APPENDIX A—BEST MANAGEMENT PRACTICES

In addition to the road management guidelines in **Appendix D,** Aquatic and Riparian Management Strategy, these BMPs expand and supplement the basic guidelines and minimum requirements of the BLM manual, the Idaho Department of Lands (Forest Practices Regulations), Idaho Department of Water Resources Stream Channel Alteration Regulations, and the Corps of Engineers 404 Regulations. Additional BMPs may be added or existing BMPs can be modified as needed with interdisciplinary review and/or in cooperation with other state and federal agencies. The most current and effective BMPs will be selected for every project, whether or not those BMPs are on this list. The lists in **Appendix A** are partial and adaptable to project demands and/or developing technology.

ROAD PLANNING—DESIGN AND LOCATION

1) Plan road standards and specifications that maintain forest productivity, water quality, and fish and wildlife habitat.

2) Ensure that road specifications and plans are consistent with good safety practices.

3) Plan each road to the minimum standards for the intended use. Adapt the plans to the soil materials and terrain to minimize disturbance and damages to forest productivity, water quality, and wildlife habitat.

4) Plan transportation networks to avoid road construction within riparian conservation areas. Vegetation strips between roads and streams will be of adequate size to support achievement of indicators of watershed/aquatic conditions.

5) Minimize and balance cuts and fills, especially near streams.

6) Plan to dispose of excavated waste material on geologically stable sites and away from Riparian Conservation Areas.

7) Design full-bench roads for slopes over 60 percent. End-haul excess material to a geologically stable site for disposal and away from Riparian Conservation Areas. Use balanced cut-and-fill road construction where practical.

8) Plan natural road cross-drainage by insloping and using relief culverts or outsloping and by grade changes. Plan for effective well-placed dips or water bars.

9) Design relief culverts or roadside ditches to prevent fill erosion or direct discharge of sediment into streams.

10) Minimize the number of stream crossings. Comply with Stream Channel Alteration Law (Title 42, Chapter 38, Idaho Code) and ensure that all Class I stream culvert installations allow fish passage.

11) Emphasize the use of existing roads (through continued use or reconstruction) to minimize new road construction.

12) Consider temporary or permanent road closure for all dead-end roads or roads with an expected duration of use of fewer than five years.

13) For long-term roads, design bridges or culverts for 100-year flood.

14) Design road drainage systems to avoid direct sediment discharge into streams. Use the Forest Service "Guide for Controlling Sediment from Secondary Logging Roads" or equivalent to assist in drainage design.

MINOR ROAD CONSTRUCTION

1) For any repair work in streams occupied by native fish, instream work will be timed to avoid disturbance of staging adult fish, redds, or gravels with unemerged juveniles where possible. Timing restrictions may be waived in cases of overriding safety concerns or the threat of further severe resource damage.

2) Disturbed areas will be seeded following work, mulch may be applied.

3) Fuel storage and fueling of equipment will not occur within streamside riparian habitat conservation areas (RHCAs).

4) Before working in a stream channel or in a streamside RHCA, all heavy equipment or other machinery will be inspected for hydraulic or other leaks. Fix identified problems before entering areas that drain directly to stream. Clean equipment with accumulations of oil, grease, or other toxic materials prior to use in these areas. An emergency spill containment kit will be located on site during construction activity.

ROAD CONSTRUCTION

1) Construct roads in a manner that prevents debris, overburden, and excess materials from entering streams. Deposit excess materials outside of stream protection zones.

2) Construct roads to comply with Idaho Forest Practices Act plan and design guidelines.

3) Provide for quarry drainage to prevent sediment from entering streams.

4) Clear drainage ways of all debris generated during construction or maintenance that may interfere with drainage or affect water quality.

5) When constructing roads near streams, use slash filter windrows to minimize sediment reaching the stream. Minimize the amount of woody debris buried in embankments and minimize the amount of snow, ice, and frozen soil added to embankments.

6) Construct road stream crossings or roads constricting on a stream channel in compliance with the Stream Channel Alteration Law (Title 42, Chapter 38, Idaho Code).

7) Before fall or spring runoff, stabilize slopes where exposed material (such as excavation, embankment, waste piles) may erode and enter streams by seeding, compacting, riprapping, benching, mulching, or other suitable means.

8) Construct stream culverts, cross drains, or relief culverts to prevent erosion. Use riprap, woody debris, downspouts, or similar devices to prevent erosion of fills. Culverts in natural drainage ways would be oriented to minimize fill slope erosion or to carry water beyond fills. Install drainage structures on roads before fall or spring runoff.

9) Install relief culverts with a minimum drain grade of two percent.

10) Design roads to balance cuts and fills or use full bench construction where stable fill construction is not possible.

11) Minimize sediment production from borrow pits and gravel sources through proper location, development, and reclamation.

12) Place debris, overburden, and other waste materials associated with construction and maintenance where they will not enter streams. Include these waste areas in soil stabilization planning for the road.

13) In rippable materials, construct roads with no overhanging banks.

ROAD DRAINAGE

1) Provide adequate drainage from the surface of all roads by using outsloped or crowned roads, drain dips, or insloped roads with ditches and cross-drains or relief culverts.

2) Vary road grades to reduce concentrated flow in road surface, ditches, and culverts and on fill slopes and road surfaces.

3) Size drainage structures appropriately to handle anticipated flow during normal runoff or storms.

4) Outsloped Roads: Outsloped roads provide means of dispersing water in a low-energy flow from the road surface. Outsloped roads are appropriate when fill slopes are stable, drainage will not flow directly into stream channels, and transportation safety considerations can be met.

5) Insloped Roads: For insloped roads, generally design ditch gradients to be between two and eight percent to prevent sediment deposition and ditch erosion. The higher gradients may be suitable for more stable soils; use the lower gradients for less stable soils.

6) Drain Dips: Construct drain dips deep enough into the subgrade so that traffic will not obliterate them. Dips should be angled 20 to 45 degrees perpendicular to the road and have a drainage grade of two to eight percent.

7) Prevent downslope movement of sediment by using sediment catch basins, drop inlets, changes in road grade, headwalls, recessed cut slopes, slash filter windrows, or other design features.

8) Where possible, install relief culverts at the gradient of the original ground slope; otherwise armor outlets with rock or anchor downspouts to carry water across the fill slope.

9) Skew relief culverts 20 to 30 degrees toward the inflow from the ditch to improve inlet efficiency. Develop the catch basin at sufficient size to prevent the culvert inlet from plugging.

10) Provide energy dissipaters (for example, rock piles and logs) where necessary to reduce the erosion energy of the emerging water.

11) Prevent cross drains, culverts, water bars, dips, and other drainage structures from discharging onto erodible soils or fill slopes without outfall protection.

12) Design roads for minimal disruption of drainage patterns.

13) Route road drainage through vegetative filtration fields, slash windrows, or other sediment settling structures. Install road drainage features above stream crossings to route discharge into filtration zones before entering a stream.

ROAD MAINTENANCE

1) Maintain erosion control features through periodic inspection and maintenance, including cleaning dips and cross-drains, repairing ditches, marking culvert inlets to aid in location, and clearing debris from catch basins and culverts.

2) Avoid using roads during wet periods if such use would damage the road drainage features.

3) Apply dust abatement or other surface stabilizing chemicals to prevent entry into streams. Do not place in road ditches, and do not allow pooling on the road surface.

4) Evaluate all bridges and culverts on roads to be closed to determine the need for removal or periodic maintenance.

5) Inspect roads after major runoff events and intense or prolonged rainstorms, placing priority on roads in municipal watersheds.

6) Design stream channel crossings as near to a right angle with the stream as possible to minimize disturbance to banks and existing channels.

7) For road segments that parallel stream courses, consider the need for stream shade along with safety considerations during brushing operations. This may necessitate hand brushing, partial brushing, or limbing, with consideration for providing growth for future shade.

8) When removing down logs in the road which extend into a stream, any material on the fill slope and in the stream will not be removed to provide for woody debris recruitment, except in cases where the retention of this material would result in a safety concern (i.e., downstream facilities).

ROAD MAINTENANCE PRECAUTIONS

1) Grade road surfaces only as often as necessary to maintain a stable running surface and to retain the original surface drainage.

2) Avoid cutting the toe of cut slopes when grading roads or pulling ditches.

3) Place all excess material removed by maintenance operations in safe disposal sites and stabilize these sites to prevent erosion. Avoid locations where erosion will carry materials into a stream.

4) Avoid sidecasting material where these materials may be introduced into a stream, or where the placement of these materials will contribute to destabilization of the slope.

SNOW REMOVAL

1) Snow will not be completely removed. In general, a minimum two inches of snow must be left on the roadway during plowing operations to protect the surface of the road.

2) Prevent plugging ditches and culverts during snow plowing operations.

3) Sidecast material will not include dirt and gravel.

4) Snow berms will not be left on the road or shoulder unless drainage holes are opened and maintained. Drainage holes will be spaced as required to obtain satisfactory surface drainage without discharge on erodible fills.

5) Damage from, or as a result of snow removal, will be restored in a timely manner.

TIMBER HARVESTING

1) Stabilize or reclaim landings and temporary roads on completion of use. Landings and temporary roads should be deep ripped a minimum of 18 inches to improve site productivity, infiltration, and reduce overland flow. Preferred seed mixes would include native species and if needed annual rye (or similar species) to provide for faster establishment of ground cover. Sites should have a light layer of mulch to prevent erosion. Placement of woody debris and slash (generally one to twelve inches in diameter) should be placed over approximately 50 percent of the site.

2) For each landing, skid trail, or fire trail, provide and maintain a drainage system to control the dispersal of water and to prevent sediment from entering streams. Timely implementation is important; refer to the spacing chart below.

3) When natural revegetation is inadequate to prevent accelerated erosion before the next growing season, apply seed or construct cross-ditches on skid trails, landings, and fire trails. A light ground cover of slash or mulch will retard erosion.

4) Follow-up evaluation of stabilization measures should be conducted to insure that restoration measures are adequate for revegetation, soil productivity, and stabilization.

5) Timber harvest on frozen ground should have a minimum snow cover of one foot and should be stopped during periods of thawing or other wet periods. If any rutting of native surface roads occurs, winter logging activity and hauling should be stopped during these periods.

Table A-1
Recommended Cross-Ditch Spacing Distance for Roads and Skid Trails

Grade of Road or Trail	Unstable Soils (High Erosion Hazard)	Stable Soils (Low Erosion Hazard)
2 percent	135 feet	170 feet
5 percent	100 feet	140 feet
10 percent	80 feet	115 feet
15 percent	60 feet	90 feet
20 percent	45 feet	60 feet
25+ percent	30 feet	40 feet

US ENVIRONMENTAL PROTECTION AGENCY REGION 10 SOURCE WATER PROTECTION BEST MANAGEMENT PRACTICES FOR FOREST SERVICE AND BLM

Introduction

The following pages include a listing of BMPs. Some are required by Forest Service and BLM management plans or by state administrative code. Others are recommendations or are informed by a legal decision. This list represents an initial effort to compile BMPs from a host of sources to assist in protection of drinking water sources. The first two sections define "Conservative Riparian Reserve Widths" and "Riparian Habitat Conservation Areas." The third, "Watershed Management Planning," pertains generally to all actions undertaken by the Forest Service or BLM. The remaining sections pertain to more specific types of activities, facilities, or structures on Forest Service or BLM lands, such as roads, recreational facilities, and fire suppression activities.

Context and Background

The Forest Service and BLM have a long history of using BMPs related to timber harvest, grazing, mining, and other land management activities to reduce adverse impacts to water quality. Forest and range land management activities generate diffuse sources of pollution known as nonpoint sources. Assessments of water quality completed at the national level and at the watershed scale have consistently demonstrated that nonpoint sources of pollution (agriculture, mining, construction, forestry, etc.) are the primary cause of water quality impairment. Point sources of pollution, such as wastewater treatment facilities and factories, are required to treat effluent to meet water quality standards consistent with state or federally issued discharge permits. Nonpoint sources require a different approach. BMPs are the primary management mechanism for preventing or reducing impacts to water quality from nonpoint sources. Many states have designated the Forest Service and BLM as the management agencies for implementing BMPs on lands they manage to ensure that water quality standards are met.

Forest Service and BLM lands, usually located in the upper portion of a watershed, capture a significant portion of the precipitation that ends up as drinking water for millions of people in the Pacific Northwest. The Safe Drinking Water Act required states to delineate source water areas for every public drinking water system and assess risks of potential contamination within those areas. Infrastructure and activities of the Forest Service and BLM are included among many identified

potential sources of contamination to drinking water supplies. Careful planning and implementation can mitigate the risks of contamination from Forest Service and BLM operations and activities.

The effectiveness of BMPs applied on federal lands affects the quality of water entering drinking water wells and intakes on both federal lands and downstream nonfederal lands. Providing the highest quality water possible to the drinking water intakes should be an overriding goal of BMPs. BMPs cover a full spectrum of active and passive measures and can be applied during assessment, planning, project implementation, and monitoring activities. The following BMPs are an initial draft starting point for helping to ensure that public health is protected and that water treatment and facility operation and management costs are minimized. This list is intended to serve as a menu from which appropriate BMPs can be selected for a specific plan or project. It is not a comprehensive list. Additional BMPs may be appropriate depending on the project.

These BMPs come from a variety of sources, some of which pertain to specific geographic regions. As best management practices, they can be applied in other geographic regions as well. Some of them are clearly designed to protect water quality for fish and other aquatic life. They are appropriately included in this list because good water quality also benefits drinking water supplies.

BEST MANAGEMENT PRACTICES

Watershed Management Planning

1) Employ Watershed Restoration Projects where appropriate to repair degraded watershed conditions and improve water quality and soil stability.

2) Avoid, where possible, the long- and short-term adverse impacts to water quality associated with the occupancy and modification of floodplains.

3) Avoid destruction of wetlands.

4) Prevent contamination from accidental spills.

   - An Oil and Hazardous Substance Spill Contingency Plan is a predetermined organization and action plan to be implemented in the event of a hazardous substance spill.

   - A Spill Prevention Control and Countermeasures Plan is required if the total amount of oil products on site in aboveground storage exceeds 1,320 gallons, or if a single container exceeds a capacity of 660 gallons.

5) Ensure activities conducted under Special Use Permits are protective of source waters.

6) Conduct water quality monitoring to determine the effects of land management activities on the beneficial uses of water, and to ensure the health and safety of water users.

7) Minimize the amount of erosion and sedimentation at developed sites.[1]

[1]General Water Quality Best Management Practices, Pacific Northwest Region, November 1988.

8) Take active measures, if necessary, to avoid any activity within 300 yards of a spring used as a source of drinking water.[2]

Hardrock Mining

Concern for: Surface water, groundwater

Contaminants: Metals (e.g., lead, selenium, cadmium, copper, zinc, arsenic, mercury), acidity (low pH), cyanide, sulfate, turbidity.

Both the Forest Service and BLM have extensive internal guidance on mine permitting and reclamation requirements.

Two documents available on the US EPA Region IX Web site provide detailed information that should be reviewed when addressing mining issues:

US EPA and Hardrock Mining: A Source Book for Industry in the Northwest and Alaska, US EPA Region 10, January 2003 http://yosemite.epa.gov/r10/water.nsf/59f3b8c4fc8c92398825 6b580060f5d9/e4ba15715e97ef2188256d2c00783a8e!OpenDocument

Inactive Mine Site Characterization and Cleanup Handbook, US EPA 910-8-00-001, US EPA, August 2000 http://yosemite.epa.gov/R10/CLEANUP.NSF/9f3c21896330b4898825687 b007a0f33/f47 24f10ccdc2f4d8825699a007861dd?OpenDocument

BLM Districts in Idaho should consult: *Best Management Practices for Mining in Idaho*, prepared by the Idaho Department of Lands, in conjunction with other state and federal agencies through the Idaho Mining Advisory Committee, 1992.

Grazing

Concern for: Surface water

Contaminants: Pathogens (E. coli, cryptosporidium, viruses, giardia lambia), sediment, turbidity, phosphate, nitrates, coliform, sulfate.

Sources: Drinking Water from Forests and Grasslands: A Synthesis of Scientific Literature, United States Department of Agriculture Forest Service, General Technical Report SRS-39, September 2000, pp. 153-156. Potential Sources of Drinking Water Contamination Index, US EPA. www.epa.gov/safewater/swp/sources1.html.

Best Management Practices:

1) Manage the timing and intensity of grazing to:

[2]US EPA Region 10 recommendations.

- enhance, or at a minimum, prevent the degradation of, riparian vegetation;
- enhance infiltration of surface water into the ground; and
- ensure stream banks are protected.

2) Manage the timing and intensity of grazing to within source water protection areas. Sheep grazing is preferable over cattle because sheep tend to graze in upland areas while cattle tend to spend time in the streams.

3) The exclusion of cattle from areas where cryptosporidium may be a concern (such as Source Water Areas) should be considered. If this is not feasible, livestock younger than four months should be kept out of the watershed, because calves have not yet developed resistance, and shed greater numbers of oocysts than older animals.[3]

4) Locate new livestock handling and/or management facilities outside Riparian Reserves. For existing livestock handling facilities inside the Riparian Reserve, ensure that Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met, require relocation or removal of such facilities.[4]

5) Manage livestock numbers and season of use to maintain and protect soil and water resources.

6) Construct fences or other barriers to keep livestock out of sensitive areas where loss of vegetative cover, soil compaction, or riparian impairment could adversely impact water quality.[5]

Landfills

Concern for: Groundwater, surface water

Contaminants: Volatile organic compounds, heavy metals, pesticides, nitrates and nitrites, semi-volatile organic compounds.

Source: Potential Sources of Drinking Water Contamination Index, US EPA. www.epa.gov/safewater/swp/sources1.html

Best Management Practices:

1) Site new landfills outside of source water protection areas if possible. If not possible, site them where they are unlikely to pose a threat to ground water or surface waters.

