denning habitats during the breeding season (April or May to July) to protect vulnerable kittens.
2. The BLM shall ensure that snow compaction is minimized when authorizing and monitoring developments, as well as encourage remote monitoring of sites located in lynx habitats so that they do not have to be visited daily.

Gray Wolf (Nonessential/Experimental)

These conservation measures are taken directly from the *Final Statewide Programmatic Biological Assessment: Gray Wolf (Canis lupis)* (BLM 2004a).

Because of the wolf's status in Wyoming as an experimental nonessential species under 10(j) of the ESA, conservation measures are not inherent in the recovery plan. Nor are there any in the 2003 (unapproved by USFWS) Wyoming State Management Plan for wolves (WGFD 2003). Wolves are very adaptable and have done very well in Wyoming since their release in 1995 and 1996. Two main factors affecting the continued existence of wolves in an area are the maintenance of a good ungulate prey base and the containment of roads and human activity. Habitat improvement projects for elk and other big game foraging areas are already part of the RMPs and one of the main activities carried out by individual field offices. The other significant factor is to reduce human-caused mortality. Road density (highly correlated

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

with human causes of death), public outreach and education, and cattle-ranching practices as they relate to wolf depredations, are overarching elements in the maintenance of successful wolf populations.

The maintenance of a good database on the location of wolf packs is the first step in protecting animals. It is important to develop and maintain contact with appropriate staff with the USFWS and the WGFD to stay informed of wolf packs in the field offices and (or) on BLM land. Following delisting and as wolf populations expand, it may be necessary to develop monitoring protocols for wolves on BLM lands. Such protocols would be most effective when coordinated with other agencies.

These conservation measures are meant to be a tool to clarify what activities have impacted the species in the past, what conservation measures have been or could be used to minimize impacts, and to assist the agencies in the development of BAs and biological opinions. Implementing the following conservation strategies is intended to minimize adverse impacts likely to result from implementing management actions provided in the RMPs. The BLM has committed to implement conservation measures 1 through 5.

All conservation measures apply to the known populations of the gray wolf. In the event that wolf packs are formed in new areas, these measures would apply to these areas as well. The BLM is committed to implementing conservation measures 1 through 5 below.

1. No project actions are to be located within 100 meters (330 feet) of denning sites between April 1 and June 30. Areas within 0.8 kilometers (0.5 miles) of a denning site are recommended for protection from disturbance.
2. Actions will be taken to help reduce human-caused mortality wherever possible. For example, providing educational material, as appropriate, to avoid the inadvertent killing of a wolf mistaken for a coyote; providing information on compatible grazing practices (see # 3 below); avoiding situations that lead to the adoption of human foods and garbage by wolves, which could lead to a bite and subsequent elimination of the wolf.
3. Useful information will be disseminated to livestock producers on wolf/livestock interactions, alternate livestock practices that minimize conflicts between wolves and livestock (e.g., dispersed grazing rather than concentrated grazing), and compatible lambing and calving methods that reduce or eliminate wolf depredation in occupied habitats.
4. A BLM-representative will be designated to attend the annual Interagency Coordination Meeting.
5. The BLM will continue to attend the annual coordination meetings with the WGFD.

Yellow-billed Cuckoo (Candidate)

The following conservation measures are taken directly from the *Final Programmatic Biological Evaluation for the Western Yellow-billed Cuckoo (Coccyzus americanus)* in Wyoming (BLM 2003b).

Riparian Area Management

1. Consider carefully the affects to the yellow-billed cuckoo from any activities within or adjacent to cuckoo habitats.
2. Apply a 500-foot buffer through seasonal restriction to include the breeding season from May 15 through August 15 and apply rehabilitation standards in or adjacent to yellow-billed cuckoo habitat, when necessary.

**Appendix A – Conservation Measures, Conservation Agreements,
and BLM-Endorsed Management Strategies for Special Status Species**

3. Manage for a stable or increasing population of cottonwood/willow vegetation in yellow-billed cuckoo habitats. Ensure that all age classes are present (seedling, young, mature, and decadent), with more seedlings present than decadent plants, and more young plants than mature ones.
4. When planting trees, select only native species and avoid Russian olive and tamarisk (salt cedar).