2) For historic landfills located in source water protection areas, examine existing data to determine whether they may pose a threat to the drinking water source. If a landfill may pose a threat,

[3]Drinking Water from Forests and Grasslands: A Synthesis of Scientific Literature, United States Department of Agriculture Forest Service, General Technical Report SRS-39, September 2000, pp. 153-156.
[4]Aquatic Conservation Strategy, Attachment A to the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within Range of the Northern Spotted Owl, pp. C-33.
[5]General Water Quality Best Management Practices, Pacific Northwest Region, US Forest Service, November 1988.

collect additional data to determine whether it does. If it does, plan and implement appropriate mitigative action.[6]

Recreation Sites

Concern for: Groundwater, surface water

Contaminants: Turbidity, sedimentation, fecal material, household cleansers and detergents, garbage and other floatables, cooking grease and oil, antifreeze, motor oil, illegal dumping of hazardous materials.

Best Management Practices:

1) Wastewater from sanitation facilities can contaminate surface and groundwater with bacteria, nutrients, and chemicals. Sanitation facilities (ranging from pit toilets to treatment plants) will be planned, located, designed, constructed, operated, inspected, and maintained to minimize possibilities of water contamination. All activities related to location, design, inspection, operation, and maintenance will be performed by trained, qualified personnel.

2) Refuse disposal will be managed to protect surface and subsurface soil and water resources from contamination by nutrients, bacteria, and chemicals.

3) Prohibit discharges and disposal of human and animal waste, petroleum products, and other hazardous substances in or near streams in recreation areas. Educate the public to conduct their activities in ways that will not degrade water quality.

4) Avoid degradation of water quality by locating pack and riding stock facilities at safe locations away from springs, streams, lakes, wet meadows, and other surface waters.[7]

5) Recreational vehicle sewage waste should not be disposed of in septic system drainfields given the potential for chemicals in the sewage waste to kill the microorganisms that drainfields need to function.[8]

Timber Management

Concern for: Surface water

Contaminants: Turbidity, decreased dissolved oxygen, pathogens, nitrogen.

Best Management Practices:

1) Plan, supervise, and implement forest projects that will minimize soil compaction and soil disturbance.

2) Maintain as much ground cover as possible to reduce surface runoff and erosion.

[6]US EPA Region 10 recommendations.
[7]General Water Quality Best Management Practices, Pacific Northwest Region, Forest Service, November 1988.
[8]US EPA Region 10 recommendation.

3) Minimize site disturbance.

4) Reestablish vegetation as soon as practicable.

5) Keep pesticides and fertilizers out of surface waters.[9]

6) Prevent downstream water quality degradation by the timely identification of areas.

7) Use mitigative measures to reduce the impacts of erosion, and subsequent sedimentation, on log landings.

8) Ensure that constructed erosion control structures are stabilized and working.

9) Prevent pollutants such as fuels, lubricants, bitumens, raw sewage, wash water and other harmful materials from being discharged into or near rivers, streams, and impoundments or into natural or man-made channels leading thereto.[10]

Fire Management

Concern for: Surface water

Contaminants: Sediment and turbidity, nitrates, nitrites, sulfate, pH, total dissolved solids, chloride, iron, phosphate, taste/color/smell.

Forest Service Emerging Contaminant: fire retardant.

Best Management Practices:

1) Avoid spraying fire retardant in or near drinking water streams, if practicable.

2) Utilize Burn Area Emergency Rehabilitation in appropriate circumstances.

3) During fire suppression efforts, avoid watershed damage in excess of that which would be caused by the fire itself. Avoid heavy equipment operation on fragile soils and steep slopes when possible. Project fires should use a Resource Advisor and watershed specialists to advise the Incident Commander on resource values during the suppression effort.

4) Stabilize all areas that have had their erosion potential significantly increased or their drainage pattern altered by wildfires or by suppression related activities. Treatments include, but are not limited to:

    - installing water bars and other drainage diversions in fire roads, fire lines, and other cleared areas;

    - seeding, planting and fertilizing to provide vegetative cover;

[9]Drinking Water from Forests and Grasslands: A Synthesis of Scientific Literature, United States Department of Agriculture Forest Service, General Technical Report SRS-39, September 2000, pp. 108-113.
[10]General Water Quality Best Management Practices, Pacific Northwest Region, Forest Service, November 1988.

- spreading slash or mulch to protect bare soil;
- repairing damaged road drainage facilities;
- clearing stream channels of structures or debris that is deposited by suppression activities;
- installing log erosion barriers (contour-felled and anchored trees);
- installing channel stabilization structures;
- installing trash racks above road drainage structures; and
- installing debris-retention structures.

5) Provide for water quality protection in formulating prescribed fire prescriptions. Prescription elements include fire weather, slope, aspect, soil moisture, and fuel moisture. These elements influence the fire intensity and thus have a direct effect of whether or not a desired ground cover remains after burning, and whether or not a water repellent layer is formed. The amount of remaining ground cover and extensiveness of water repellant soil can significantly affect erosion rates.

6) Maintain soil productivity, minimize erosion, and prevent ash, sediment, nutrients, and debris from entering water bodies during prescribed fires. Some of the techniques used to prevent water quality degradation include:

- maintaining the integrity of the Stream Management Unit or stream course; and
- planning prescribed fires with intensities that will not result in soils becoming hydrophobic.

Source: General Water Quality Best Management Practices, Pacific Northwest Region, Forest Service, November 1988.

Pesticides

Concern for: Groundwater, surface water

Contaminants: Organic and inorganic chemicals

Best Management Practices:

1) Only use US EPA registered pesticides and comply with all label directions for use.

2) Ensure proper transportation, handling and application according to the label.

3) Do not apply during or right before significant weather events, such as heavy rainfall, which will cause runoff of pesticides.

4) Store pesticides according to label directions so that spills and loss are prevented.

5) Mix and load pesticides on impermeable surfaces where any accidental spills would not enter surface waters or potentially impact drinking water supplies.

6) Contain and clean up spills immediately; report spills to appropriate regulatory agency.

7) Dispose of containers properly; recycle if possible.[11]

8) Notify downstream water systems so the appropriate operational changes can be made prior to spraying to utilize appropriate filtration or switch to ground water sources.

9) Consider alternatives to pesticide and herbicide use including biological controls, prescribed fire, mechanical treatments, and silvicultural management systems which minimize or eliminate the need for chemical use (uneven aged management, single and group tree selection, etc.).[12]

Fertilizers

Concern for: Groundwater, surface water

Contaminants: Nitrogen and phosphorous, and other nutrients.

Best Management Practices:

1) Apply fertilizers at appropriate agronomic rates so that no ground water pollution will occur below the root zone.

2) Do not apply fertilizer during or right before significant weather events, such as heavy rainfall, which will cause runoff of pesticides.

3) Storage and loading areas should be located where accidental spills will not enter surface waters and should not be located near wellheads.

4) Follow label directions for storage, mixing, and disposal.

5) Prevent fertilizers from entering streams with drinking water intakes.

6) Contain and clean up all spills immediately; report to appropriate regulatory agency.

Source: Drinking Water from Forests and Grasslands: A Synthesis of Scientific Literature, United States Department of Agriculture Forest Service, General Technical Report SRS-39, September 2000, pp. 113-115, WAC Chapter 222-38.

Underground Injection Control Class V (Shallow) Wells

Underground injection control Class V wells are shallow subsurface fluid distribution systems that are designed to place fluids directly below the ground surface. Examples of Class V wells include

[11]Drinking Water Academy, Managing Large-Scale Application of Pesticides to Prevent Contamination of Drinking Water, EPA-916-F-01-030, July 2001, and WAC Chapter 222-38.
[12]US EPA Region 10 recommendations.

septic system drainfields, storm water wells, drywells, industrial or commercial disposal wells, aquifer remediation wells, abandoned drinking water wells. Ditches and trenches may be classified as underground injection control wells. Hazardous waste injection through shallow wells is prohibited.

Concern for: Groundwater

Contaminants: Various – may include storm water, solvents, hydrocarbons, motor vehicle fluids, nitrate, bacteria, viruses, septage, and others.

Best Management Practices:

1) US EPA and state regulations apply to the registration, operation, maintenance, and closure of underground injection control wells. Information is available on the US EPA underground injection control Web site: http://www.epa.gov/safewater/uic/index.html. Please contact the appropriate regulatory agency for information about the rules that apply to your well: Idaho: John Sharkey, Idaho Department of Water Resources 208-287-4934.

Septic Systems

Concern for: Groundwater

Contaminants: Nitrates, bacteria, viruses, septage

Best Management Practices:

1) Septic systems designed for more than 20 people per day, fall under state or US EPA underground injection control Class V regulations. If septic systems are designed for fewer than 20 people per day, then other state or local regulations may apply.

2) Siting: locate septic systems far enough from drinking water sources to avoid potential contamination (minimum setback distances are typically defined by state or local governments that have oversight of underground injection control or septic programs).

3) Septic tanks and drainfields must be of adequate size to properly treat the volume of wastewater.

4) Design should be completed by a licensed engineer.

5) Proper operation and maintenance are imperative.

6) Pump septic tanks every two to five years.

7) Hazardous chemicals should be taken to a hazardous waste collection site rather than disposed into a septic system.

Source: Drinking Water Academy Bulletin, Managing Septic Systems to Prevent Contamination of Drinking Water, July 2001, EPA-816-F-01-

Abandoned Wells

Concern for: Groundwater

Contaminants: Various – they serve as conduits for any pollutants; typical contaminants are storm water, solvents, nitrates, bacteria, viruses, phosphates, hydrocarbons, pesticides, and others.

Source: Potential Sources of Drinking Water Contamination Index, US EPA. http://www.epa.gov/safewater/swp/sources1.html.

Best Management Practices:

1) Survey property to locate wells.

2) Properly remove or seal and abandon identified wells following state rules or procedures.

Source: Drinking Water from Forests and Grasslands: A Synthesis of Scientific Literature, US Department of Agriculture Forest Service, General Technical Report SRS-39, September 2000, pp. 68-69.

Parking Lots

Concern for: Groundwater, surface water

Contaminants: Oil, gasoline, automotive fluids.

Source: Drinking Water Academy Bulletin, Managing Storm Water Runoff to Prevent Contamination of Drinking Water, EPA 816-F-01-020, July 2001.

Drywells are underground injection control Class V wells. If drywells are used to manage parking lot runoff, then state and US EPA underground injection control Class V rules apply to proper registration, operation, maintenance, and closure of these wells.

Best Management Practices:

1) Design to manage runoff appropriately – grassy swales, vegetated filter strips are options.

2) Design to allow infiltration – permeable pavement such as concrete grid pavement is a good option.

3) Sweep up litter and debris, especially around storm drains or other direct connections to surface water.

Sources: Drinking Water Academy Bulletin, Managing Storm Water Runoff to Prevent Contamination of Drinking Water, EPA 816-F-01-020, July 2001. After the Storm: A Citizen's Guide to Understanding Storm Water, EPA 833-B-03-002, January 2003.

Aboveground Storage Tanks

Concern for: Surface water

Contaminants: Petroleum hydrocarbons, heating oil, other chemicals.

Refer to state and local rules and regulations to determine whether the state in which the aboveground storage tank is located has an aboveground storage tank regulatory program. If a regulatory program exists, follow appropriate rules and guidance.

A Spill Prevention Control and Countermeasures Plan is required if the total amount of oil products on site in aboveground storage exceeds 1,320 gallons, or if a single container exceeds a capacity of 660 gallons.

Best Management Practices:

1) Aboveground storage tanks should have spill and overfill prevention and leak detection.

2) Secondary containment should be designed to contain the entire volume of the materials that can be stored in the aboveground storage tank.

3) Tanks should be protected from corrosion.

4) Aboveground storage tanks should be protected from physical damage and vandalism through use of guard posts and fencing, as necessary.

5) Aboveground storage tanks should be operated, maintained, and closed appropriately.

Source: New Mexico Environment Department Aboveground Storage Tank Program.

Underground Storage Tanks

Concern for: Groundwater, downgradient surface water

Contaminants: diesel, gasoline, heating oil, other chemicals.

US EPA and state regulations apply to the registration, operation, maintenance, and closure of underground storage tanks. Please contact the appropriate regulatory agency for information about the rules that apply to your tank: Idaho: Erik Sirs, Environmental Protection Agency Region 10 208-378-5762, or sirs.erik@epa.gov.

Weed Prevention

Prevention Activity	When	Who Is Responsible
1. Check body and undercarriage of off-road vehicles for plant material and clean before leaving weed-infested areas.	All year	Vehicle driver
2. Ensure that weed prevention is considered in project activities regardless of discipline.	All year	Project lead
3. Minimize the creation of sites suitable for weed establishment.	All year	Staff involved in activity
4. Reestablish vegetation on all disturbed soil from construction, reconstruction, and maintenance activities.	All year	Project lead
5. Monitor site(s) for weeds after soil-disturbing activities and treat as needed.	All year	Project lead/weed Crew
6. Buy only noxious-weed-free seed and conduct required seed testing before use.	All year	Project lead
7. Provide noxious weed identification training for field employees.	Spring	Range staff
8. Inspect gravel pits and fills to identify weed-free sources.	All year	PI, COR
9. Keep main travel corridors free of noxious weeds to prevent spread.	Spring-summer	Range staff and others as appropriate
10. Install signs in recreation sites for weed awareness and weed prevention techniques.	Spring-summer	Recreation technicians/range staff
11. Mitigate and reduce weed spread during prescribed fire activities. This includes inventorying weeds before burning, treating high risk areas before burning, and pre- and post treating high risk weed infestations.	Spring-summer-fall	Project lead
12. Ensure revegetation efforts are affective.	All year	Project lead
13. Track weeds that might affect known populations of BLM sensitive plants. Work with weed coordinator to take potential control measures if necessary.	All year	Ecologist/range staff
14. Use weed-free straw or mulch in revegetation activities.	All year	Project lead

APPENDIX B—CONSERVATION AND RESTORATION WATERSHEDS

INTRODUCTION

The CFO has identified programmatic aquatic management direction for specific watersheds (includes subwatersheds) within the planning area. Because of scattered and limited BLM ownership, primary criteria for identifying conservation and restoration (objective) watersheds depends on BLM ownership within the watershed and other public land ownership, specifically Forest Service and Idaho Department of Fish and Game. The purpose is to provide managers and the public with a clear intent of the watershed, riparian, and aquatic resources management emphasis and priority when considering land use alternatives and management actions.

Identifying conservation and restoration watersheds demonstrates the BLM's priority of programmatic management direction and strategies for watershed, riparian, and aquatic resources; which is the basis for developing goals, objectives, standards, and monitoring strategy. Because of limited time and monetary resources, when planning land management strategies, the BLM will prioritize the most effective and cost efficient conservation and restoration opportunities. It is also recognized that some watersheds will not be restored to their physical or biological potential within the RMP timeframe of up to 20 years because private lands and existing land uses, current land uses not controlled by BLM, updrainage effects, and legacy effect of past land management.

Not every project, even in a watershed with a degraded baseline condition, will be restorative. These short-term effects are appropriate as long as they will have discountable or negligible effects on Desired Conditions and Watershed and Aquatic Condition Indicators (WACIs) (see **Appendix H**), and will not preclude attainment of long-term improvement of watershed, aquatic and riparian processes and functions. If watershed, riparian, and aquatic processes are to be restored over time within watersheds that have a Functional at Risk baseline, it is critical that management actions individually and collectively do not further degrade or retard attainment of Desired Conditions. It is also important that management actions in conservation or restoration watersheds provide some programmatic direction toward achieving or maintaining Desired Conditions. It needs to be recognized that because of limited BLM ownership and opportunities for restoration in some of these watersheds, BLM's management opportunity or ability to attain Desired Conditions is not always possible from management actions on BLM lands. Also, some Desired Conditions cannot be achieved within the timeframe of the RMP, even with active BLM restoration actions because recovery is very long term and gradual.

CONSERVATION WATERSHEDS

Conservation watersheds have processes and functions that occur in a relatively undisturbed and natural landscape setting. Hydrologic function, such as sediment amounts and stream flow regimes resulting from disturbance, are within a natural range of frequency, duration, and intensity. Waters are meeting designated or existing beneficial uses within these watersheds. Land uses and human activities occurring in these watersheds do not strongly influence aquatic and hydrologic functions, as indicated by low road density, few stream crossings and limited amounts of other human caused disturbances. Examples of conservation areas typically include wilderness, roadless, and

undeveloped watersheds. However, conservation watersheds may contain areas that have limited land uses, while maintaining natural processes.

Management strategies emphasize allowing natural disturbances, but active management is sometimes required to conserve these physical and biological processes and patterns. For example, vegetation composition and structure that trend outside the historic range of variability because of fire suppression may pose a risk to ecological processes. An active management activity to conserve hydrologic and biological processes is to maintain roads and trails to minimize erosion and resulting sediment additions to nearby streams and water bodies. However, as a general rule minimal investment over time is needed to maintain function and critical instream and upland habitat elements in these conservation-designated watersheds.

RESTORATION WATERSHEDS

Restoration watersheds were identified because biological and physical processes and functions do not reflect natural conditions because of past and long-term land disturbances. The common effects of these disturbances are a long-term (decades) increase of sediment deposition in streams, loss of large woody debris recruitment to stream channels, abnormal hydrologic regimes and patterns (stream flows), and elevated water temperatures. Cumulative impacts from human disturbances and periodic natural events, such as large fires, landslides, and floods, exacerbate abnormal watershed and biological conditions.

Active management may be required to restore the watershed physical and biological function to their natural range of frequency, duration, and intensity. Identifying and assessing the adverse impacts on habitat will allow managers to focus restoration efforts in the most cost-effective manner to achieve hydrologic and biological recovery in watersheds. This implies that there is a range of treatment intensities and desired landscape responses and not all impacts need be treated to achieve goals.

PRIORITY RANKING FOR CONSERVATION AND RESTORATION WATERSHEDS

Priority ranking (high, moderate, and low) for each conservation or restoration watershed was based on status of watershed condition, resource values, risks, and opportunities (BLM and Forest Service 1999[1]). Primary issues considered in ranking status and risks were water quality, riparian habitat, existing aquatic species diversity, and potential fisheries habitats productivity. Opportunities considered the expected cost and response time to effect measurable changes toward achieving goals.

High Priority Criteria—Conserve Area Designation

1. Fish species assemblages contribute to high biological diversity. Habitats support productive or unique populations and key salmonid species exhibit full range of life history diversity.