Livestock Grazing Management

1. Use livestock management practices that minimize impacts to important cuckoo habitats. Examples of practices include planned grazing systems, riparian pasture fences, exclosures, herding, changes in class of livestock, timing and season of use, seasonal changes, managing use levels, off-site water and salting, resting for 1 or more years, and reduction in livestock numbers.
2. Improve livestock distribution and forage use by using salt and mineral blocks, but avoid placing them within riparian areas (keep them at least ¼ mile from streams) or in immediately adjacent uplands.
3. Locate livestock-handling facilities and collection points outside riparian areas. Branding, loading, and other handling efforts should be limited to areas and times that do not harm soils and plants in riparian zones.

General Construction Activities

1. Where roads, pipelines, and powerlines must be routed through riparian habitats, the construction work should not be accomplished from mid May to mid August, when the cuckoos are nesting.
2. Topography should be returned to its original condition to the greatest extent possible to ensure the hydrology remains intact.
3. Combine multiple roads and ROW to one stream-crossing site.
4. Maintain at least 100-foot buffer zones between riparian areas and mining, oil, gas, sand/gravel, and geothermal activities, including structures, roads, and support facilities.

Developed Recreation Areas

1. Boat and raft landing areas should not be developed in yellow-billed cuckoo habitats. (Discussed at April 18-19, 2003, Yellow-billed Cuckoo meeting in Rock Springs, Wyoming).
2. Outfitting camps should not be permitted in yellow-billed cuckoo habitat. (Discussed at April 18-19, 2003, Yellow-billed Cuckoo meeting in Rock Springs, Wyoming).

Pesticide Use

1. Restrict the use of foggers for insect control in yellow-billed cuckoo habitats, especially during the nesting season, so a food source remains available for birds.
2. Chemical insecticides should not be utilized within 500 feet of occupied yellow-billed cuckoo habitats, and chemical herbicides, which do not break down upon contact with soil or water, should be prohibited within 500 feet of riparian areas. Supposedly the use of Demolin to control grasshopper outbreaks does not move through ecological systems. The chemical is an agent that affects only the ability of young grasshoppers to develop an exoskeleton. It is applied only when a potential outbreak is identified and application would not reduce grasshopper numbers to lower than those during a non-outbreak year. Demolin does not affect insects, which do not have exoskeletons. BLM state weed coordinator, Ken Henke, recommends the following as a conservation measure: “Chemical insecticides should not be utilized in occupied cuckoo habitat. In case of a grasshopper outbreak, insecticides other than Demolin should not be utilized within yellow-billed cuckoo habitat. A quarter-mile buffer zone around active nests could be applied.”

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

3. Chemical insecticides or herbicides, if used, should be applied by hand in yellow-billed cuckoo habitats and only in cases where insect invasion or noxious weed outbreak has the potential to degrade area ecological health.
4. In areas adjacent to yellow-billed cuckoo habitats, carefully plan aerial application of herbicides to prevent drift of chemicals into riparian areas

Prescribed Burning

1. Prescribed fire activities will be used only to maintain or enhance yellow-billed cuckoo habitats. Restrictions, such as for smoke dispersal heat intensity, buffer zones, or timing etc., will be incorporated into the fire plan and approved by a BLM biologist prior to conducting the burn. (Developed at April 18-19, 2003, Yellow-billed Cuckoo meeting in Rock Springs, Wyoming).

Wildlife Management

1. Maintain beaver populations where they occur in yellow-billed cuckoo habitats and encourage reintroduction into areas historically occupied by beavers in yellow-billed cuckoo habitats. (Discussed, along with BMPs, at April 18-19, 2003, Yellow-billed Cuckoo meeting in Rock Springs, Wyoming).

CONSERVATION AGREEMENTS

Plants

Ute Ladies'-tresses (Threatened)

No conservation agreements are identified for the Ute ladies'-tresses.

Fish

Colorado River Fishes (Endangered)

No conservation agreements are identified for the Colorado River fishers.

Wildlife

The following conservation agreements for the special status wildlife species within the planning area (bald eagle, black-footed ferret, grizzly bear, Canada lynx, gray wolf, and yellow-billed cuckoo) are identified in each species' respective statewide BA. In addition, the Kemmerer Field Office adheres to the *Final Report and Recommendations from the Wyoming State-wide Bighorn/Domestic Sheep Interaction Working Group* (Wyoming State-wide Bighorn/Domestic Sheep Interaction Working Group 2004), for conservation of bighorn sheep. To strengthen the cooperative approach to the management of wildlife and wildlife habitat on public land at all levels of the respective agencies, the BLM and the Wyoming Game and Fish Department entered into the *Umbrella Memorandum of Understanding Between Wyoming Game and Fish Department and U.S. Department of the Interior Bureau of Land Management (Wyoming) For Management of the Fish and Wildlife Resources on the Public Lands* (WGFD and BLM 1990).