[1]BLM and Forest Service (US Department of the Interior, Bureau of Land Management and US Department of Agriculture, Forest Service). 1999. Ecosystem review at the subbasin scale (subbasin review). A guide for mid-scale ecosystem inquiry. Interior Columbia Basin Ecosystem Management Project. Vol. 1, Ver. 1, August 1999 Draft. 32 pp. Internet Web site: www.icbemp.gov/implement/subbas.shtml.

The assumption is that the aquatic community is largely intact, and is a potential source of individuals to nearby recovering populations; AND

2. Water quality supports designated and existing beneficial uses or municipal (public) water supplies.

Moderate Priority Criteria—Conserve Area Designation

1. Fish species assemblages represent moderate biological diversity; AND

2. Water quality supports designated and existing beneficial uses.

High Priority Criteria—Restore Area Designation

1. Habitat potential for highly productive or unique fish communities with restoration efforts. Loss of connected populations, competition, or genetic introgression (hybridizing) with nonnative species has caused the loss of diversity of some unique populations, such as key salmonid species. The assumption is that the aquatic community is largely intact but not resilient to landscape disturbance events, nor does it provide a source of individuals to nearby recovering populations; AND

2. Water quality may not support all designated and existing beneficial uses or municipal (public) water supply.

Moderate Priority Criteria—Restore Area Designation

1. Potential for moderately productive fish habitat with restoration efforts. Long-term loss of connected populations, competition or genetic introgression with nonnative species has caused the loss of diversity of some unique populations, such as key salmonid species. The assumption is that the aquatic community is largely intact but not resilient to landscape disturbance events, nor does it provide a source of individuals to nearby recovering populations; AND

2. Water quality may not support all designated and existing beneficial uses or municipal (public) water use a future possibility.

Low Priority Criteria—Restore Area Designation

1. There is a minor amount of fish habitat. Long-term loss of connected populations, competition, or genetic introgression with nonnative species has caused the loss of diversity of key salmonid species. The assumption is that the aquatic community is not intact and not highly resilient to natural events, nor does it provide a source of individuals to nearby recovering populations; AND

2. Water quality may not support all designated and existing beneficial uses and municipal (public) water is not considered as a future use.

MANAGEMENT STRATEGIES

Protection

Preserve riparian areas that are ecologically intact and fully functional. Human activities that significantly influence aquatic and riparian ecological functions are restricted. The strategy strives to protect aquatic and riparian ecosystems that are currently in good condition so that naturally regenerative processes can continue to operate. Conserve designations that typically include the wilderness, and minimal developed watersheds would fall within this management strategy. However, high priority restoration projects do exist within portions of some conserve-designated watersheds. Also, some restoration-designated watersheds may have a stream segment or watershed area that is ecologically intact and functional, which would also warrant protection of aquatic and riparian ecosystems.

Passive Restoration

Prevent further loss of aquatic and riparian ecosystem integrity. To the extent possible, remove human caused disturbances from altered aquatic and riparian ecosystems in order to allow natural processes to be the primary agents of recovery. Allow the natural disturbance regime to dictate the speed of recovery in areas that have a high probability of returning to a fully functional state without human intervention. This management strategy applies to many of the low and moderate priority restore designated watersheds. Speed of recovery may be several decades (or more) once anthropogenic disturbances are removed or mitigated.

Active Restore

Return functionally impaired aquatic-riparian ecosystems to a state that would occur naturally at the site by actively managing specific aspects of habitat recovery within a watershed and/or stream reach. Combine elements of natural recovery with management activities directed at accelerating development of self-sustaining, ecologically healthy riparian and aquatic ecosystems. This management strategy applies to the high and some moderate restore priority watersheds. Many watershed, riparian, and stream restoration projects fall into this category; including vegetation treatments, stream channel restoration, stream crossings removal or improvement, reducing road densities, and improving road drainage and reducing adverse erosion. The speed at which Desired Conditions recover may be one to two decades, once human caused disturbances are removed or mitigated at a watershed level.

Rehabilitation

Re-establish naturally self-sustaining riparian and aquatic ecosystems to the extent possible, while acknowledging that irreversible changes such as dams, permanent channel changes due to urbanization and streamside roads, stream channel incision, and floodplain development, permit only partial restoration of ecological functions. Combine natural and active management approaches where ecological self-sufficiency cannot occur.

Table B-1
Conservation and Restoration Management Watersheds

Watershed Number	Watershed Name[1]	Management Objective[2]	Subbasin Management Priority[3]	BLM Management Opportunities[4]
Lower Snake River Subbasin				
170601030303	Captain John Creek	Restoration	Moderate	Moderate
	Madden Creek			
	S. Fork Captain John Creek			
170601030301	Snake River - Corral Creek[5]			
	Corral Creek	Restoration	Low	Moderate
Lower Salmon River Subbasin				
170602091004	China Creek	Restoration	Moderate	Low
170602091003	Eagle Creek	Restoration	Moderate	Moderate
170602091001	Deer Creek	Restoration	Moderate	Low
170602090404	Lower Slate Creek	Restoration	High	Low
170602090304	John Day Creek	Restoration	High	Moderate
	E. Fork John Day Creek			
	M. Fork John Day Creek			
	S. Fork John Day Creek			
170602090206	Lake Creek	Restoration	Moderate	Low
170602090203	Partridge Creek	Restoration	Moderate	Low
170602090202	Elkhorn Creek	Restoration	Moderate	Low
170602090103	Lower French Creek	Restoration	Moderate	Low
Middle Salmon River				
170602070806	Middle Salmon – Carey[5]			
	Carey Creek	Restoration	Low	Low
170602070805	Middle Salmon – Bear[5]			
	Long Tom Creek	Restoration	Low	Low
	Bear Creek	Restoration	Low	Low
170602070803	California Creek	Restoration	Moderate	Low
	Maxwell Creek			
Little Salmon River				
170602100501	Little Salmon - Elk Creek[5]			
	Elk Creek	Restoration	Low	Low
	Trail Creek	Restoration	Moderate	Moderate
170602100502	Boulder Creek	Restoration	High	Low
170602100302	Hazard Creek	Conservation[6]	High	Moderate
170602100301	Hard Creek	Conservation[6]	High	Moderate

Table B-1
Conservation and Restoration Management Watersheds *(continued)*

Watershed Number	Watershed Name[1]	Management Objective[2]	Subbasin Management Priority[3]	BLM Management Opportunities[4]
South Fork Salmon River				
170602080501	Lake Creek	Restoration	High	Low
Clearwater River				
170603060305	Lower Lolo Creek	Restoration	High	Moderate
170603060303	Middle Lolo Creek	Restoration	High	Moderate
South Fork Clearwater River Subbasin				
170603050301	South Fork Clearwater River–Whiskey Creek	Restoration	Moderate	Moderate
	Whiskey Creek			
	Maurice Creek			
170603050402	Lower Crooked River	Restoration	High	Low
170603050104	Lower Red River	Restoration	High	Low
	Big Campbell Creek			
	Little Campbell Creek			
170603050203	Lower American River	Restoration	High	Moderate
	Buffalo Gulch			
	Kirks Fork			
	Baboon Creek			
	Box Sing Creek			
	Queen Creek			
	Whitaker Creek			
	Telephone Creek			
170603050204	Elk Creek	Restoration	High	Moderate
	Big Elk Creek			
	Swale Creek			
	Monroe Creek			
	W. Fork Big Elk Creek			
	Little Elk Creek			
170603050202	East Fork American River	Conservation[6]	Moderate	Moderate
170603050201	Upper American River	Restoration	High	Moderate
	Maggie Creek			
	Total Restoration Watersheds: 25 *Total Conservation Watersheds: 3[6]*			

[1]Watersheds will generally include a minimum of 50 percent BLM, Forest Service, or Idaho Department of Fish and Game ownership and will contain a minimum of 500 acres of BLM lands or have more than ten miles of fish-bearing stream flowing across BLM lands within a fifth hydrologic unit code (HUC). Cooperative planning and management would be encouraged with partners to identify objectives and desired conditions and appropriate management actions to achieve these. The RMP will allow additions, deletions, or modifications (subwatersheds, desired conditions, partners, objectives) of prioritized conservation and restoration subwatersheds based on new information and partnership coordination.

[2]Do not undertake management activities that would degrade good quality habitat in conservation subwatersheds. Do not undertake management activities that would retard or preclude attainment of desired trends to improve aquatic habitats in restoration subwatersheds. Short-term adverse effects are acceptable if they will not preclude attainment of long-term improvement to aquatic habitats.

[3]Watershed management priority was determined at a subbasin level using the following criteria: federally listed and BLM sensitive aquatic species that use the drainage for spawning and rearing habitat; aquatic habitat production potential for federally listed and BLM sensitive species; amount of fish-bearing habitat within the watershed; and drainage provides focal or core habitats for federally listed and BLM sensitive species within the subbasin. It is acknowledged that specific subwatersheds (within the watershed) may warrant a different management prioritization (no rating identified) based on the above.

[4]BLM management opportunities are based primarily on the following prioritized factors: BLM ownership within the watershed; miles of fish-bearing streams crossing BLM lands within the watershed; fish production potential for streams flowing across BLM lands; logistic access within the watershed; percentage of other public lands within the watershed, and potential for restoration activities. It is acknowledged that specific subwatersheds (within the watershed) may warrant a different management prioritization (no rating identified) based on the above.

[5]Restoration and/or conservation watersheds within this 6th hydrologic unit code only is applicable to listed 7th hydrologic unit codes (subwatersheds).

[6]Does not fully meet the Conservation Watershed criteria, however, many of the watershed and aquatic processes and functions are in proper functioning condition. Conservation Watersheds may have areas with limited land uses while maintaining natural processes.

APPENDIX C—DESIRED FUTURE CONDITIONS FOR FOREST VEGETATION/WILDLIFE HABITAT

In the tables below are components of wildlife habitat and desired future condition (DFC) for forest wildlife habitat vegetation. **Table C-1** displays Forested Potential Vegetation Groups (PVGs). Forested vegetation refers to land that contains at least ten percent crown cover by coniferous forest trees of any size or land that formerly had coniferous forest cover and is presently at an earlier seral stage. Forested vegetation is described using habitat type, which uses potential climax vegetation as an indicator of environmental conditions. At the level for the RMP, forested habitat types have been further grouped into PVGs that share similar environmental characteristics, site productivity, and disturbance regimes.

Table C-1
Potential Vegetation Groups

Potential Vegetation Groups
PVG 1—Dry Ponderosa Pine/Xeric Douglas-Fir
PVG 2—Warm Dry Douglas-Fir/Moist Ponderosa Pine
PVG 3—Cool Moist Douglas-Fir
PVG 4—Cool Dry Douglas-Fir
PVG 5—Dry Grand Fir
PVG 6—Cool Moist Grand Fir
PVG 7—Cool Dry Subalpine Fir
PVG 8—Cool Moist Subalpine Fir
PVG 9—Hydric Subalpine Fir
PVG 11—High Elevation Subalpine Fir

Tree Size Class

A stand's tree size class is determined by the average diameter of the tree in the overstory or uppermost tree layer. A canopy layer has a distinct break in height and must have a non-overlapping canopy closure of at least ten percent. A few individual trees (such as relict trees) representing a distinctly different tree size are not recognized as defining a distinct canopy layer if the total canopy cover of those trees is less than ten percent. For example, if the overstory trees average 22 inches diameter at breast height (DBH), then the stand is classified as a large tree size class, regardless of the size of trees that may occur in understory layers. Within any canopy layer, diameter may vary considerably between individual trees.

Tree size class is based on the following diameter groupings:

Grass/Forb/Shrub/Seedling	<4.5 feet tall
Sapling	>4.5 feet tall
Small trees	5.0—11.9" DBH
Medium trees	12.0—19.9" DBH
Large trees	>20" DBH
Old Growth Criteria	From Hamilton 1993 and Green et al. 1992 (errata corrected 02/05)

Shown in **Table C-2** are the desired amounts for each tree size class in areas identified for forest vegetation DFC objectives. This table displays the range in the percent of area's forested vegetation desired for each tree size class. The range in **Table C-2** was developed from estimates of the historical range of variability derived from adjacent National Forest Lands (Payette National Forest). The low end of the large tree size class range is based on half the low end of Historic Range of Variability, provided that the minimum value does not fall below 20 percent. The upper end of the range for large trees is equal to the mean Historic Range of Variability value. The 20 percent value is a threshold that represents the minimum percent of an area (e.g., designated area, watershed, landscape) retained in the large tree size class deemed necessary to assure terrestrial wildlife species' viability. The range for the grass/forb/shrub/seedling growth stage is based on the range of the large trees and the time interval needed for this growth stage to advance to the next tree size class. The information presented in **Table C-2** represents the full range of desired future conditions for tree size classes in areas where there are desired future characteristics for targeted forested/wildlife habitat.

Table C-2
Forest Vegetation/Wildlife Habitat Desired Future Conditions

Area-Wide Range of Desired Size Classes Expressed As a Percentage of Forested Vegetation within Each PVG[1,2,3] (includes forested vegetation in riparian conservation areas)

Tree Size	PVG-1	PVG-2	PVG-3	PVG-4	PVG-5	PVG-6	PVG-7	PVG-8	PVG-9	PVG-11
G/F/S/S	1-18	5-7	9	14-15	3-7	7-9	7-16	15-17	13-15	9-15
Saplings	2-12	3-7	9	7-9	3-7	7-9	11-15	11-15	8-15	14-15
Small	2-18	5-21	18-27	19-22	4-22	11-27	21-22	22-23	17-22	19-22
Medium	3-29	7-35	23-36	24-36	7-30	18-36	32-36	28-29	25-29	22-38
Large	24-91	20-80	20-41	20-34	15-84	20-56	20-21	20-21	20-37	20-38
Old Forest[1,2,3]	10	10	10	10	10	10	10	10	10	10

[1]Hamilton, R. C. 1993. Characteristics of Old-Growth Forests in the Intermountain Region. US Department of Agriculture, Forest Service, Intermountain Region, Ogden, Utah. 86 pp.
[2]Green, P., J. Joy, D. Sirucek, W. Hann, A. Zack, and B. Naumann. 1992. Old-Growth Forest Types of the Northern Region. USDA Forest Service, Northern Region, Missoula, Montana. R-A SES 4/92. 38 pp.
[3]The old forest (old growth) is a component of, and not in addition to, the large tree component.
G/F/S/S = Grass/Forb/Shrub/Seedling

Snags and Coarse Woody Debris

Snags and coarse woody debris are much finer-scale elements than vegetation components such as species composition, size class, and canopy closure. As such, they are to be evaluated during project planning for the activity area, which better reflects the scale at which to consider these elements and to plan projects that provide for maintaining or improving trends in snag and coarse wood amounts. The area of consideration for snags and coarse woody debris is at the project area and stand level where the effects are positive or negative. Actions affecting the area of consideration that need to be assessed include timber harvest, reforestation, timber stand improvement, and prescribed fire activities.

Snags and coarse wood are known to fluctuate both spatially and temporally. Snags are often found in clumps, whereas coarse wood recruitment is recruited from snags and over time becomes more

evenly distributed. These tables are not meant to provide an even distribution of snags and coarse wood across every acre of the forested landscape but to provide a number that serves as a guide to approximate an average condition for an activity area.

When planning an activity, the intent is to either maintain a desired condition or to trend toward the desired condition. If an area is already within the range of desired conditions, a management action should either keep the area within the desired ranges or, when the action results in moving outside the range, a mechanism to move back into the range should be provided. An example of this is a prescribed burn that would burn some of the coarse woody debris. If an area is above or below the desired range, it may not be possible to meet the desired ranges. This would include leaving some portion of the snags and coarse woody debris that is available, although perhaps not enough to meet desired ranges. Another example is an action that over the long term produces large size class trees, which would eventually become large snags and coarse woody debris.

Tables C-3 and **C-4** display the desired ranges for snags and coarse woody debris that contribute toward wildlife habitat and long-term soil productivity. Desired ranges were developed for each PVG so that the numbers would reflect productivities and disturbance regimes. Agee (2002[1]) presents several diagrams that depict the spatial and temporal variability found in snag/coarse wood numbers according to the fire regimes of different forest types.

Table C-3
Desired Range of Snags Per Acre for Potential Vegetation Groups

Diameter Group	PVG-1	PVG-2	PVG-3	PVG-4	PVG-5	PVG-6	PVG-7	PVG-8	PVG-9	PVG-11
10"-20"	0.4-0.5	1.8-2.7	1.8-4.1	1.8-2.7	1.8-5.5	1.8-5.5	1.8-5.5	1.8-7.5	1.8-7.5	1.4-2.2
>20"	0.4-2.3	0.4-3.0	0.2-2.8	0.2-2.1	0.4-3.5	0.2-3.5	0.2-3.5	0.2-3.0	0.2-3.0	1.4-2.2
Total	0.8-2.8	2.2-5.7	2.0-6.9	2.0-4.8	2.2-9.0	2.0-9.0	2.0-9.0	2.0-10.5	2.0-10.5	2.8-4.4
Min. Ht.	15'	30'	30'	30'	30'	30'	30'	30'	30'	15'

Note: This table is not meant to provide an even distribution of snags across every acre of the forested landscape but to provide numbers that serve as a guide to approximate an average condition at the stand level or project area.

Table C-4
Desired Range of Coarse Woody Debris in Tons Per Acre and Desired Amounts in Large Classes for Potential Vegetation Groups

Diameter Group	PVG-1	PVG-2	PVG-3	PVG-4	PVG-5	PVG-6	PVG-7	PVG-8	PVG-9	PVG-11
Dry weight (Tons per acre) In Decay Classes I and II	3 - 10	4 - 14	4 - 14	4 - 14	4 - 14	4 - 14	5 - 19	5 - 19	5 - 19	4 - 14
Distribution* >15"	>75%	>75%	>65%	>65%	>75%	>65%	>50%	>25%	>25%	>25%

*The recommended distribution is to try to provide coarse wood in the largest size classes, preferably over 15" in DBH, which provide the most benefit for both wildlife and soil productivity. This table is not meant to provide an even distribution of coarse wood across every acre of the forested landscape but to provide numbers that serve as a guide to approximate an average condition at the stand level or project area.

[1]Agee, J.K. 2002. Fire as a Coarse Filter for Snags and Logs, In: Proceedings of the Symposium of the Ecology and Management of Dead Wood in Western Forest, USDA Forest Service, Pacific Southwest Research Station, General Technical Report, PSW-GTR-181

Green Tree Snag Replacement

Management actions should result in both short-term and long-term replacement of snags by retaining sufficient number of live trees, including those with such features as broken tops, cavities, lightning scars, and dead portions as future recruitment. Rely on site-specific information, normal mortality rates, and experience with mortality of residual trees following vegetation management activities when determining the number of trees needed to provide for future snag recruitment.

Protecting existing large diameter snags will not assure long-term snag occurrence on BLM lands. Managing live trees for long-term snag recruitment is as important as protecting existing snags (Thomas et al.1979[2]; Schommer et al.1993[3]). Green tree replacements may be lost to other causes before becoming available as desirable snags. Causes of loss include wind throw, salvage, falling for safety concerns, or slash burning. Therefore, the recommendations for green tree replacement snags are greater than the desired range of snags.

The recommendations in **Table C-5** consider the work of Schommer et al. (1993[4]), and Ritter and Davis (1994[5]), and the snag guidelines from the Payette National Forest[6] (Forest Service 1995b). They are adapted to the same habitat type groups/PVG groups as in the snag recommendations above. They must be considered provisional and studies, modeling, and monitoring would be needed to evaluate their adequacy and required updates. One purpose of these guidelines is to assure that some green trees are available for snag and down wood recruitment in the future.

Leave trees should represent the range of species and size classes most likely to survive natural fire disturbance, and be located in the clustering patterns and locations most likely to have survived natural fires in the local setting (e.g., open ridges or rocky areas), and be likely to survive harvesting operations and post-harvest exposure.

Recommendations for smaller diameter green trees are estimated as twice the number of smaller diameter snags, or twice the numbers of larger snags if no small snags were recommended. This is to provide for variable growth, mortality, and soil wood recruitment over time. As stated above updated studies, modeling, and monitoring would be required for modification of these guidelines.

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[2]Thomas, J.W., R.G. Anderson, C. Maser, and E.L. Bull. 1979. Snags. Pages 60-75 in J.W. Thomas, ed. Wildlife habitats in managed forests – The Blue Mountains of Oregon and Washington. USDA Forest Service Agriculture Handbook 553. US Government Printing Office. Washington D.C.

[3]Hitchcox, Susan, M. 1996. Abundance and nesting success of cavity-nesting birds in unlogged and salvaged-logged burned forest in northwestern Montana. M.S. Thesis. Univ. of Montana. Missoula, MT. 89 pp.

[4]Schommer, T., E. Collard, and K. Wiedenmann. 1993. Wallowa-Whitman National Forest green tree snag replacement guidelines. Report on file at Forest Headquarters, Baker, OR. 13 pp.

[5]Ritter, S. and D. Davis. 1994. Clearwater National Forest snag management guidelines. Report on file at Forest Headquarters, Orofino, ID. 16 pp.

[6]Forest Service (US Department of Agriculture). 1995b. Snag and coarse woody debris guidelines for NEPA analysis of the 1994 fires. Payette National Forest. Report on file at Forest Headquarters, McCall, ID. 26 pp.

Table C-5
Green Tree Snag-Replacement Guidelines

Cover Type	Trees/Acre 11-19.9 inches DBH	Trees/Acre >= 20 inches DBH	Average Green Trees/Acre
Warm dry ponderosa pine and Douglas fir (PVGs 1 and 2)	4	2	6
Grand fir and cool Douglas fir (not lodgepole cover types) (PVGs 3, 4, and 5)	8	4	12
Cool, wet and dry grand fir and subalpine fir (not lodgepole pine cover types) (PVGs 6, 7, 8, 9)	14	2	15
Cool, wet and dry grand fir and subalpine fir (lodgepole cover types) (any PVG)	12	3 or as available	15
High elevation cold habitat types	8	2 or as available	10

Scale at Which to Apply Snag and Snag Recruitment Prescriptions

Snag retention and recruitment prescriptions should be applied, where possible, at the stand and project scale. Success of snag retention and recruitment would be monitored at the stand level or project area.

Clumping of snags and retention green trees in one to two acre patches within the stand level or project area is acceptable and even desirable for nesting birds and other wildlife species[7] recognizing it is necessary to provide for safety, operability, and long-term retention of leave trees. Look for natural clumps of snags or for areas where snags and green trees can be most logically maintained through logging and slash treatments.

Operational Considerations in Snag and Green Tree Retention

Not all snags are a human hazard, and no snags are of such high value that they should be required to be retained where a safety risk has been identified.

In marking leave trees, attempt to avoid likely landing sites, roads, cable corridors, and within 1.5 tree lengths of the outer unit boundary on broadcast burn units.

Do not mark snags for retention 300 feet uphill of a road that will be open for firewood cutting unless they can be protected or unless they will not count toward the retention requirement.

[7]Raphael, M. and M. White. 1984. Use of snags by cavity-nesting birds in the Sierra Nevada. Wildlife Monograph 86, 1-66.

Where one desirable safe snag or green tree is left in isolation on tractor units being machine piled, it should be feasible and economical to retain 20 to 50 feet of some brush and a few small saplings or poles around this tree to mitigate its isolation. This may not be feasible in broadcast burn units.

ACEC Recommendations for DFC

Table C-6 displays the desired amounts for each tree size class in ACECs identified for forest vegetation DFC objectives.

Table C-6
Forest Vegetation/Wildlife Habitat Desired Future Conditions—ACECs

Tree Size	PVG-1	PVG-2	PVG-3	PVG-4	PVG-5	PVG-6	PVG-7	PVG-8	PVG-9	PVG-11
Captain John Creek ACEC/RNA Range of Desired Size Classes Expressed as a Percentage of Forested within Each PVG (includes forested vegetation in RCAs)										
G/F/S/S	1-18	5-7	9	14-15	3-7	7-9	n/a	n/a	n/a	n/a
Saplings	2-12	3-7	9	7-9	3-7	7-9	n/a	n/a	n/a	n/a
Small	2-18	5-21	18-27	19-22	4-22	11-27	n/a	n/a	n/a	n/a
Medium	3-29	7-35	23-36	24-36	7-30	18-36	n/a	n/a	n/a	n/a
Large	35-91	35-80	25-41	25-34	35-84	20-56	n/a	n/a	n/a	n/a
Old Forest[1,2,3]	20	20	20	15	20	10	n/a	n/a	n/a	n/a
Lower Lolo Creek ACEC Range of Desired Size Classes Expressed As a Percentage of Forested within Each PVG (includes forested vegetation in RCAs)										
G/F/S/S	1-18	5-7	9	14-15	3-7	7-9	n/a	n/a	n/a	n/a
Saplings	2-12	3-7	9	7-9	3-7	7-9	n/a	n/a	n/a	n/a
Small	2-18	5-21	18-27	19-22	4-22	11-27	n/a	n/a	n/a	n/a
Medium	3-29	7-35	23-36	24-36	7-30	18-36	n/a	n/a	n/a	n/a
Large	35-91	35-80	25-41	25-34	35-84	20-56	n/a	n/a	n/a	n/a
Old Forest[1,2,3]	20	20	20	15	20	10	n/a	n/a	n/a	n/a

[1]Hamilton, R.C. 1993. Characteristics of old-growth forests in the Intermountain Region. US Department of Agriculture, Forest Service, Intermountain Region, Ogden, Utah. 86 pp.
[2]Green, P., J. Joy, D. Sirucek, W. Hann, A. Zack, and B. Naumann. 1992. Old-Growth Forests Types of the Northern Region. USDA Forest Service, Northern Region, Missoula, Montana. R-A SES 4/92. 38 pp.
[3]The old forest (old growth) is a component of, and not in addition to, the large tree component.
G/F/S/S = Grass/Forb/Shrub/Seedling

APPENDIX D—AQUATIC AND RIPARIAN MANAGEMENT STRATEGY

INTRODUCTION

The Cottonwood Aquatic and Riparian Management Strategy provides guidance and programmatic direction for watershed (includes subwatersheds), riparian, and aquatic conservation and restoration and is integrated with other management direction. Conservation of fish, wildlife, plants, and habitats at risk of degradation should be considered together with the full array of broad-scale ecosystem components addressed by the strategy, which include the following: landscape dynamics, terrestrial source habitats, aquatic species and riparian and hydrologic processes, socioeconomics and tribal governments. Management actions will balance short-term risks (to aquatic and other resources) with long-term benefits as actions are considered to move these resources toward a natural variability of conditions or desired conditions.

The key components of the Cottonwood Aquatic and Riparian Management Strategy are as follows:

- Aquatic and riparian management direction (for example, goals, objectives, and desired conditions).
- Establishment of Riparian Conservation Areas (RCAs), which are areas where aquatic and riparian dependent resources receive management emphasis.
- Protection of population strongholds for listed or proposed species and narrow endemics.
- Multiscale analysis and how it will be used in subsequent project-level decisions.
- Restoration priorities and guidance will be identified for geographic areas and by general type.
- Monitoring/adaptive management to determine if plan is being implemented correctly and is achieving desired results.
- Standards and Guidelines and Best Management Practices (BMPs), which are applicable to all RCAs and to projects and activities in areas outside of RCAs that are identified through NEPA analysis as potentially degrading to RCAs and desired conditions.

AQUATIC AND RIPARIAN GOALS

The goals establish an expectation of the characteristics of healthy, functioning watersheds, riparian areas, and associated fish habitats. Because the quality of water and fish habitat in aquatic systems are inseparably related to the integrity of upland and riparian areas within the watersheds, the goals are to maintain, strive towards, or restore the following:

1. Water quality, to a degree that provides for stable and productive riparian and aquatic ecosystems.

2. Stream channel integrity, channel processes, and the sediment regime (including the elements of timing, volume, and character of sediment input and transport) under which the riparian and aquatic ecosystems developed.

3. Instream flows to support healthy riparian and aquatic habitats, which promote the stability and effective function of stream channels, and the ability to effectively route flood discharges.

4. Natural timing and variability of the water table elevation in meadows and wetlands.

5. Diversity and productivity of native and desired plant communities in riparian zones.

6. Riparian vegetation to:

    a. Provide an amount and distribution of large woody debris characteristic of natural aquatic and riparian ecosystems;

    b. Provide adequate summer and winter thermal regulation within the riparian and aquatic zones; and

    c. Help achieve rates of surface erosion, bank erosion, and channel migration characteristic of those under which the communities developed.

7. Riparian and aquatic habitats necessary to foster the unique genetic fish stocks that evolved within the specific geo-climatic region.

8. Habitat to support populations of well-distributed native and other desired plant, vertebrate, and invertebrate populations that contribute to the viability of riparian-dependent communities.

AQUATIC AND RIPARIAN MANAGEMENT DIRECTION

Desired Conditions and Watershed and Aquatic Condition Indicators (WACIs)

Description and Management Intent

Desired Conditions and Watershed and Aquatic Condition Indicators (WACIs) are an integrated suite of aquatic (including a biological component), riparian (including riparian-associated terrestrial species), and hydrologic (including uplands) condition measures that are primarily intended to be used at the watershed and subwatershed scale. These watersheds and subwatersheds are typically 5th to 7th hydrologic unit codes, and will be referred to as watersheds in this appendix. See **Appendix H** for a description of desired conditions and WACIs. They are intended to serve two primary purposes:

1. To assist in effectiveness monitoring as measurable indicators of how effective management actions are in attaining river/stream or reach specific desired conditions and/or broad-scale landscape or watershed aquatic/riparian/hydrologic objectives (WACIs).

2. To indicate the baseline and current condition of a stream or watershed and to help land managers design projects and determine the appropriateness of management activities with respect to achievement of aquatic/riparian/hydrologic objectives.

Desired conditions are more specific to stream or reach specific aquatic and riparian objectives. WACIs are used to provide baseline condition rating information at a watershed level. WACIs provide context and decision support information to determine whether combined actions would contribute to attainment of objectives (desired conditions) at the watershed and larger scales. The WACIs should be used as a suite of integrated indicators. They should not be used individually as fixed targets toward which to manage or as specific thresholds from which to make "go/no-go" project implementation decisions. However, they should be used to help design appropriate management actions or alter or mitigate proposed activities to move watersheds toward desired conditions. If certain indicators highlight a concern in a watershed, then analysis should disclose how proposed management actions would be designed to take into account the concerns, and/or when the proposed action is needed to achieve aquatic/riparian/hydrologic objectives. WACI criteria values are not absolute criteria, and are rated in regards to a functional condition or ecological/biological condition. The WACIs are rated using the following watershed and aquatic habitat condition ratings (see **Appendix H**).

Desired Conditions and Watershed and Aquatic Condition Indicators

To achieve the "Watershed, Riparian, and Aquatic Goals and Objectives," specific riparian and aquatic desired conditions and WACIs are identified (**Appendix H**). Aquatic, riparian and watershed condition indicators are rated for functional condition using the Matrix of Pathways and Indicators of Watershed and Watershed and Aquatic Conditions, which has local adaptation (1997 and modified 1998) and is used by the North Central Idaho Level 1 Team (BLM CFO, Nez Perce National Forest, Clearwater National Forest, NMFS, and USFWS). The general objective is to achieve the "functioning appropriately" condition rating for WACIs. However, it is recognized that optimum conditions may not always be achieved for specific desired conditions and WACIs at a stream reach or watershed level. **Table D-1** identifies the WACIs included in the referenced matrices (**Appendix H**).

Table D-1
Watershed and Aquatic Habitat Quality and Relative Condition Correlation

Relative Watershed and Aquatic Habitat Quality Condition	High Watershed and Aquatic Condition Rating	Moderate Watershed and Aquatic Condition Rating	Low Watershed and Aquatic Condition Rating
Ecological Condition Biological and Hydrologic Condition	Good - Excellent	Fair Condition	Poor Condition
Functional Condition	Functioning Appropriately	Functioning at Risk	Functioning at Unacceptable Risk

Table D-2
Pathways—Indicators of Watershed/Aquatic Conditions*

Watershed Conditions	Habitat Elements
1. Watershed road density	1. Cobble embeddedness
2. Streamside road density	2. Percent surface fines
3. Landslide prone road density	3. Percent fines by depth
4. Riparian vegetation condition	4. Large woody debris
5. Peak/base flow	5. Pool frequency
6. Water yield (equivalent clearcut acres)	6. Pool quality
7. Sediment yield	7. Off-channel habitat
	8. Habitat refugia
Channel Condition and Dynamics	**Take**
1. Width/depth ratio	1. Harassment
2. Streambank stability	2. Redd disturbance
3. Floodplain connectivity	3. Juvenile/adult harvest
Water Quality	**Subpopulation Characteristics and Habitat Integration**
1. Temperature—spawning	1. Subpopulation size
2. Temperature—rearing/migration	2. Growth and survival
3. Suspended sediment	3. Life history diversity, isolation
4. Chemical contaminants/nutrients	4. Persistence and genetic integrity
	5. Integration of species and habitat condition
Habitat Access	
1. Physical barriers—adults	
2. Physical barriers—juveniles	

*Watershed and Aquatic Condition Indicators (WACIs) from USFWS and National Marine Fisheries Service matrices as adapted by North Central Idaho Level 1 Team (1997 and 1998 modification)

Desired WACIs that are appropriate for the watershed scale and baseline condition ratings (for example, 5th, 6th, 7th hydrologic unit codes) are included in **Appendix H**). The functional condition rating for WACIs may be a quantifiable or subjective rating for aquatic, riparian, and watershed conditions adapted locally, and identify poor (low) to good/optimal (high) aquatic, riparian, and watershed conditions. **Appendix H** identifies the desired functional condition (functioning appropriately – good/excellent condition) WACIs. It is acknowledged that "optimum" conditions may not always be achievable for every watershed because of legacy land uses, land ownerships (e.g., private ownership and non-BLM land uses) and specific watershed characteristics.

Existing Conditions for Watersheds (WACIs)

Existing conditions for watershed specific WACIs are on file at the BLM CFO for the watersheds identified in **Appendix B**. Because BLM ownership often comprises a small percentage of the total watershed area, the emphasis for surveys and monitoring efforts will be in watersheds where public lands generally comprises the majority of the ownership (see **Appendix B**). Other watersheds with BLM lands not included in **Appendix B** (generally small amount of public land ownership) also may have resource surveys and monitoring conducted (to determine existing conditions), and management actions implemented which support achievement of desired conditions.

Updating Ratings for Desired Conditions and Watershed and Aquatic Condition Indicators

Based on monitoring, surveys, science/literature, watershed analysis, and supporting rationale; specific condition ratings for desired conditions and WACIs may be changed in the future (e.g., poor condition, good condition, etc.) to more accurately depict local planning area aquatic and riparian

characteristics and range of natural variability. Desired conditions and WACIs may be refined at the watershed scale to illustrate the variability of conditions among watersheds within a landscape context. As needed for updated ratings, local experts (e.g., Fisheries Biologist, Ecologist, Botanist, Hydrologist) shall establish this environmental baseline and identify rationale supporting the change.

RIPARIAN CONSERVATION AREAS

RCAs are portions of watersheds where riparian-dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines. However, they are not intended to be treated as no management zones since treatments may be essential to achieving or maintaining desired riparian and aquatic conditions. This strategy allows for adjustment to RCAs to reflect specific site conditions while also recognizing watershed riparian conditions and trends.

Important values to consider in identifying and managing RCAs may be specific to the riparian area/stream channel, life stage of specific fish, watershed characteristics, and land uses. Refer to **Appendix H** for a list of desired conditions and WACIs.

RCA Widths

RCAs are portions of watersheds where riparian-dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines. RCAs are lands that are most sensitive to land uses that are likely to affect the condition and/or function of aquatic habitat, and include areas adjacent to streams, ponds, lakes, and wetlands. The dimensions of such lands and uses that promote or do not preclude achievement of functional conditions may be best defined by site-specific analysis or watershed analysis. In the absence of such analysis, the following default RCA widths apply.

Category 1—Fish-bearing streams: RCAs consist of the stream and the area on either side of the stream. This area extends from the edges of the active channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of the riparian vegetation, or **300 feet** slope distance (600 feet, including both sides of the stream channel), whichever is greatest.

Category 2—Permanently flowing non-fish-bearing streams: RCAs consist of the stream and the area on either side of the stream. This area extends from the edges of the active channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of the riparian vegetation, or **150 feet** slope distance (300 feet, including both sides of the stream channel), whichever is greatest.