Bald Eagle (Threatened)

As identified in the USFWS Biological Opinion (BLM 2004b), to monitor the impacts of site-specific projects authorized under the Wyoming statewide RMPs that are likely to adversely affect bald eagles, the BLM shall prepare a report describing the progress of each such site-specific project, including

**Appendix A – Conservation Measures, Conservation Agreements,
and BLM-Endorsed Management Strategies for Special Status Species**

implementation of the associated reasonable and prudent measures and impacts to the bald eagle (50 CFR § 402.14[i][3]). The report, which shall be submitted annually to the USFWS's Wyoming Field Office by January 1 beginning after first full year of implementation of the Proposed Action, shall list and describe the following:

1. Adverse effects resulting from activities of each site-specific project
2. When and if any level of anticipated incidental take is approached (as allowed by separate Incidental Take Statements from site-specific formal consultations)
3. When and if the level of anticipated take (as allowed by separate Incidental Take Statements from site-specific formal consultations) is exceeded
4. Results of annual, periodic monitoring that evaluates the effectiveness of the reasonable and prudent measures. Include items such as
 - a. assessment of whether implementation of each site-specific project is consistent with that described in the BA
 - b. compliance with terms and conditions
 - c. documentation of sightings of bald eagles during activities of each site-specific project.

The reasonable and prudent measures, with their implementing terms and conditions and the reporting criteria, are designed to minimize the impact of incidental take that might otherwise result from the authorized activities under the RMP. If, during the course of the authorized activities, any level of incidental take has exceeded that as permitted by site-specific formal consultations for bald eagles, such incidental take represents new information requiring reinitiating consultation and review of the reasonable and prudent measures provided. The BLM must immediately provide an explanation of the causes of the taking, and review with the USFWS the need for possible modification of the reasonable and prudent measures (Appendix Table F-2 of BA) (BLM 2003b) for estimation of activity levels as they correspond to buffer guidelines. Deviations may be made after consultation with the USFWS.

Black-footed Ferret (Endangered)

No conservation agreements have been identified for the black-footed ferret.

Grizzly Bear (BLM Sensitive)

No conservation agreements have been identified for the grizzly bear.

Canada lynx (Threatened)

No conservation agreements have been identified for the Canada lynx.

Gray Wolf (Nonessential/Experimental)

No conservation agreements have been identified for the gray wolf.

Yellow-billed Cuckoo (Candidate)

The follow conservation agreements are taken directly from the *Final Programmatic Biological Evaluation for the Western Yellow-billed Cuckoo (Coccyzus americanus)* in Wyoming (BLM 2003b).

While the BLM does not have any specific management programs or practices regarding the yellow-billed cuckoo (except for the directive to implement management plans that conserve candidate species and their habitats to ensure that actions authorized, funded, or carried out by the BLM do not contribute to the need for the species to become listed), they do have policies in place designed to protect the species' fragile

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

riparian habitats. The following policies were extracted from the RMPs of the four BLM field offices located within the historical range of the Western yellow-billed cuckoo. Not all of these policies are specifically listed in all RMPs; however, for the most part, each is observed and practiced in each field office (Keith Andrews, Personal Communication).