Category 3—Ponds, lakes, reservoirs, and wetlands greater than one acre: RCAs consist of the body of water or wetland and the area to the outer edges of the riparian vegetation, or to the extent of the seasonally saturated soil, or **150 feet** slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs, or from the edge of the wetland, pond, or lake, whichever is greatest.

Category 4—Seasonally flowing or intermittent streams and wetlands less than one acre: This category includes features with high variability in size and site-specific characteristics. The RCA

is the area from the edges of the stream channel, the wetland, the extent of riparian vegetation, or **100 feet** slope distance, whichever is greatest.

Nonforested rangeland ecosystems Category 1 and 2 streams are the extent of 100-year floodplain.

RCA Delineation and Modification

Specific default RCA widths apply, unless a watershed analysis or site-specific (local) analysis has been completed. Modification of RCAs requires watershed or site specific analysis to provide the ecological basis for the change or may be specific to land uses taking place or proposed to take place within the RCA.

RCA Delineation

To promote or maintain desired conditions or objectives for WACIs, default RCA widths identify areas where riparian and aquatic dependent resources receive emphasis for management. The default RCA widths generally provide proper and adequate dimensions to address primary influence areas that may affect key riparian and aquatic processes. It is acknowledged that RCA modification and delineation needs to consider ecological and geomorphic factors, which vary across the CFO management area. Delineation of site specific or specific watershed RCAs requires fine-scale application of appropriate criteria using a two-tier approach.

The **first tier** involves identification of ecological and geomorphic delineation criteria. This is done by applying a protocol identified through a watershed analysis and/or site specific analysis, or a programmatic planning analysis. This analysis is intended to provide the context needed to understand riparian area interactions and processes.

The **second tier** applies the criteria from the first tier analysis to specific areas on the ground in conjunction with proposed management activities.

Conceptually, the first tier analysis results in identification of ecologically appropriate RCA criteria by using existing information to characterize the extent, conditions, and trends of riparian areas within the analysis area. This analysis identifies dominant physical and biological features in the watershed that influence the riparian network, and addresses important biophysical functions and processes. The issues associated with the riparian system, including past, current, and potential future management emphases, are used to ascertain the rigor and depth of analysis needed. The resulting information is synthesized and interpreted using a process in which potential criteria are examined and selected or eliminated based on their appropriateness to meet the overall intent of aquatic and riparian management objectives at the finer scale.

The overall intent of the first tier analysis is to document relationships between key riparian processes and functions and ecological and/or geomorphic factors (such as shade and site potential tree height), which should help to appropriately identify RCAs. Default widths would be used to delineate RCAs, until the first tier analysis has been completed.

The second tier applies the RCA criteria to specific areas on the ground while designing and planning proposed management actions. The intent is that the associated site-specific analysis and

decision would disclose how the criteria would be used to delineate RCAs on the ground and the degree to which they provide for riparian processes and functions and contribute to meeting aquatic and riparian management objectives. Any necessary, site-specific refinements of the criteria would also be documented in the analysis and decision document.

RCA Modification

RCAs may be modified by amendment in the absence of watershed analysis where stream reach or site-specific data support the change. Watershed analysis or site-specific analysis is not a decision process; it would provide information for ecologically appropriate criteria that would support site-specific analysis and determination on RCA delineation. In all cases, the rationale supporting RCA widths and their effects would be documented. Refer to previous listed important values for managing RCAs; pertinent site-specific, stream reach, and watershed values (e.g., desired conditions, WACIs, specific riparian or aquatic characteristics, slope, soils, etc.) need to be specifically addressed in supporting rationale for modifying RCAs and land uses occurring in these areas.

During watershed analysis and/or site-specific analysis or through the appropriate programmatic planning processes, default RCA dimensions may be modified with site specific analysis and determination of land uses that are consistent with the RCA management intent and the attainment of RCA management objectives (i.e., desired conditions).

These criteria shall be identified using scientific information in combination with local knowledge and information on riparian and aquatic processes and functions, resource values, and risks (first tier). Application of criteria to delineate RCAs shall occur during project-level planning or implementation for management activities that could affect attainment of RCA objectives (second tier). Rationale for identifying final RCA delineation criteria shall be presented through the appropriate analysis making process.

PROTECTION OF POPULATION STRONGHOLDS FOR AQUATIC SPECIAL STATUS AND NARROW RANGE ENDEMIC SPECIES

Refer to **Appendix B**, Conservation and Restoration Watersheds, for criteria and identification of conservation watersheds, which have important value for protecting populations of special status aquatic species and narrow range endemics. Currently, only a few watersheds (with BLM lands) within the BLM planning area may meet the criteria for designation as a stronghold or conservation watershed for special status species. The intent of this designation and management direction of these watersheds is that they will provide high quality habitat for species and will support expansion and recolonization of species to adjacent watersheds. These areas should conserve key processes likely to influence the persistence of populations or metapopulations. Management consideration for these watersheds includes the following:

- In general, these areas are at the scale of the species' subpopulation and contribute to their conservation and recovery.
- Characteristics/considerations for stronghold delineation include high genetic integrity, connectivity, relationship of the subpopulation to the species as a whole, and restoration and population expansion potential into adjoining watersheds.

- The plan provides for additions to, deletions from, or modifications of strongholds and conservation watersheds based on new information.

- As with RCAs, management activities in strongholds and conservation watersheds should emphasize achieving or maintaining the riparian and aquatic values, including key processes, for which they are being managed. Active management within strongholds may be required to achieve and maintain these values. Passive management strategies can also be an effective tool for meeting stronghold objectives in some watersheds.

- Conservation watersheds have watershed, riparian, and aquatic processes and functions that occur in a relatively undisturbed and natural landscape setting.

- Watersheds may also be identified for such purposes as protecting other emphasis species or other high value riparian-dependent resources.

MULTISCALE ANALYSIS AND ECOSYSTEM ANALYSIS AT THE WATERSHED SCALE

Watershed Analysis

The purpose of an ecosystem analysis at the watershed scale is to develop and document an understanding of the ecological structures, functions, processes, and interactions occurring at the watershed scale. This process is designed to describe past and current conditions and develop restoration and management recommendations. The ultimate goal is to provide guidance for management actions that would sustain or improve the health and productivity of natural resources.

Objectives of Watershed Analysis

1. Evaluate cumulative watershed effects—*Watershed analysis enhances the ability to estimate direct, indirect, and cumulative effects of management activities.*

2. Define watershed restoration needs, goals and objectives—*Provides guidance on the general type, location, and sequence of appropriate activities within a watershed.*

3. Monitor the effectiveness of watershed protection measures—*Process for adaptive management feedback loop.*

4. Provide sufficient watershed context for understanding and carrying out land use activities with a geomorphic context—*Important tool used in meeting ecosystem management objectives.*

Appropriate Methodology

The Federal Guide for Watershed Analysis—Ecosystem Analysis at the Watershed Scale Version 2.2[1] was used as a guide. This six-step process is not issue-driven but focuses on analysis topics, along with specific watershed problems and concerns. This analysis is not a decision making process

[1]Forest Service (US Department of Agriculture, Forest Service). 1995. Federal Guide for Watershed Analysis—Ecosystem Analysis at the Watershed Scale Version 2.2. Revised August 1995. Regional Ecosystem Office, Portland, Oregon. Internet Web site: www.reo.gov/library/reports/watershd.pdf.

but will help identify opportunities for future management actions, including planning, project development, and regulatory compliance. Below is a summary of each of the six steps taken to develop an ecosystem analysis at the watershed scale.

Step 1—Characterization of the Watershed

The purpose of Step 1 is to identify the dominant physical, biological, and human processes or features of the watershed that affect ecosystem functions or conditions, including the relationship between these ecosystem elements and those occurring in the river basin and/or watersheds. When characterizing the watershed, team members identify the most important land allocations, plan objectives, and regulatory constraints that influence resource management in the watershed.

Step 2—Identification of Issues and Key Questions

The purpose of this step is to focus the analysis on the key elements of the ecosystem that are most relevant to the management questions and objectives, human values, or resource conditions within the area.

Step 3—Description of Current Conditions

This step is to develop more detailed information relevant to the issues and key questions identified in Step 2. Step 3 is where the current range, distribution, and condition of the relevant ecosystem elements are documented.

Step 4—Description of Reference Conditions

This step is to explain how ecological conditions have changed over time as a result of human influence and natural disturbances. A reference is developed for later comparison with current conditions over the period that the system evolved and with key management plan objectives.

Step 5—Synthesis and Interpretation of Information

The purpose of Step 5 is to compare existing and reference conditions of specific ecosystem elements and to explain significant differences, similarities, or trends and their causes. The capability of the system to achieve key management plan objectives is also evaluated.

Step 6—Recommendations

The purpose of Step 6 is to identify management recommendations that address resource problems noted in this analysis and then to change the current watershed conditions toward the desired future condition for this area. Recommendations, monitoring needs, and data gaps are identified and described. These are recommendations to date based on the data we have available at present. This is an ongoing process and alternative or additional recommendations may be made in the future.

Multiple-Scaled Assessments

Generally, no single assessment will adequately address the complex issues facing resource managers today. Fine-scale assessments provide necessary context for management and project planning, but they cannot adequately address broad patterns and processes, such as habitat conditions for wide-ranging species. Broad-scale assessments provide necessary context for policy formulation and for mid- and fine-scale assessment, but they cannot by themselves provide detailed information, such as

site-specific habitat conditions. Together, multiple-scale assessments provide a comprehensive basis for sustainable land management.

Multiple levels of review and assessment provide the context to implement broadscale decisions on individual BLM districts and within a field office area. As needed, multiscale analysis may be used for future plan amendments or revisions and for subsequent project-level decisions. The four potential analysis scales are basin, subbasin, watershed, and project. Analysis at the appropriate scale is generally recognized to provide needed context for (and thus it improves) decision making. Following are the four levels of review/assessment that may be used for multiscale analysis:

1. Broad-scale (e.g., Assessment of Ecosystem Components in the Interior Columbia Basin);
2. Mid-scale (e.g., Ecosystem Review at the Subbasin Scale);
3. Fine-scale (e.g., Ecosystem Analysis at the Watershed Scale);
4. Site-scale (e.g., reach analysis, project/site analysis).

Management considerations for multiscale analysis include the following:

- Plans are generally developed and analyzed at the scale of the land management unit, normally analogous to a subbasin (or group of subbasins) scale.
- Subsequent finer scale analysis, such as to support restoration prioritization and monitoring strategy development, should include interagency coordination.
- Assessments should include evaluation of existing conditions, factors limiting aquatic species populations, resource risks, management needs, and restoration opportunities.
- Information developed at the finer scale should be considered in implementing the aquatic conservation or restoration measures and used to make adjustments or modifications to appropriate management actions, as warranted.
- Multiscale analysis provides a basis for integrating and prioritizing conservation measures for wide-ranging species.

Cottonwood Field Office Watershed and Site-Specific Analysis Direction

BLM lands managed within the planning area often consist of small scattered tracts of land and BLM ownership within a watershed may not comprise the majority ownership. Many watersheds have scattered tracts of land occurring in a watershed that is primarily private or non-federal ownership. The greatest opportunity for completing new or updating existing watershed analyses or subbasin assessments occur in drainages that majority ownership is comprised of BLM and Forest Service lands. Because the BLM is not the majority landowner, the CFO will collaborate with other Forest Service offices to complete watershed analyses and subbasin assessments or updates.

For small or scattered tracts of BLM lands, watersheds with small amounts of BLM lands, or in areas where a watershed analysis has not been completed, the use of site-specific (focused) analysis or stream reach analysis using approaches similar to what is described above is appropriate. The site-specific or reach analysis should also follow the six-step process identified above, but be limited in geographic scope. The level of site-specific or focused reach analysis will be commensurate with the scope, magnitude, and issues related to BLM activities or projects and related aquatic resources and values. Where appropriate, an abbreviated watershed analysis may be used in conjunction with the focused site-specific analysis.

The BLM and Forest Service have completed several watershed analyses and subbasin assessments within the planning area. The BLM has been the lead agency on several watershed analyses, and the BLM has collaborated with the Forest Service on others when BLM ownership occurs in the watershed or subbasin. A large amount of BLM lands are also intermingled with Idaho Department of Fish and Game lands, which provided opportunity for the BLM to be a lead agency for completion of watershed analysis in these areas (Craig Mountain Wildlife Management Area). These documents have been used to provide guidance for cumulative effects analysis, prioritization for restoration and management actions, and direction and information for landscape and ecosystem management efforts that involve mixed land ownerships. The following table summarizes watershed and subbasin assessments that have been completed within the planning area that provide guidance for BLM planning and management efforts.

Table D-3
Summary of Watershed Analyses and Subbasin Assessments Within the Planning Area

Name	Type of Analysis or Assessment (Watershed/Subbasin)	Year Completed	Lead Agency
LOWER SNAKE RIVER SUBBASIN			
Lower Snake River Ecosystem Analysis at the Watershed Scale	Watershed Analysis – Captain John Creek, Corral Creek, Snake River Face Drainages	2002	BLM Cottonwood Field Office
LOWER SALMON RIVER SUBBASIN			
John Day Creek Watershed Analysis	John Day Creek	1999	BLM Cottonwood Field Office
Slate Creek Ecosystem Analysis at the Watershed Scale	Watershed Analysis – Slate Creek	2000	Nez Perce National Forest
LOWER SALMON RIVER SUBBASIN			
Lower Salmon River Ecosystem Analysis at the Watershed Scale	Watershed Analysis – China Creek, Eagle Creek, Deer Creek, and Salmon River Face Drainages	2002	BLM Cottonwood Field Office
LITTLE SALMON RIVER SUBBASIN			
Boulder Creek Watershed Analysis, Working Draft	Watershed Analysis – Boulder Creek	1999	Payette National Forest
Little Salmon River Subbasin Review	Subbasin Assessment – Little Salmon River Subbasin	2003	Payette National Forest
CLEARWATER RIVER SUBBASIN			
Clearwater Subbasin Ecosystem Analysis at the Watershed Scale	Watershed Analysis – Potlatch River, Orofino Creek, Lolo Creek, Clearwater River	1997	Clearwater River National Forest

Table D-3
Summary of Watershed Analyses and Subbasin Assessments Within the Planning Area
(continued)

Name	Type of Analysis or Assessment (Watershed/Subbasin)	Year Completed	Lead Agency
SOUTH FORK CLEARWATER RIVER SUBBASIN			
South Fork Clearwater River Landscape Assessment	Subbasin Assessment – South Fork Clearwater River	1998	Nez Perce National Forest
Red River Ecosystem Analysis at the Watershed Scale	Watershed Analysis – Red River	2003	Nez Perce National Forest

MONITORING AND ADAPTIVE MANAGEMENT

Monitoring and Evaluation of the Resource Management Plan

The BLM planning regulations require the monitoring and evaluation of RMPs at appropriate intervals. After approval of the RMP an implementation schedule will be completed and would incorporate monitoring plans. Monitoring data would be used to assess resource conditions, identify resource issues and conflicts, determine if resource objectives are being met, determine trends for achievement of desired conditions, and periodically refine and update desired conditions and management strategy.

Monitoring is an essential component of natural resource management because it provides information on the relative success of management strategies. The implementation of the RMP will be monitored to ensure that management actions follow prescribed management direction (implementation monitoring), meet desired objectives (effectiveness monitoring) and are based on accurate assumptions (validation monitoring).

Monitoring will be coordinated with other appropriate agencies and organizations in order to enhance the efficiency and usefulness of the results across a variety of administrative units. The approach will build on past and present monitoring work. In addition, specific monitoring protocols, criteria, goals, and reporting formats will be developed.

Adaptive Management

Adaptive management requires knowledge of the current conditions; potential or capability of riparian sites and streams; current management and effects of the management on the resources; and management changes that may be made to move the current condition toward the desired condition. Single indicators of conditions or trend are usually not adequate to make good decisions. Information on the condition and trend of the vegetation, streambanks, aquatic resources, and knowledge of current management practices can help establish "cause-and-effect" relationships that are important to make appropriate decisions. Such information allows refinement and development of more realistic, locally-derived project or activity design, standards, or criteria.

Monitoring will be an integral component of many management approaches such as adaptive management and ecosystem management. Adaptive management is based on monitoring that is

sufficiently sensitive to detect relevant ecological changes. In addition, the success of adaptive management depends on the accuracy and credibility of information obtained through inventories and monitoring. Close coordination and interaction between monitoring and research are important for the adaptive management process to succeed. Data obtained through systematic and statistically valid monitoring can be used by scientists to develop research hypotheses related to priority issues. Conversely, the results obtained through research can be used to further refine the protocols and strategies used to monitor and evaluate the effectiveness of RMP implementation.

Monitoring results will provide managers with the information to determine whether an objective has been met, and whether to continue or modify the management direction. Findings obtained through monitoring, together with research and other new information will provide a basis for adaptive management changes to the plan. The monitoring process and adaptive management share the goal of improving effectiveness and permitting response to increased knowledge and a changing landscape. The monitoring program itself will not remain static. The monitoring plan will be periodically evaluated to ascertain that the monitoring questions and standards are still relevant, and will be adjusted as appropriate. Some monitoring items many be discontinued and others may be added as knowledge and issues change with implementation.

Implementation and Effectiveness Monitoring

The basics of RMP level monitoring will (1) determine if the plan, project, or activities are being implemented correctly and is achieving desired results, (2) provide a mechanism for accountability and oversight, (3) evaluate the effectiveness of recovery and restoration efforts, and (4) provide a feedback loop (adaptive management) so that management direction may be evaluated and modified.

Management considerations for monitoring include the following:

- Focus monitoring on key questions that inform decision making and allow adjustments to management.

- Monitoring emphasis and intensity should be commensurate with the importance of the question being asked. For example, if adaptive decision making is being used, it will be important to monitor the key parameters to the degree necessary to support the current course of action or to trigger an alternate approach.

- Plan level monitoring should make use of, and not duplicate, broad-scale monitoring programs. To the extent practicable, monitoring done at the plan scale should be compatible with, and complementary to, broader and finer scale monitoring.

- Monitoring should be coordinated with, and where possible consolidated with, similar efforts of other agencies.

- Outcome-based management approaches rely on monitoring for their success. These approaches typically require a different level and type of monitoring than prescriptive approaches.