1. No surface disturbance will be allowed within 500 feet of riparian habitats, wetland, and (or) live water unless a high potential for successful rehabilitation exists and (or) impacts will be temporary in nature (BLM-Pinedale Field Office RMP-Page 9, Kemmerer Field Office RMP-Pages 9 & 11, Green River RMP-Page 8, and Great Divide RMP-Page 48).
2. Objectives of the livestock management program in riparian areas will include maintenance, restoration, and improvement of riparian values where livestock grazing has contributed to riparian management problems (BLM-Pinedale Field Office RMP-Page 24, Green River RMP-Page 10, and Great Divide RMP-Page 24).
3. For forest management purposes no clear-cutting or tracked or wheel-type equipment operations will be allowed within a 100-foot buffer of riparian areas (Pinedale RMP-Page 29, Green River RMP-Page 8, and Kemmerer RMP-Page 33).
4. Riparian habitats will be maintained, improved, or restored to provide wildlife habitats, improve water quality, and enhance forage conditions. Where possible, acquisition of additional riparian area acreage will be pursued to enhance riparian area management (BLM—Green River RMP-Page 24, Pinedale RMP-Page 21, and Kemmerer RMP-Page 25).
5. When the BLM considers issuing a project or program the agency has a statutory responsibility under the National Environmental Policy Act to assess potential environmental impacts, including those to federally listed and candidate species under the ESA (Pinedale RMP-Page 21, Kemmerer RMP-Page 25, Green River RMP-Page ROD-1, and Great Divide RMP-Page 1).
6. The BLM also has the statutory authority under the Mineral Leasing Act of 1920, the Mineral Leasing Act for Acquired Lands, and FLPMA to take reasonable measures to avoid or minimize adverse environmental impacts that may result from federally authorized mineral lease activities. This authority exists regardless of whether the surface is federally owned (Pinedale RMP-Page 15 and Great Divide RMP-Page 1).

BLM-ENDORSED MANAGEMENT STRATEGIES

BLM-endorsed management strategies are governed by applicable laws, policies, and other requirements. Often, BLM-endorsed management strategies reflect BMPs as outlined in each species respective biological assessment. The BLM-endorsed management strategies for special status plant and wildlife species are identified below.

Plants

Ute Ladies'-tresses (Threatened)

The follow BLM-endorsed management strategies are taken directly from the *Final Report Statewide Programmatic Biological Assessment: Ute Ladies'-tresses Orchid (Spiranthes diluvialis)* (BLM 2005a). The following BMPs are to be considered on a case-by-case basis at the project level and implemented, where appropriate, to further protect the orchid.

1. When project proposals are received, the BLM will initiate coordination with the USFWS at the earliest possible date so that both agencies can advise on project design. This should minimize the need to redesign projects at a later date to include orchid conservation measures, determined as appropriate by the USFWS.

**Appendix A – Conservation Measures, Conservation Agreements,
and BLM-Endorsed Management Strategies for Special Status Species**

2. The BLM will participate in the development of both, a conservation agreement/assessment strategy and a species specific recovery plan for the orchid in coordination with the USFWS and other agencies, as appropriate. Orchid habitats on BLM-administered lands will be monitored to determine if recovery/conservation objectives are being met.
3. The BLM will coordinate with the USFWS, the National Resource Conservation Service, and private landowners to ensure adequate protection for the orchid and its habitats when new activities are proposed, and to work proactively to enhance the survival of the plant.
4. In the event that a new population of the orchid is found, the USFWS Wyoming Field Office (307-772-2374) will be notified within 1 week of discovery.
5. Livestock grazing, mowing/haying, and some burning are specific management tools that the BLM may use to maintain favorable habitat conditions for the orchid where feasible. Mowing and grazing, with proper timing and intensity, reduce the native and exotic plant competition for light and possibly for water, space, and nutrients.
6. To prevent loss of habitat for the orchid, the BLM “shall retain in Federal ownership all habitats essential for the survival and recovery of any listed species, including habitat that was used historically, that has retained its potential to sustain listed species, and is deemed to be essential to their survival.” Prior to any land-tenure adjustments in *potential* orchid habitats, the BLM will survey to assess the potential for the existence of the orchid. While it is difficult to assess whether the orchid was historically present on such sites, the BLM should try and retain in Federal ownership all habitats essential for the survival and recovery of the orchid, including habitat that was used historically, that has retained its potential to sustain this listed species and is deemed to be essential to their survival. Potential orchid habitat may be used for reintroduction efforts and is important for the recovery and enhancement of the species.
7. Maintain and restore the dynamics of stream systems, including the movement of streams within their floodplains, which are vital for the life-cycle of the orchid. Flow timing, flow quantity, and water table characteristics should be evaluated to ensure that the riparian system is maintained where these plants occur.
8. Maintain and restore the natural species composition and structural diversity of plant communities in riparian zones and wetlands.
9. For the protection of the orchid and its potential habitats, surface-disturbing activities listed above should be avoided in the following areas when they occur outside the protective 0.25 buffer from populations of the orchid: (a) identified 100-year-old floodplains; (b) areas within 500 feet from perennial waters, springs, wells, and wetlands, and; (c) areas within 100 feet from the inner gorge of ephemeral channels.