- Monitoring commitments in plans should be feasible and achievable.

Monitoring is a process of gathering information through observation and measurement to ensure that project design criteria and mitigation are implemented and to determine if goals and objectives for project/program are achieved. The two types of monitoring identified are implementation and effectiveness. Specifics of these types of monitoring are described below:

- Implementation monitoring is used to determine if management practices are implemented as identified in an activity plan, environmental assessment, environmental impact statement, biological assessment, or biological opinion.

- Effectiveness monitoring is used to determine if management practices, as designed and executed, are effective in meeting project goals and objectives as defined in an activity plan, environmental assessment, environmental impact statement, biological assessment, or biological opinion.

The results of monitoring will be summarized and shared, as requested, with state and federal agencies, and tribes. The monitoring results are also available to the public upon request.

The design criteria and mitigation would be monitored on a specific action or subsample of activity or project. Agency representatives overseeing the actions would do the monitoring, as well as an interdisciplinary or multiparty team, through a combination of any of the following methods:

- Review environmental assessment, biological assessment, and biological opinion identified project specifications and terms and conditions to ensure that monitoring is provided for in contract or plans of operation (project design and mitigation criteria);

- Review designs and plans of operation;

- Review contract administration reports (daily diaries); and

- Review activities on the ground before, during, and after implementation.

Where appropriate, photograph conditions before the project begins, during its implementation, and after it is completed.

The CFO implementation and effectiveness monitoring strategy will include the use of databases and reporting mechanisms. Monitoring protocols will be in accord with appropriate BLM Technical Bulletins or other acceptable monitoring methods which would address the Watershed and Aquatic Condition Indicators included in **Appendix H**. Acceptable monitoring methods would be adaptive and include protocols that have been generally approved and accepted by state, federal, and Tribes to document existing desired conditions.

RESTORATION PRIORITIES AND GUIDANCE

Refer to **Appendix B,** Conservation and Restoration Watersheds, for criteria and identification of restoration watersheds, and prioritization for restoration projects and achievement of desired

conditions. Restoration subwatersheds were identified because biological and physical processes and functions do not reflect natural conditions because of past and long-term land disturbances. Refer to **Map 2** for Conservation and Restoration Watersheds identified. Management consideration for these watersheds includes the following:

- Identify restoration objectives, desired conditions, and the types of management actions likely to be used to achieve those objectives or desired conditions;
- Make finer scale prioritization a part of plan implementation rather than plan development;
- Support restoration prioritization with analysis at the appropriate scale (e.g., subbasin, watershed);
- Integrate aquatic and terrestrial restoration priorities;
- Emphasize restoration opportunities that provide benefits for multiple resources; and
- Structure the plan to provide for additions to, deletions from, or modifications of restoration watersheds based on new information.

STANDARDS AND GUIDELINES

Standards and guidelines apply to all RCAs and to projects and activities in areas outside of RCAs that are identified through NEPA analysis as potentially degrading RCAs. RCA desired conditions for aquatic and riparian habitats are identified in **Appendix H**. WACIs used for rating baseline conditions for watersheds and streams, and are also identified in **Appendix H**.

Standards and Guidelines	Conservation Measures
Riparian Conservation Areas	
RCA-1	New activities in RCAs or activities outside RCAs that affect desired conditions and WACIs must be designed to enhance, restore, or maintain the physical and biological characteristics of the RCA by implementing the following: • Activities outside or in RCAs that are intact and functioning in a desired condition, as indicated by specific desired conditions and WACIs (**Appendix H**) or other measures, must be designed to at least maintain that desired condition; • Activities outside or in RCAs that are not at desired condition, as indicated by specific desired conditions and WACIs (**Appendix H**) or other measures, should include a restoration component as part of the project when such may be practical and appropriate for the scope of the project; and • Activities outside or in RCAs must not result in long-term degradation to aquatic conditions. Limited short-term adverse effects from activities in the RCA may be acceptable when outweighed by the long-term benefits to the RCA and aquatic resources.

Standards and Guidelines	Conservation Measures
	• New road construction, landings, timber harvest, salvage logging, or construction of recreation sites within RCAs will require a watershed analysis and/or site-specific analysis prior to implementation. The level of analysis will be commensurate with the scope, magnitude, and issues of the project and related aquatic and riparian resources and values.
Timber Management	
TM-1	Apply vegetation management practices, such as timber harvest, salvage logging, fuelwood cutting and fuels treatments, within RCAs where needed to acquire desired vegetation characteristics essential to achieving functional desired conditions. Vegetation treatments will be allowed only to maintain, restore, or enhance physical and biological characteristics of the RCA. Implemented treatments will, at a minimum, maintain existing conditions and not impede achievement of desired conditions in the long term. Management actions will balance short-term risks (to aquatic and other resources) with long-term benefits as actions are considered to move toward a natural variability of conditions. Complete watershed analysis and/or site-specific analysis prior to conducting timber harvest or salvage logging in RCAs. RCAs are not included in the land base when determining probable sale quantity.
TM-2	New management activities within or affecting RCAs shall be conducted only if they are consistent with the RCA management objectives of not precluding attainment of, or maintaining functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional (desired conditions).
TM-3	When management activities are conducted within the sediment delivery influences area, ground disturbance shall be minimized and sufficient ground cover shall be retained (existing vegetation and/or by seeding, plantings, and erosion control measures) to limit soil movement into or within the RCA to allow attainment of RCA objectives (desired conditions). Buffer widths, vegetation cover, and/or natural topography features should be sufficient to minimize risks for erosion/sediment reaching stream channels and other water bodies.
TM-4	Management activities in RCAs shall be implemented to maintain or support attainment of aquatic and RCA management objectives (desired conditions).
Roads Management	
RF-1	Cooperate with federal, tribal, state, and county agencies and cost-share partners to achieve consistency in road design, operation, and maintenance necessary to reduce adverse effects and support achievement of desired conditions and functional WACIs in the long term.
RF-2	For new or existing roads (authorized across BLM lands or BLM easement across other lands), strive to support achievement of desired conditions and functional WACIs and avoid adverse effects to native fish.

Standards and Guidelines	Conservation Measures
RF-2a	Complete a watershed or site-specific analysis, before building new roads or landings in RCAs. Site-specific analysis will reference to existing watershed analysis when available. The level of analysis should be commensurate with the scope and issues of the project and related aquatic resources.
RF-2b	Minimize new road and landing locations in RCAs. Permanent new roads are not allowed unless long-term resource management and public resource needs can be identified through the development of a Road Management Plan or System Road Analysis. Analysis should be specific to why alternative routes outside of RCA are not practical and how road design features would minimize or avoid adverse effects to aquatic and riparian resources at site-specific, reach, and watershed scales.
RF-2c	Initiate development and implementation of a road management plan or a transportation management plan for BLM-controlled roads. At a minimum, address the following items in the plan: • Road design criteria, elements, and standards that govern construction, reconstruction, and maintenance; • The long-term management needs for each road; • Road management objectives for each road; • Criteria that govern road operation, maintenance, and management; • Guidance for inspections and maintenance before, during, and after storms; • Traffic regulation during wet periods to minimize erosion and sediment delivery; • Monitoring plans for road stability, drainage, and erosion control; and • Mitigation plans for road failures.
RF-2d	Temporary roads within RCAs will be decommissioned a maximum of three years after their construction.
RF-2e	Avoid or minimize sediment delivery to streams from the road surface to allow attainment of desired condition and functional WACIs through implementation of the following. • Outsloping the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe; • Where practical or feasible, route road drainage away from potentially unstable fills and hillslopes; • Where practical or feasible, route road drainage so it cannot reach streams, this may be accomplished with road drainage directed off roads prior to reaching streams and being filtered through adequate vegetation buffers; and • When management activities are conducted within the sediment delivery influence area, ground disturbance shall be minimized and sufficient ground cover shall be retained (existing vegetation and/or by seeding, plantings, and erosion control measures) to limit soil movement into and within the RCA.

Standards and Guidelines	Conservation Measures
RF-2f	Avoid sidecasting road surface material which may reach streams and fish bearing water bodies.
RF-3	Avoid adverse effects on threatened and endangered species and other native fish by implementing the following: • Relocating or reconstructing roads and drainage features that are not effective at controlling sediment delivery; • Prioritizing reconstruction based on the current and potential habitat damage and the ecological value of the riparian resources affected; and • Stabilizing, closing, or obliterating roads not needed for future management activities. Prioritize these actions based on the current and potential damage to native fish and the ecological value of riparian resources affected.
RF-4	New, replacement, and reconstructed stream crossings (culverts, bridges, and other stream crossings) must be designed to: • Accommodate a 100-year flood, including associated bedload and debris; • Maintain fish and aquatic organism passage; • Maintain channel integrity; and • Accommodate mean bankfull channel widths.
RF-5	Refer to Road Management Guidelines in **Appendix A** (Best Management Practices) for a complete list of road management standards and guidelines.
Grazing Management	
GM-1	Range project plans, allotment management plans, and annual plans of operation shall be developed, revised, and maintained where needed to achieve desired conditions and functional WACIs. These plans establish objectives and identify actions for managing vegetation resources to achieve desirable riparian and aquatic conditions. This may include grazing schedule, grazing system, season of use, class of livestock, stocking levels, forage products and utilization rates, and improvements needed to achieve functional desired conditions. The results of monitoring riparian and streamside condition will be used to determine the need for change.
GM-2	New management activities within or affecting RCAs shall be conducted only if they are consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional (desired conditions).
GM-3	Existing land uses (trailing, bedding, watering, salting, loading, other handling efforts, etc.), facilities (e.g., livestock handling and management facilities), and actions within or affecting RCAs shall be modified, discontinued, or relocated if they are not maintaining fully functional aquatic/riparian conditions and processes, or improving conditions and processes (through either active or passive measures) that are not fully functional.

Standards and Guidelines	Conservation Measures
GM-4	Develop and implement grazing practices in areas of known or suspected threatened and endangered species fish spawning to avoid or restrict trampling of redds (may require fencing) and other direct and indirect effects that may result in adverse impacts on the species.
GM-5	Following is a summary of the grazing management monitoring protocol for the riparian and aquatic strategy for the CFO. 1. All grazing allotments will have an established designated monitoring area. A designated monitoring area is the location in riparian areas and along the streambanks of a livestock grazing unit where monitoring takes place. The designated monitoring area would be permanently marked (e.g., reference tags, rebar) and identified (e.g., mapped, global positioning system). The designated monitoring area should reflect typical livestock use where they enter and use vegetation in riparian areas immediately adjacent to the stream. 2. Within an allotment, emphasis for selection of designated monitoring areas would be on stream reaches with threatened and endangered species, where spawning and/or early rearing occur (typically tributary streams to large mainstem rivers or 3rd to 5th order streams), or non-fish-bearing streams that may affect streams with threatened and endangered species, or mainstem rivers if riparian/streambank impacts are occurring from livestock use. 3. Monitoring requirements may include various levels or combinations of effectiveness monitoring and/or implementation monitoring. Examples of effectiveness monitoring would include greenline vegetation composition, woody species regeneration, streambank stability, and stream channel morphology. Examples of implementation monitoring would include residual vegetation measurement (e.g., stubble height), streambank alteration, compliance with season of use, and stocking rates. Effectiveness and implementation indicators monitored would be dependent on riparian and aquatic conditions and resource concerns. 4. Three intensities (e.g., high, moderate, and low) of grazing allotment monitoring will be conducted, and is dependent on sensitivity of the stream channel and potential for grazing effects to riparian areas, streambanks, and threatened and endangered species species. • High intensity monitoring (e.g., low gradient B and C channels, spawning and early rearing threatened and endangered species habitat, with high potential for grazing effects to threatened and endangered species and habitats) and would include establishment of a streambank and riparian monitoring site (designated monitoring area) and monitoring a minimum of every one to three years. • Moderate intensity monitoring (e.g., low gradient B and C channels, spawning and early rearing threatened and endangered species habitat, with moderate potential for grazing effects to threatened and endangered species and habitats) and would include establishment of a streambank and riparian monitoring site (designated monitoring area) and monitoring a minimum of every four to five years.

Standards and Guidelines	Conservation Measures
	• Low intensity monitoring (e.g., high gradient A channel, intermittent/perennial non-fish bearing stream, low potential for grazing effects to threatened and endangered species or habitats), may include establishment of a photo point(s) and narrative description of channel, streambank, and riparian habitat, and monitoring would be conducted every 10 to 15 years. 5. The results of monitoring and BLM land attributed grazing effects to threatened and endangered species and habitats would be evaluated for needed changes. If warranted, needed changes to grazing would be implemented to support achievement of desired conditions. Coordination would take place with BLM grazing leasees on actions that would change existing grazing authorizations. As needed, coordination would also occur with other federal and state agencies.
Recreation Management	
RM-1	Existing land uses, facilities (e.g., dispersed and developed recreation facilities and practices), and actions within or affecting RCAs shall be modified, discontinued, or relocated if they are not maintaining fully functional aquatic/riparian conditions and processes, or improving conditions and processes (through either active or passive measures) that are not fully functional. Avoid or minimize adverse effects on threatened and endangered fish and habitats and desired conditions.
RM-2	Developed recreation sites will have a plan for each site that addresses site vegetation management, riparian/streambank management, implementation and effectiveness monitoring, and operating plans. Plan will identify actions needed to avoid or minimize adverse effects on threatened and endangered fish and habitats and desired conditions.
RM-3	Complete watershed analysis and/or site-specific analysis prior to construction of a new developed recreation site in an RCA.
RM-4	New management activities within or affecting RCAs should be conducted only if they are consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional. New recreation site development and operation will avoid or minimize adverse effects on threatened and endangered fish and habitats and desired conditions.
RM-5	When management activities are conducted within the sediment delivery influences area, ground disturbance shall be minimized and sufficient ground cover shall be retained to limit soil movement into the RCA to allow attainment of RCA objectives (desired conditions). Buffer widths, vegetation cover, and/or natural topography features should be sufficient to minimize risks for erosion/sediment reaching stream channels and other water bodies.

Standards and Guidelines	Conservation Measures
RM-6	Management activities and land uses in RCAs shall be implemented to attain proper functioning condition as an initial step to move habitat conditions of streams, riparian areas, lakes, and ponds toward achieving aquatic and RCA management objectives (desired conditions).
Minerals Management	
MM-1	For those management activities conducted pursuant to valid existing rights that may pose risks to achievement of RCA management objectives (desired conditions), existing authorities shall be used to mitigate and/or require, to the extent authorized, design features that would contribute to the maintenance of banks, shorelines, bottom configuration, water quality, amount and distribution of woody debris, thermal regulation, characteristic erosion rates, and amount and distribution of source habitats.
MM-2	Management activities and land uses in RCAs shall be implemented to attain proper functioning condition as an initial step to move habitat conditions of streams, riparian areas, lakes, and ponds toward achieving aquatic and RCA management objectives (WACIs).
MM-3	When management activities are conducted within the sediment delivery influences area, ground disturbance shall be minimized and sufficient ground cover shall be retained (existing vegetation and/or by seeding, plantings, and erosion control measures) to limit soil movement into the RCA to allow attainment of RCA objectives (desired conditions). Buffer widths, vegetation cover, and/or natural topography features should be sufficient to minimize risks for erosion/sediment reaching stream channels and other water bodies.
MM-4	New management activities (subject to existing mineral laws) within or affecting RCAs shall be designed to be consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional (desired conditions). New mineral management projects and operation will avoid or minimize adverse effects on threatened and endangered fish and habitats, desired conditions and functional WACIs.
MM-5	Locate structures, support facilities, solid and sanitary waste facilities, and roads outside RCAs. Where there is no alternative to locating facilities or mine waste (waste rock, spent ore, tailings) in RCAs, locate and construct the facilities or manage mine waste in ways that avoid impacts on RCAs and streams and adverse effects on threatened and endangered fish and habitats, and desired conditions. Where there is no alternative to road construction, keep the number of roads to the minimum necessary for the approved mineral activity. Close, obliterate, and revegetate roads no longer required for mineral or land management activities.
MM-6	Permit sand and gravel mining and extraction within RCAs only if no alternatives exist, if the action would not retard or prevent attainment of desired conditions, and adverse effects on threatened and endangered fish would be avoided.

Standards and Guidelines	Conservation Measures
MM-7	Develop inspection, monitoring, and reporting requirements for mineral activities. Evaluate and apply the results of inspection and monitoring to modify mineral plans, leases, or permits as needed to eliminate impacts that prevent attainment of desired conditions and avoid adverse effects on threatened and endangered fish and habitats.
Fire Management	
FM-1	Fire Suppression strategies, practices, and actions in RCAs should be designed to maintain desired conditions and minimize disturbances of riparian ground cover and vegetation. Minimum impact suppression techniques shall be used within RCAs unless safety to human live or property is an issue.
FM-2	An interdisciplinary team, including a fishery biologist, to the extent practical shall be used to predetermine incident base, dipping, and helibase locations during pre-suppression planning. Incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities shall be located outside of RCAs. If the only suitable location for these activities is within the RCA, an exemption may be granted following a review and recommendation by a resource advisor. The advisor should prescribe the location, use conditions, and rehabilitation requirements, with avoidance of adverse effects to terrestrial, aquatic, and riparian resources as a primary goal.
FM-3	Avoid delivery of chemical retardant, foam, or additives to, or discharge of gray water into, surface waters. An exception is warranted where overriding immediate safety imperatives exist, or, following a review and recommendation by a resource advisor, when the action agency determines a fire would cause more long-term damage to fish habitats than chemical delivery to surface waters.
FM-4	Management activities and land uses in RCAs shall be implemented to attain proper functioning condition for aquatic and riparian habitats as an initial step to move habitat conditions of streams, riparian areas, lakes, wetlands, and ponds toward achieving aquatic and RCA management objectives (desired conditions).
FM-5	New management activities within or affecting RCAs shall be conducted only if they are consistent with the RCA management objectives of not precluding or maintaining functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional (desired conditions). Management actions will balance short-term risks (to aquatic and other resources) with long-term benefits as actions are considered to move toward a natural variability of conditions.
FM-6	Immediately establish an interdisciplinary team to develop a rehabilitation plan to support achievement of desired conditions and avoid adverse effects on threatened and endangered species whenever RCAs or uplands have experienced severe damage to soils and vegetation from fire.

Standards and Guidelines	Conservation Measures
Lands and Realty	
LR-1	New management activities (subject to existing laws) within or affecting RCAs shall be designed and implemented to be consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional (desired conditions). New lands and realty projects will avoid or minimize adverse effects on threatened and endangered fish and habitats, and desired conditions.
LR-2	For those management activities conducted pursuant to valid existing rights that may pose risks to achievement of RCA management objectives (desired WACIs), existing authorities shall be used to mitigate and/or require, to the extent authorized, design features that would contribute to the maintenance of banks, shorelines, bottom configuration, water quality, amount and distribution of woody debris, thermal regulation, characteristic erosion rates, and amount and distribution of source habitats.
LR-3	When management activities are conducted within the sediment delivery influences area, ground disturbance shall be minimized and sufficient ground cover shall be retained (existing vegetation and/or by seeding, plantings, and erosion control measures) to limit soil movement into the RCA to allow attainment of RCA objectives (WACIs). Buffer widths, vegetation cover, and/or natural topography features should be sufficient to minimize risks for erosion/sediment reaching stream channels and other water bodies.
LR-4	During licensing or relicensing of hydroelectric projects, terms and conditions that achieve aquatic and RCA management objectives (i.e., desired conditions) over the new license term shall be submitted to the Federal Energy Regulatory Commission, where appropriate.
LR-5	Use land acquisition, exchange, and conservation easements to support achievement of desired conditions and facilitate restoration of threatened and endangered species.
General Riparian Area Management	
RA-1	Management activities and land uses in RCAs shall be implemented to attain proper functioning condition as an initial step to move habitat conditions of streams, riparian areas, lakes, wetlands, and ponds toward achieving aquatic and RCA management objectives (desired conditions).
RA-2	New management activities within or affecting RCAs shall be conducted only if they are consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions (desired conditions and functional WACIs) and processes (through either active or passive measures) that are not fully functional. Riparian management actions will avoid or minimize adverse effects on threatened and endangered and other native fish and habitats, and desired conditions. Management actions will balance short-term risks (to

Standards and Guidelines	Conservation Measures
	aquatic and other resources) with long-term benefits as actions are considered to move toward a natural variability of conditions.
RA-3	Identify and coordinate with federal, tribal, state, and local governments to secure instream flows needed to maintain riparian resources, channel conditions, and aquatic habitat.
RA-4	Trees may be felled in RCAs when they pose a safety risk. Keep felled trees on-site when needed to meet woody debris objectives.
RA-5	Apply pesticides (herbicides, insecticides, etc.), and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of desired conditions and avoids adverse effects on threatened and endangered fish. When applying pesticides, etc. in a RCA, a spill kit will onsite at all times. Prohibit storage and mixing of pesticides (herbicides, insecticides, etc.) within RCAs unless there are no other practicable alternatives.
RA-6	Prohibit storage of fuels and other toxicants and refueling within RCAs unless there are no other practicable alternatives. Refueling sites and storage areas within a RCA will have an approved refueling and spill containment plan.
RA-7	Locate water drafting sites to avoid adverse effects on threatened and endangered and other native fish and instream flows and in a manner that does not retard or prevent attainment of desired conditions.
RA-8	Do not undertake management activities that would retard attainment of trends toward improving aquatic and riparian habitats in restoration subwatersheds. Short-term adverse effects are acceptable, if they would not preclude attainment of long-term improvement to aquatic and riparian habitats. Because of past land uses and habitat degradation (e.g., road encroachment on streams, dredge mining, fish passage barrier culverts), it is acceptable to have short-term adverse effects to achieve long-term benefits.
Watershed and Habitat Restoration	
WR-1	Management activities and land uses in RCAs shall be implemented to help promote achievement or maintenance of desired conditions and functional WACIs.
WR-2	New management activities within or affecting RCAs shall be conducted only if they are consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional good quality desired conditions and functional WACIs. New watershed and habitat restoration projects will avoid or minimize adverse effects on threatened and endangered fish and habitats, and desired conditions. Management actions will balance short-term risks (to aquatic and other resources) with long-term benefits as actions are considered to move toward a natural variability of conditions.

Standards and Guidelines	Conservation Measures
WR-3	Design and implement watershed restoration projects in a manner that promotes the long-term ecological integrity of ecosystems, conserves the genetic integrity of threatened and endangered species, and contributes to attainment of desired conditions and high-quality WACIs.
WR-4	Cooperate with federal, state, local, and tribal agencies and private landowners to develop watershed-based coordinated resource management plans or other cooperative agreements to meet desired conditions and high-quality WACIs.
WR-5	Do not use planned restoration as a substitute for preventing habitat degradation; that is, use planned restoration only to mitigate existing problems not to mitigate the effects of proposed activities. It is acknowledged that some proposed activities may have short term adverse effects, but shall not degrade or preclude trends to achieve desired conditions and high-quality WACIs in the long term.
Fisheries and Wildlife Restoration	
FW-1	Management activities and land uses in RCAs shall be implemented to attain proper functioning condition as an initial step to move habitat conditions of streams, riparian areas, lakes, wetlands, and ponds toward achieving aquatic and RCA management objectives (desired conditions).
FW-2	New management activities within or affecting RCAs shall be conducted only if they are consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional. New fisheries and restoration projects will avoid or minimize adverse effects on threatened and endangered fish and habitats, and desired conditions. Management actions will balance short-term risks (to aquatic and other resources) with long-term benefits as actions are considered to move toward a natural variability of conditions.
FW-3	Design, construct, and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of the desired conditions or adversely affect threatened and endangered fish. For existing fish and wildlife interpretive and other user-enhancement facilities inside RCAs, ensure the RMOs are met and adverse effects on threatened and endangered fish are avoided. Where RMOs cannot be met or adverse effects on threatened and endangered fish avoided, relocate or close these facilities.
FW-4	Cooperate with federal and state wildlife management agencies to identify and eliminate wild ungulate impacts that prevent attainment of the desired conditions or adversely affect threatened and endangered fish.
FW-5	Cooperate with federal and state fish management agencies to identify and eliminate adverse effects on native anadromous fish associated with habitat manipulation, fish stocking, fish harvest, and poaching.

APPENDIX E—SPECIAL STATUS SPECIES

INTRODUCTION

The primary purpose of this appendix is to document special status species that are associated with BLM lands within the planning area. With new special status species being designated or delisted, the appropriate tables will be updated. Updated information, research, surveys, or monitoring would also be used to further define preferred habitats, and tables would periodically be edited to be current.

SPECIAL STATUS PLANT SPECIES

Idaho BLM sensitive plant species that occur or potentially could occur within the CFO planning area, along with preferred habitats for each species, are listed in **Table E-1**.

Table E-1
Special Status Species, Idaho BLM Sensitive and Watch List Plant Species That Are Known to Occur on CFO Lands

Common Name *Scientific Name*	Habitat	Idaho BLM Status	Number of Populations[1]
Tolmie's onion *Allium tolmiei* var. *persimile*	Grassland communities on rocky, gravelly, or clayey site. Seasonally wet soils. Elevation generally between 2,500 to 5,000 feet.	3	1
Candystick *Allotropa virgata*	Limited to forest habitats in which lodgepole pine are dominant or in a few cases at least a significant component.	3	1
Jessica's aster *Aster jessicae*	Palouse Prairie and canyon grasslands, often near small drainages, but on dry ground. Generally found within ponderosa pine/snowberry, Idaho fescue/snowberry, and Douglas-fir/ninebark habitat types. Other associated species include bluebunch wheatgrass and arrowleaf balsamroot.	2	1
Payson's milkvetch *Astragalus paysonii*	Early- to mid-successional sites dominated by lodgepole pine with scattered Douglas-fir and western larch present. Found on north, northeast, and east aspects on flat to moderate slopes (up to 45 percent). Elevation generally between 4,600 and 5,800 feet.	3	1

Table E-1
Special Status Species, Idaho BLM Sensitive and Watch List Plant Species That Are Known to Occur on CFO Lands *(continued)*

Common Name ***Scientific Name***	Habitat	Idaho BLM Status	Number of Populations[1]
Deer-fern *Blechnum spicant*	Occurs at lower elevations (less than 4,200 feet) within dense, moist, generally mature western red cedar and western hemlock forests. Most often grows in western redcedar/wild ginger (*Asarum caudatum*), western hemlock/wild ginger, or western hemlock/oakfern (*Gymnocarpium dryopteris*) habitat types. Usually on northern aspects and moderate slopes (10 to 60 percent).	3	1
Green-band mariposa lily *Calochortus macrocarpus* var. *maculosus*	Endemic to the canyons of the Lower Salmon, Lower Clearwater, and Lower Snake Rivers. Most commonly associated with bluebunch wheatgrass communities and to a lesser extent, Idaho fescue communities. It occurs primarily on dry, warm, south-facing slopes.	2	22
Broad-fruit mariposa lily *Calochortus nitidus*	Endemic to the Palouse Prairie and canyon grasslands and associated with canyon rims, ridges and upper slopes. It also occurs within natural forest openings and open ponderosa pine and/or Douglas-fir communities in forested uplands. The plant is shade-intolerant that occurs on flat to gentle or occasionally steep slopes, on all aspects.	2	47
Case's corydalis *Corydalis caseana* ssp. *hastata*	Primarily found along streams within the riparian area. Commonly found in cedar, Engelmann spruce and grand fir habitat types.	3	18
Idaho hawksbeard *Crepis bakeri* ssp. *idahoensis*	Found in Snake River canyonlands. It is widely scattered on dry to seasonally mesic open grassland slopes, benches, and ridges. It occurs on loamy and skeletal soils within canyon grasslands, primarily bluebunch wheatgrass-Sandberg's bluegrass and Idaho fescue/bluebunch wheatgrass communities.	2	1
Dwarf gray rabbitbrush *Chrysothamnus nauseosus* ssp. *nanus*	Primarily restricted to exposed, dry, rocky ridges, outcrops, and associated stable, erosional debris. Most often found in the Craig Mountain area above 4,000 feet elevation. Soils are very shallow, rocky, and often with a gravelly and hard texture approaching an erosional pavement surface.	5	7
Chatterbox orchid *Epipactis gigantea*	Occurs within moist riparian habitats associated with springs, seeps, stream banks, and thermal sites.	3	1
Puzzling halimolobos *Halimolobos perplexa* var. *perplexa*	Found in the main Salmon River and Little Salmon River drainages and their tributaries. Found in dry and open Douglas-fir, ponderosa pine, and bluebunch wheatgrass habitats. Often occurs in shallow sandy loam or gravel-based soils, rock outcrop sites, and disturbed soil areas	5	5

Table E-1
Special Status Species, Idaho BLM Sensitive and Watch List Plant Species That Are Known to Occur on CFO Lands *(continued)*

Common Name ***Scientific Name***	Habitat	Idaho BLM Status	Number of Populations[1]
Palouse goldenweed *Haplopappus liatriformis*	Palouse Prairie and canyon grasslands, generally within the Idaho fescue and bluebunch wheatgrass habitat types. Other typical associated species include: prairiesmoke, western yarrow, northwest cinquefoil, and Nootka rose. Occurs from 1,900 to 3,000 feet.	2	2
Hazel's prickly phlox *Leptodactylon pungens* ssp. *hazeliae*	Found in shallow rocky soils, cliffs, scree areas and rock outcrops in canyon grasslands associated with bluebunch wheatgrass habitat types; usually found below 2,000 feet.	3	7
Spacious monkey-flower *Mimulus ampliatus*	Seepy basal outcrops and vernal seeps in open grassland or forest opening. Prefers particularly moist and shady sites. Known locations range from 2,600 to 6,900 feet in elevation.	2	1
MacFarlane's four-o'clock *Mirabilis macfarlanei*	Found in river canyon grassland habitats at elevations from 1,000 to 3,500 feet. Sites are dry and generally open, although scattered shrubs may be present. Plants can be found on all aspects, but often occur on southeast to western aspects. Habitat generally consists of bunchgrass communities dominated by bluebunch wheatgrass.	1 Threatened	6
Bank monkey-flower *Mimulus clivicola*	Regional endemic plant of the interior Pacific Northwest. Range includes northern to west-central Idaho and adjacent Oregon. Often found on moderately dry slopes in grassland or conifer openings, often in pockets of mineral soil, including sites where the soil has been exposed because of big game activity or roadcuts. In the CFO, usually found between 1,400 and 4,000 feet in elevation.	5	6
Hall's orthotrichum *Orthotrichum hallii (moss)*	Found on dry rocks that are shaded.	3	1
Goldenback fern *Pentagramma triangularis* ssp. *triangularis*	Rock crevices and open rocky slopes in valleys and foothills. Found often in partly shaded sites. From 1,500 to 2,700 feet.	3	1
Douglas' clover *Trifolium douglasii*	Found in meadows, riparian areas, and along streambanks.	2	1
Simpson's hedgehog cactus *Pediocactus simpsonii*	Generally occurs in a variety of open, rocky habitats in the Lower Salmon and Lower Snake River canyons between 1,600 to 5,500 feet in elevation. Occurs on all aspects, although mostly warmer exposures, and from flat to steep slopes. Soils are generally shallow, rocky and well drained.	5	2

Table E-1
Special Status Species, Idaho BLM Sensitive and Watch List Plant Species That Are Known to Occur on CFO Lands *(continued)*

Common Name ***Scientific Name***	Habitat	Idaho BLM Status	Number of Populations[1]
Spalding's catchfly *Silene spaldingii*	Occurs within Palouse Prairie and canyon grassland communities in Idaho. Occurs on undisturbed slopes or flats and swales, small undisturbed strips of vegetation surrounded by cultivated fields, often along lower tree line or near scattered ponderosa pine trees. Sites are dominated by Idaho fescue with numerous perennial herbs and scattered shrubs. Soils are typically silt/loams (loess) that are moderately deep.	1 Threatened	
Plumed clover *Trifolium plumosum* ssp. *amplifolium*	Dry to moderately moist Palouse Prairie, canyon grasslands, and meadows, within the Idaho fescues and bluebunch wheatgrass habitats in ponderosa pine stands.	2	4
Western ladies-tresses *Spiranthes porrifolia*	Typically occurring in seeps in Douglas-fir stands at lower timberline near transition to grasslands.	3	10
Purple thick-leaved thelypody *Thelypodium laciniatum* var. *streptanthoides*	Generally found in the Lower Snake River and Lower Salmon River canyons. Occurs on rocky outcrops and in crevices of canyon cliffs surrounded by bluebunch wheatgrass habitats. Although it occurs on all aspects, it is more common on southerly aspects. Elevations range from less than 900 up to 4,000 feet.	5	6
Idaho barren strawberry *Waldsteinia idahoensis*	Meadows and moist woods along streams. Toe to mid-slopes, occurs in moist and cools sites associated with grand-fir, cedar, and alpine fir zones.	3	13

[1]Populations are defined as groupings of special status or watch list plants and colonies that are less than one air mile apart. A population may be made up of one to many special status or watch list plant occurrences.

Notes: In Idaho, the BLM has defined and further clarified the management of special status plants by designating species as either BLM Sensitive or Watch. The following categories are recognized:

Idaho BLM Special Status Plants Include Type 1 Through Type 4

Type 1: Federally Listed, Proposed and Candidate Species: Includes species that are listed under the Endangered Species Act, proposed or candidates for listing.

Idaho BLM Sensitive Plant Species Include Type 2 Through Type 4

Type 2: Rangewide/Globally Imperiled Species - High Endangerment: Includes species that are experiencing declines throughout their range with a high likelihood of being listed under the Endangered Species Act in the foreseeable future due to their rarity and significant endangerment factors.

Type 3: Rangewide/Globally Imperiled Species - Moderate Endangerment: Includes species that are globally rare with moderate endangerment factors. Their global rarity and inherent risks associated with rarity make them imperiled species.

Type 4: Species of Concern: Includes species that are generally rare in Idaho with currently low endangerment threats.

Idaho BLM Watch List Plant Species Include Type 5

Type 5: Watch List: Includes species that are not considered Idaho BLM sensitive species, but current population or habitat information suggests that species may warrant sensitive species status in the future.

SPECIAL STATUS MAMMALS, BIRDS, REPTILES, AMPHIBIANS, AND INVERTEBRATE SPECIES

Federally listed or candidate species that occur or potentially occur within the CFO planning area, along with preferred habitats for each species, are listed in **Table E-2**. Idaho BLM sensitive animal species that occur or potentially could occur within the CFO planning area, along with preferred habitats for each species, are listed in **Table E-3**.