Fish

Colorado River Fishes (Endangered)

No BLM-endorsed management strategies are identified for Colorado River Fishes.

Wildlife

The BLM-endorsed management strategies for the bald eagle, black-footed ferret, grizzly bear, Canada lynx, gray wolf, and yellow-billed cuckoo are identified below. These management strategies are identified in each species’ respective statewide BA.

Bald Eagle (Threatened)

The following BLM-endorsed management strategies are taken directly from the final statewide programmatic Bald Eagle (*Haliaeetus leucocephalus*) BA (BLM 2003a).

Section 7(a)(1) of ESA directs federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that minimize or avoid adverse effects of a proposed action on listed species or critical habitats, help implement recovery plans, or develop information. The recommendations provided here relate to the proposed action only and do not necessarily represent complete fulfillment of the agency's section 7(a)(1) responsibility for these species.

1. The USFWS recommends that when project proposals are received, the BLM initiate coordination with the USFWS at the earliest possible date so that the USFWS can provide information on natural resource issues. This should minimize the need to redesign projects at a later date to include conservation measures that may be determined as appropriate by the USFWS.
2. The USFWS recommends that BLM-administered lands within 1 mile of an integral part of bald eagle habitats, including nests, communal winter roosts, and foraging/concentration areas, not be exchanged or sold. If it is imperative that these lands are transferred out of BLM ownership, then every effort should be made to include conservation easements or voluntary conservation restrictions around the important bald eagle habitats to restrict activities of the property and protect the bald eagles from disturbance and their habitat from destruction.
3. The USFWS recommends that proponents of BLM-authorized actions be advised that roadside carrion can attract foraging bald eagles and potentially increase the risk of vehicle collisions with bald eagles feeding on carrion. When large carrion occurs on the road, appropriate officials should be notified for necessary removal.
4. The USFWS recommends that BLM coordinate with APHIS - Wildlife Services Division to minimize potential impacts to the bald eagle and its habitats from pest/predator control programs that may be included in the local animal damage control plan. The USFWS also should be included in this coordination.
5. The USFWS recommends that proposed and future water projects not be designed to discharge into drainages or reservoirs occurring within 500 feet of county roads and highways. This measure is intended to (1) minimize vehicle collisions with wildlife using the water source, and (2) minimize the occurrence of eagle-vehicle collisions resulting from eagles feeding on road-killed wildlife.
6. The USFWS recommends that BLM provide educational information to project proponents and the public pertaining to the following topics: appropriate vehicle speeds and the associated benefit of reduced vehicle collisions with wildlife; use of lead shot (particularly over water bodies); use of lead fishing weights; and general ecological awareness of habitat disturbance.
7. The USFWS recommends that BLM coordinate with other agencies and private landowners to identify voluntary opportunities to modify current land stewardship practices that may impact the bald eagle and its habitats.
8. Since bald eagles often depend on aquatic species as prey items, the USFWS recommends that BLM periodically review existing water quality records (e.g., Wyoming Department of Environmental Quality (WDEQ), WGFD, U.S. Geological Survey (USGS), etc.) from monitoring stations on, or near, important bald eagle habitats (i.e., nests, roosts, concentration areas) on public land for any conditions that could adversely affect bald eagles or their prey. If water

**Appendix A – Conservation Measures, Conservation Agreements,
and BLM-Endorsed Management Strategies for Special Status Species**

quality problems are identified, the BLM should contact the appropriate jurisdictional entity to cooperatively monitor the condition and (or) take corrective action.

9. The USFWS recommends that BLM projects with the potential to disturb bald eagles should be implemented in the least amount of time and during periods least likely to affect the bald eagle.

For the USFWS to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the USFWS requests notification of the implementation of any conservation recommendations.

Black-footed Ferret (Endangered)

The following BLM-endorsed management strategies are taken directly from the *Final Statewide Programmatic Biological Assessment: Black-footed Ferret (Mustela nigripes)* (BLM 2005b).

1. Develop prairie dog management plans with ongoing monitoring and protection of prairie dog towns and complexes on towns with high priority for black-footed ferret reintroductions.
2. Follow the guidelines outlined in the *Wyoming Black-tailed Prairie Dog Management Plan* and the *White-tailed Prairie Dog Conservation Assessment*. Encourage the Wyoming Board of Agriculture to give regulatory management of prairie dogs to the WGFD to remove the unprotected “pest” status on prairie dogs and provide regulatory mechanisms for recreational shooting of prairie dogs.
3. Establish land-stewardship agreements with other agencies and (or) private landowners where large (1,000-acre) prairie dog towns or complexes exist. These agreements can control potential uses that may be detrimental to prairie dogs and their habitats, while preserving the landowner’s intent for use.
4. Avoid sale or exchange of lands with the potential for black-footed ferret reintroductions and attempt to acquire parcels with prairie dogs on them, especially those that have potential as part of a black-footed ferret reintroduction effort.
5. Initiate, to the extent feasible, land exchanges in the Thunder Basin and Shirley Basin in areas with potential for black-footed ferrets, to increase the land area in federal ownership.
6. Avoid vegetation stand conversions that have been shown to be detrimental to prairie dogs, and reduce or eliminate any other suspected ecosystem-degrading practices.
7. Encourage, support, and (or) establish a prairie dog research program, addressing issues such as the effect of recreational shooting and oil and gas development on prairie dogs, sylvatic plague control, and population viability analysis.
8. Because knowledge of the effects of resource extraction on white-tailed prairie dog populations is limited, monitoring at sites before, during, and after energy development is recommended (Seglund et al. 2004).

Grizzly Bear (BLM Sensitive)

The following BLM-endorsed management strategies are taken directly from the *Final Statewide Programmatic Biological Assessment: Grizzly Bear (Ursus arctos)* (BLM 2005c).

1. To reduce potential conflicts between grizzly bears and livestock, the BLM should phase out sheep allotments in occupied grizzly bear habitats as opportunity arises. Existing sheep allotments in occupied grizzly bear habitats should be monitored and evaluated for conflicts between grizzly bears and sheep. The BLM should offer no new permitted sheep Animal Unit

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

Months (AUMs) in grizzly bear habitats where conflicts have occurred in the past, or are likely to occur in the future.

2. The BLM should adjust management of domestic livestock on public land allotments or leases to minimize grizzly bear and livestock conflicts (such as season of use, class of livestock, etc.).
3. The BLM should include a clause on all use authorizations that allows for permanent cancellation, temporary cancellation, or temporary cessation of activities if such are needed to resolve a grizzly bear and human conflict situation.
4. Wherever possible, the BLM should reduce motorized access routes in occupied grizzly bear habitats and try to avoid authorizing any new motorized access in occupied grizzly bear areas (i.e., big game ranges).
5. Wherever possible, the BLM will implement appropriate closures or seasonal restriction areas to cross-country motorized travel to provide more security in occupied grizzly bear habitats.
6. Where possible, maintain road densities of less than 1 mile per square mile in occupied grizzly bear habitats. Where existing road densities are currently below 1 mile per square mile, avoid increases in road density to maintain management options and secure habitat. Consider all big game winter range areas as areas where road density objectives are less than 1 mile of road per square mile.
7. The BLM should initiate a habitat mapping and monitoring effort for the grizzly bear. Habitat mapped on BLM lands will be done using Geographic Information System (GIS) technology. Secure habitat, open motorized access route density (roads that are actively used) greater than 1 mile per square mile, and total motorized access route density (includes all roads, even gated roads) greater than 2 miles per square mile will be monitored utilizing the Yellowstone Grizzly Bear Cumulative Effects Model GIS databases, and will be reported annually, as is described in and conducted in the PCA.
8. In areas of vital importance to grizzly bears (known denning areas, army cutworm moth aggregations, cutthroat trout spawning sites, spring ungulate concentration sites, etc.), activities that adversely affect grizzly bear populations and (or) their habitats should be avoided. Adverse habitat effects could result from land surface disturbances; water table alterations; reservoirs, ROW, roads, pipelines, canals, transmission lines, or other structures; increased human foods; and reduced availability of natural foods. Areas of vital importance to grizzlies are identified through the evaluation process described in the *Grizzly Bear Management Guidelines*.

Canada Lynx (Threatened)

The following BLM-endorsed management strategies are taken directly from the *Final Statewide Programmatic Biological Assessment: Canada Lynx (Lynx canadensis)* (BLM 2005d).

1. Design regeneration prescriptions to mimic historical fire (or other natural disturbance) events, including retention of fire-killed trees and coarse woody debris.
2. Design harvest units to mimic the pattern and scale of natural disturbances and retain natural connectivity across the landscape. Evaluate the potential of riparian zones, ridges, and saddles to provide connectivity.
3. Provide for continuing availability of foraging habitat in proximity to denning habitats.
4. In areas where recruitment of additional denning habitats is desired, or to extend the production of snowshoe hare foraging habitats where forage quality and quantity is declining due to plant succession, consider improvement harvests (commercial thinning, selection, etc). Improvement

**Appendix A – Conservation Measures, Conservation Agreements,
and BLM-Endorsed Management Strategies for Special Status Species**

harvests should be designed to retain and recruit the understory of small-diameter conifers and shrubs preferred by hares; retain and recruit coarse woody debris, consistent with the likely availability of such material under natural disturbance regimes; and maintain or improve the juxtaposition of denning and foraging habitats.

5. Provide habitat conditions through time that support dense horizontal understory cover and high densities of snowshoe hares. This includes, for example, mature multistoried conifer vegetation. Focus vegetation management, including forest management and use of prescribed fire, in areas that have the potential to improve snowshoe hare habitats (dense horizontal cover), but that presently have poorly developed understories with little value to snowshoe hares.
6. Design burn prescriptions to promote response by shrub and tree species favored by snowshoe hare and thus regenerate or create snowshoe hare habitats (e.g., regeneration of aspen and lodgepole pine).
7. Design burn prescriptions to retain or encourage tree species composition and structure that will provide habitats for red squirrels or other alternate prey species.
8. Consider the need for pretreatment of fuels before conducting management ignitions.
9. Design burn prescriptions and, where feasible, conduct fire-suppression actions in a manner that maximizes lynx denning habitats.
10. Map and monitor the location and intensity of snow-compacting activities (for example, snowmobiling, snowshoeing, cross-country skiing, dog sledding, etc.) that coincide with lynx habitats to facilitate future evaluation of effects on lynx as information becomes available. Discourage recreational use in areas where it is shown to compromise lynx habitats. Such actions should be undertaken on a priority basis considering habitat function and importance.
11. Provide a landscape with interconnected blocks of foraging habitat where snowmobile, cross-country skiing, snowshoeing, or other snow-compacting activities are minimized or discouraged.
12. Identify and protect potential security habitats in and around proposed developments or expansions.
13. Determine where high total road densities (>2 miles per square mile) coincide with lynx habitats and prioritize roads for seasonal restrictions or reclamation in those areas.
14. Minimize roadside brushing to provide snowshoe hare habitats.
15. Limit public use on temporary roads constructed for timber sales. Design new roads, especially entrances, for effective closure upon completion of sale activities.
16. Limit public use on temporary and permanent roads constructed for access to timber sales, mines, and leases. Design new roads, especially entrances, for effective closure. Upon project completion, reclaim or obliterate these roads.
17. Minimize road building directly on ridgetops or areas identified as important for lynx habitat connectivity.
18. To reduce accidental shooting of lynx, initiate and (or) augment interagency information and education efforts throughout the range of lynx in the contiguous states. Utilize trailhead posters, magazine articles, news releases, state hunting and trapping regulation booklets, and so on to inform the public of the possible presence of lynx, field identification, and their status.
19. Where needed, develop measures, such as wildlife fencing and associated underpasses or overpasses, to reduce mortality risk.
20. Where feasible within identified key linkage areas, maintain or enhance native plant communities

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

and patterns and habitat for potential lynx prey. Pursue opportunities for cooperative management with other landowners. Evaluate whether land ownership and management practices are compatible with maintaining lynx highway crossings in key linkage areas. On public lands, management practices will be compatible with providing habitat connectivity. On private lands, agencies will strive to work with landowners to develop conservation easements, exchanges, or other solutions.

21. Dirt and gravel roads traversing lynx habitats (particularly those that could become highways) should not be paved or otherwise upgraded (e.g., straightening of curves, widening of roadway, etc.) in a manner that is likely to lead to substantial increases in traffic volumes, traffic speeds, increased width of the cleared ROW, or would foreseeably contribute to development or increases in human activity in lynx habitats. Whenever rural dirt and gravel roads traversing lynx habitats are proposed for such upgrades, a thorough analysis should be conducted on the potential direct and indirect effects to lynx and lynx habitats.
22. In land-adjustment programs, identify key linkage areas. Work toward unified management direction via habitat conservation plans, conservation easements or agreements, and land acquisition.
23. Plan recreational development, and manage recreational and operational uses to provide for lynx movement and to maintain effectiveness of lynx habitats.
24. Identify, map, and prioritize site-specific locations using topographic and vegetation features to determine where highway crossings are needed to reduce highway impacts on lynx.
25. Using best available science, develop a plan to protect key linkage areas on federal lands from activities that would create barriers to lynx movement. Barriers could result from an accumulation of incremental projects, as opposed to any one project.
26. When opportunities for vegetation treatments come up, develop treatments that provide or develop characteristics suitable for snowshoe hare.
27. Protect existing snowshoe hare and red squirrel habitats.

Gray Wolf (Nonessential/Experimental)

The following BLM-endorsed management strategies are taken directly from the *Final Statewide Programmatic Biological Assessment: Gray Wolf (Canis lupis)* (BLM 2004a).

1. Avoid an increase in miles of road in elk crucial winter range.
2. Avoid situations that allow for wolves to habituate to humans, or become exposed to and use human refuse as a food source.
3. Foster public outreach/education programs to provide information on wolves in schools, campgrounds, and other places. Topics can include, but are not limited to, how to be safe around wolves, wolf ecology, wolf mortality factors, and livestock grazing practices harmful to wolves.
4. Continue to support the research and documentation of wolf/livestock interactions and livestock grazing practices to improve these practices so they are more compatible with wolves.
5. Continue to provide and improve wolf habitats by monitoring elk populations and improving habitats for elk.
6. Encourage reporting of wolf observations by BLM staff and the public to WGFD.

Yellow-billed Cuckoo (Candidate)

The follow BLM-endorsed management strategies are taken directly from the Final Programmatic Biological Evaluation for the Western Yellow-billed Cuckoo (*Coccyzus americanus*) in Wyoming (BLM 2003b).

Riparian Habitat Management

1. All riparian areas of 20 hectares or more should be managed to preserve, protect, and, if necessary, restore natural functions in compliance with Executive Orders 11988 (requires agencies to preserve natural values served by floodplains) and 11990 (requires avoidance of adverse impacts associated with destruction or modification of wetlands), with the objective of minimizing degradation of stream banks and the loss of riparian habitats.
2. Where possible, acquisition of additional riparian area acreage should be pursued to enhance riparian area management per Executive Orders 11988 and 11990.
3. Stabilize and protect eroding stream banks in cuckoo habitats. Activities that could erode the stream bank should be restricted.
4. When possible, fence occupied cuckoo habitats to exclude livestock where livestock grazing is determined to impede regeneration of the habitats.
5. Improve adjacent upland forage to lure livestock out of riparian areas.
6. Develop shade and water (wells, windmills, guzzlers, or water piped from the stream) in upland areas to help spread grazing pressure. Provide escape ramps in water tanks to prevent drowning.

General Construction Activities

1. ROW should be placed near current habitat edge areas to reduce fragmentation of larger blocks of pristine habitats.
2. Avoid building roads or new trails parallel to streams in riparian zones or through wet meadows. Stream crossings should be at right angles to minimize impacts on riparian vegetation, stream banks, soils, and water quality.
3. Avoid straightening or diverting sections of stream channels. These activities increase stream velocity and erosion, reduce stream bank stability, and adversely affect upstream and downstream habitats.

Developed Recreation Areas

1. Promote “Tread Lightly” recreation ethics. Educate recreationists about problems humans can cause in riparian habitats and how they can avoid damaging these areas.
2. Plant dense native vegetation, such as willows, to screen and reduce human use of fragile or vulnerable riparian areas.

Pesticide Use

1. The BLM should work with APHIS and the USFWS to select a pesticide and method of application that would most effectively manage the insect infestation and least affect the yellow-billed cuckoo. Where possible, biological control should be used rather than chemical control.

Water Use

1. Avoid depleting groundwater and diverting streams outside their natural stream channels.

Appendix A – Conservation Measures, Conservation Agreements, and BLM-Endorsed Management Strategies for Special Status Species

Lands and Realty

1. Lands containing occupied cuckoo habitats should not be sold or exchanged. If lands containing yellow-billed cuckoo habitats are exchanged, sold, or acquired, a strategy to protect the species should be developed. (Developed at April 18-19, 2003, Yellow-billed Cuckoo meeting in Rock Springs, Wyoming).

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***Appendix A – Conservation Measures, Conservation Agreements,
and BLM-Endorsed Management Strategies for Special Status Species***

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