Table E-2
Federally Listed and Candidate Animal Species in the CFO Planning Area

Common Name *Scientific Name*	Habitat	ESA Status (Idaho BLM Status)[1]
Canada lynx *Lynx canadensis*	Preferred habitats are Engelmann spruce/subalpine fir habitats above 4,000 feet in elevation. Lynx foraging habitat corresponds with snowshoe hare habitat because the hare is the lynx's primary prey. Snowshoe hare are most abundant in seedling/sapling lodgepole pine, subalpine fir, and Engelmann spruce. Den sites typically in hollow logs or rootwads within mesic, mature, or old growth coniferous forest.	Threatened
Northern Idaho Ground Squirrel *Spermophilus brunneus brunneus*	Preferred habitats include dry, rocky, sparsely vegetated meadows surrounded by forests of ponderosa pine or Douglas-fir. Meadow sites generally consist of dry, shallow soils with no tree encroachment. Ponderosa pine-shrub steppe habitat is also a characteristic of preferred habitat, below 6,000 feet. Recently found in a sub-alpine fire habitat along a ridge at approximately 7,500 feet. Within the planning area, only documented occurrences to date in Adams County.	Threatened
Yellow-billed cuckoo *Coccyzus americanus*	Prefers riparian habitats with large dense stands of cottonwood and willow.	Candidate

[1]Type 1–Federally listed, proposed, and candidate species

Table E-3
Idaho BLM Sensitive Mammals, Birds, Amphibians, Reptiles, and Invertebrate Species in the CFO Planning Area

Common Name Scientific Name	Habitat	Idaho BLM Status[1]
Mammals		
Gray Wolf *Canis lupus*	Key components of wolf habitats are sufficient year-round prey base of ungulates and alternative prey, suitable and semi-secluded denning and rendezvous sites, and sufficient seasonal habitats with minimal exposure to humans. The gray wolf was delisted as an ESA-listed species in 2009.	2
Wolverine *Gulo gulo luscus*	Forested areas with minimal human intrusions at higher elevations provide preferred habitats.	3
Fisher *Martes pennanti*	Dense canopied, late seral timber types at higher elevations. Dead and down timber in grand fir, Douglas-fir, or other conifer types are most preferred.	3
California myotis *Myotis californicus*	Found in lower elevation areas up to approximately 5,500 feet. Uses a variety of habitats, such as canyons, riparian areas, and grasslands. Within Idaho, primarily found in Adams County.	4
Fringed myotis *M. thysanodes*	Large trees, caves, mine tunnels, attics of old buildings. Insectivorous.	3
Townsend's big-eared bat *Plecotus townsendii*	Caves, mine tunnels, and buildings for roosts, obligate cave/mine user, may also feed on ground or in shrubs. Insectivorous.	3
Coast mole *Scapanus orarius*	Found in agricultural lands, grassy meadows, coniferous and deciduous forests and woodlands, and along streams. In Idaho, primarily found in Adams County.	4
Birds		
Bald eagle *Haliaeetus leucocephalus*	Winter habitat for the bald eagle is primarily associated with the larger rivers and corridors, such as the Snake, Salmon, Clearwater River, South Fork Clearwater, and Dworshak Reservoir. Bald eagles will also use lower elevation uplands and prairie areas during winters, particularly if carrion is available. Winter habitat for bald eagles is a function of perch and roost site availability, as well as access to fish, waterfowl, and ungulate carrion as forage/prey. Nest sites have been documented in the Dworshak Reservoir area, along Clearwater River, and along Salmon River. The bald eagle was delisted as an ESA-listed species in 2007.	2
Peregrine falcon *Falco peregrinus anatum*	Primarily open country; specifically cliff localities adjacent to mountain valleys, rivers, and large bodies of water. Nest is cape on ledge of high cliff. Foods are primarily small birds.	3
Northern goshawk *Accipiter gentilis*	Forests, forest edge, open woodlands. Most common in ponderosa pine, lodgepole pine and Douglas-fir forests. Riparian habitats in winter. Nests are masses of twigs in tall conifers. Foods are tree squirrels, jackrabbits, ground squirrels, small birds, and occasionally grouse.	3

Table E-3
Idaho BLM Sensitive Mammals, Birds, Amphibians, Reptiles, and Invertebrate Species in the CFO Planning Area *(continued)*

Common Name Scientific Name	Habitat	Idaho BLM Status[1]
Prairie Falcon *Falco mexicanus*	Steppe, canyon grasslands, to forests with cliffs. Nest is sticks and twigs on niche of cliff. Foods are ground squirrels, rodents, small birds.	3
Flammulated owl *Otus flammeolus*	Montane forests, open stands of fire-climax ponderosa pine or Douglas-fir forests. Nests in abandoned woodpecker holes. Primarily insectivorous.	3
American white pelican *Pelecanus erythrorhynchos*	Found on rivers and lakes. Feeds mainly on fishes, eats some salamanders and crayfishes. Has been observed (very rare) on larger rivers (e.g. Snake River) and Mann Lake within the Cottonwood Field Office management area. In Idaho, breeds at Minidoka National Wildlife Refuge, Blackfoot Reservoir, and on Snake River near Glenn's Ferry.	2
Harlequin duck *Histrionicus histrionicus*	In Idaho, breeds on forested mountain streams of relatively low gradient free of human disturbance. Breeds primarily on crustaceans, mollusks, insects, and a few small fishes. Has been found in Lochsa River and Lolo Creek drainages.	4
Lewis woodpecker *Melanerpes lewis*	Open or logged forests, river groves in mountains. Nest is a hole in a tree. Foods are insects, berries, and fruits.	3
White-headed woodpecker *Picoides albolarvatus*	Montane coniferous forests, primarily dry open forests with ponderosa pine and Douglas-fir. Nest is a hole in tree or stump, often close to ground. Food is primarily insects.	4
Williamson's sapsucker *Sphyrapicus thyroideus*	Coniferous forests and burns at higher elevations in mountains. Nest is hole in tree. Foods are sap, insects, and inner bark.	3
Mountain quail *Oreotys pictus*	Riparian areas, shrub mountainsides, coniferous forests, and forest edge. Nests on ground. Foods are buds, seeds, grain, and insects.	3
Olive-sided flycatcher *Contopus borealis*	Open timber at meadow margins in sparse timber, burns, partially logged areas. Nest is woven twigs near end of a horizontal limb of a conifer. Food is insects caught while flying.	3
Hammond's flycatcher *Empidonax hammondii*	Found in coniferous forests and woodlands. Uses mature to over-mature forests; they are found in areas with large, tall trees and nest in mature trees. Prefer old-growth to mature stands of ponderosa pine and Douglas-fir. Nest is woven cup of vegetation in deciduous tree. Eats such insects as beetles, moths, flies, bees, and wasps.	3
Willow flycatcher *E. traillii*	Riparian areas, swamps, willow thickets, open woodlands. Builds cup-shaped nest in shrub or deciduous tree. Insectivorous.	3
Calliope hummingbird *Stellula calliope*	Foothills and forested mountains. Nests in conifers. Foods are nectar and insects.	3

Table E-3
Idaho BLM Sensitive Mammals, Birds, Amphibians, Reptiles, and Invertebrate Species in the CFO Planning Area *(continued)*

Common Name Scientific Name	Habitat	Idaho BLM Status[1]
Brewer's sparrow *Spizella breweri*	Lowest elevations to highest (8,000 feet or more) in sagebrush valleys, dry grassy ridges of foothills, brushy plains to tree line, cultivated areas with brushy fence rows or patches. Nest is cup of grass and twigs usually in sagebrush. Foods are insects and seeds.	3
Reptiles		
Common garter snake *Thamnophis sirtalis*	Inhabits wet or moist habitats. Preys primarily on earthworms, frogs, toads, salamanders, and fish.	3
Amphibians		
Coeur d'Alene salamander *Plethodon idahoensis*	Found in three primary habitats, which include springs or seepages, spray zones of waterfalls, and edges of streams. Often associated with fractured rock. Found in forested areas of northern Idaho. Areas within north--central Idaho include the North Fork Clearwater River, Lochsa River, and Selway River drainages.	3
Idaho giant salamander *Dicamptodon aterrimus*	Larvae usually inhabit clear cold streams but are also found in mountain lakes and ponds. Adults are found under rocks and logs in humid forests, near mountain streams, or on rocky shores of mountain lakes. Larvae feed on wide variety of aquatic invertebrates as well as some small vertebrates (e.g., fishes, tadpoles, or other larval salamanders). Adults eat terrestrial invertebrates, small snakes, shrews, and salamanders.	3
Western toad *Bufo boreas*	Streams, springs, grasslands, woodlands, mountain meadows. Usually in or near ponds, lakes, reservoirs, rivers, streams. Insectivorous.	3
Woodhouse toad *B. woodhousii*	Found in grasslands, shrub steppe, woods, river valleys, floodplains, and agricultural lands, usually in areas with deep, friable soils. Metamorphosed toads eat various small, terrestrial invertebrates. Larvae eat suspended matter, organic debris, algae, and plant tissue. Within north-central Idaho, primarily found in suitable habitats in Clearwater River subbasin (e.g., Nez Perce and Lewis Counties and northwest portion of Idaho County).	3
Invertebrates		
Columbia River tiger beetle *Cicindela columbica*	Sandy beaches/riparian areas along the Salmon River.	2

Table E-3
Idaho BLM Sensitive Mammals, Birds, Amphibians, Reptiles, and Invertebrate Species in the CFO Planning Area *(continued)*

Common Name Scientific Name	Habitat	Idaho BLM Status[1]
Marbled disc *Discus marmorensis*	Generally found at moderate elevations on limestone terrain in relatively intact, moist, well-shaded (closed to nearly closed canopy) ponderosa pine forest, with diverse deciduous and forb understory. Occasionally occurs in moist schist taluses in forested areas. Colonies are generally near stream edges and at the base of steep slopes, moist sites near permanent water preferred. Found in central portion of a few large Salmon River tributaries in the vicinity of Lucile (e.g., John Day Creek, Slate Creek).	2
Shortface lanx *Fisherola nuttalli*	Found in unpolluted, swift-flowing, highly oxygenated, cold water on stable boulder-gravel substrate, in small to large rivers, often in the vicinity of rapids. Locally found in the Snake River (Hells Canyon) and the lower portion of the Salmon River.	2
Columbia pebblesnail *Fluminicola fuscus (=columbiana)*	Occurs in the mainstem Salmon River. Restricted to small-large rivers, in swift current on stable gravel to boulder substrate in cold, unpolluted, highly oxygenated water, generally in areas with few aquatic macrophytes or edyphytic algae.	3
Idaho banded mountainsnail *Oreohelix idahoensis idahoensis*	Occurs in low-middle elevation limestone and calcareous schist outcrops and talus. Typically in rather dry and open terrain associated with canyon grasslands and shrubs. Original distribution was a small area on both sides of the Salmon River from the mouth of China Creek (near Lucile) to Race Creek. Occurs within the Lucile Caves ACEC/RNA.	2
Whorled mountainsnail *O. vortex*	The species occurs in low to mid elevations in the Salmon River drainage, from Rock Creek to Riggins. Restricted to large-scale taluses. Sites are typically rather dry and open. Grasses common at preferred sites, with some forbs and shrubs.	2
Boulder pile mountainsnail *O. jugalis*	Found in lower elevation areas in the Salmon River canyon, from river mile 20 to Riggins. Occurs in rock taluses and boulder piles. Sites generally open and can be seasonally dry. Plant associates include hackberry, shrubs, and grasses.	3
Striate mountainsnail *O. strigosa goniogyra*	This snail is found mostly on forested outcrops (ponderosa pine), with lithologies ranging from greenish schist to limestone. Occurs in the Lower Salmon River area, in the vicinity of Riggins. May be limited to a few colonies in Race Creek drainage and Lake Creek.	2
Lava rock mountainsnail *O. waltoni*	Found in dry open areas occurring in the Lower Salmon River. Occurs between White Bird and Riggins, primarily in the Lucile and John Day Creek area. Associated with basalts and mixed schist/alluvium sites. Common plants found at sites are grasses and shrubs.	2

[1]Type 2: Rangewide/globally imperiled species
Type 3: Regional/state imperiled species
Type 4: Peripheral species

SPECIAL STATUS FISH SPECIES

Federally listed fish species that could occur within the CFO planning area, along with aquatic habitats for each species, are listed in **Table E-4**. Idaho BLM sensitive fish species that occur or potentially could occur within the CFO planning area, along with preferred habitats for each species, are listed in **Table E-5**.

Table E-4
Idaho BLM Threatened and Endangered Fish Species in the CFO Planning Area

Common Name ***Scientific Name***	**Habitat**	**ESA Status (Idaho BLM Status)** [1]
Sockeye salmon *Oncorhynchus nerka*	Within the planning area, sockeye salmon use the Snake and Salmon River for upstream and downstream passage. Sockeye salmon spawn in the upper Salmon River drainage, and currently use the gravel areas of several lakes for spawning.	Endangered
Spring/summer chinook salmon *Oncorhynchus tshawytscha*	Spring/summer chinook salmon use smaller, higher elevation tributary systems for spawning and juvenile rearing. Spawning streams need clean gravels for successful egg development and fry emergence. Preferred streams are generally low gradient, and have good quality pools, spawning areas, and cover conditions.	Threatened (Snake and Salmon River drainages)
Fall chinook salmon *Oncorhynchus tshawytscha*	Fall chinook salmon are mainstem river spawners, utilizing the Snake, Salmon, Clearwater Rivers primarily for spawning and rearing. Spawning has also been documented in several of the smaller rivers, such as the lower South Fork Clearwater River.	Threatened
Steelhead trout *Oncorhynchus mykiss*	Steelhead spawn and rear in stream and small river habitat. Spawning streams need clean gravels for successful egg development and fry emergence. Larger mainstem rivers used for upstream and downstream passage. Most accessible drainages with suitable habitats are used by steelhead trout.	Threatened
Bull trout *Salvelinus confluentus*	Bull trout exhibit three life histories in Idaho: adfluvial, fluvial, and resident. Preferred habitats for spawning and rearing are cooler waters that have clean spawning gravels with good cover conditions.	Threatened

[1]Type 1–Federally listed, proposed, and candidate species.

Table E-5
Idaho BLM Sensitive Fish Species in the CFO Planning Area

Common Name ***Scientific Name***	**Habitat**	**Idaho BLM Status**[1]
Pacific lamprey *Lampetra tridentata*	Pacific lamprey is anadromous and historical distribution is similar to anadromous salmon and steelhead. They primarily spawn in tributary streams and use the main stem rivers for upstream and downstream passage. A significant decline in historical distribution for Pacific lamprey occurs within the planning area, and occupied habitats are limited.	2
Spring/summer Chinook salmon *Oncorhynchus tshawytscha*	Within the Clearwater River basin, the spring/summer Chinook salmon is a sensitive species. Spring/summer Chinook salmon use smaller, higher elevation tributary systems for spawning and juvenile rearing. Spawning streams need clean gravels for successful egg development and fry emergence. Preferred spawning streams are generally low gradient, and have good quality pools, spawning areas, and cover conditions.	3
Westslope cutthroat trout *Oncorhynchus clarki lewisi*	Westslope cutthroat trout exhibit three life histories in Idaho: adfluvial, fluvial and resident. Uses smaller higher elevation streams for spawning and juvenile rearing. Preferred spawning streams have clean gravels, good quality pools, and complex habitat structure, such as provided by large woody debris. Migratory fluvial fish use mainstem rivers for travel corridors and foraging.	2
Redband trout *Oncorhynchus mykiss gairdneri*	Redband trout divided into two groups, one evolved with steelhead trout and other group evolved outside the historical range of steelhead (above full fish passage barriers). Preferred spawning streams include good quality spawning gravels, with suitable complex habitat (large woody debris), with good ratio of pools and riffles. Also found in mainstem rivers and lakes.	3

[1]Type 2: Rangewide/globally imperiled species
Type 3: Regional/state imperiled species
Type 4: Peripheral species

APPENDIX F— FEDERALLY LISTED AND CANDIDATE SPECIES MANAGEMENT, CONSERVATION, AND RESTORATION MEASURES

INTRODUCTION

This appendix summarizes the programmatic management direction for the Cottonwood RMP and the conservation and restoration measures that the BLM will implement for federally listed and candidate animals, fish and plants. The overall management direction of the RMP is described in the first half of the appendix, and the management, conservation, and restoration measures (**Tables F-1** through **F-5**) are included in the second half of this appendix.

MANAGEMENT DIRECTION AND GUIDANCE FOR THE RMP

Under Section 202 of FLPMA and 43 CFR 1600, the BLM is required to prepare and implement RMPs that provide a framework to guide the management of public lands. An RMP makes land use allocations, sets broad production goals, and establishes restrictions on resource programs to protect important resource values. In the development of RMPs, FLPMA states that the BLM must follow a number of principles and processes.

Management guidance for resource programs includes laws, Executive Orders, regulations, US Department of the Interior manuals, BLM manuals, and instruction memoranda (Idaho State Office). Together, these form the basis for the continuing management guidance and decisions that apply to public land resources and programs in the Cottonwood RMP. The overall management guidance, applicable state and federal laws, and policy are summarized in Chapter 1 of the Proposed RMP/Final EIS. General management policy for the Cottonwood RMP is provided by FLPMA.

RMP PROGRAMS

The major tool for managing public lands in the CFO management area is the application of management, conservation, and restoration direction under the framework of 32 programs, which are identified previously in the RMP. The programs provide specific management direction for each major resource or use (i.e., Resources, Resource Uses, Special Designations, and Social and Economic Conditions). The programs are intended to provide a CFO-wide perspective on the management of the public lands resource. Several programs may be grouped together where applicable, or if not listed would use the applicable management actions listed in the Special Status Species program at the beginning of table for each species (**Tables F-1 through F-5**).

APPLICATION OF CONSERVATION MEASURES AND IMPLEMENTATION STRATEGY

The BLM will implement the appropriate management, conservation or restoration as part of the review process for ongoing, new, and renewable federal activities. Measures specific to supporting recovery for species are also identified. Implementation actions provide greater detail regarding how and where specific actions will be implemented and the processes that will be followed. Highlights of the conservation measures and implementation actions that generally apply to all species follow below and details are presented later in this appendix.

Project-level inventories will be completed in suitable habitat during project planning if inventory information is not available or adequate to determine whether or not impacts to the species or habitat are likely to occur. For some of the species, the State Office will develop technical guidance, issued as Instruction Memorandum, concerning special status species project-level inventory and assessment requirements. If direct or indirect negative impacts to the species or its habitat are anticipated as a result of new and ongoing BLM discretionary actions, the activity will be modified to avoid or minimize anticipated negative impacts and, where feasible, to promote recovery of listed species and conservation of candidate species. Where needed, the BLM will complete Endangered Species Act Section 7 consultation for new activities that may affect the species and its habitat. The conservation measures for each of the species include a provision to implement adaptive management as needed to achieve conservation objectives. This will be accomplished by conducting site-specific implementation and effectiveness monitoring to track progress toward achieving the management objectives. The BLM, National Marine Fisheries Service, and USFWS will meet annually or as needed to review the implementation progress for the conservation measures, determine if current management actions are meeting management goals, and modify implementation actions as needed if progress toward goals is inadequate.

Management actions to implement the conservation measures will be adjusted as needed to ensure that management objectives are met for each species. The implementation actions would also include specific information regarding the BLM's responsibilities and a timeframe for implementation. Timeframes are based on the need for timely information required to conduct the consultations for ongoing and new federal actions. Timeframes would be influenced by each species' relative level of endangerment, the importance of BLM lands to the species relative to overall species distribution, the level of risk faced by the BLM until consultations are complete, and budget considerations.

SPECIES-SPECIFIC CONSERVATION MEASURES AND IMPLEMENTATION ACTIONS

Conservation measures were created for each species, based on that species' conservation and recovery needs. An abbreviated list of conservation and recovery measures are included for federally listed fish (**Table F-3**), because specific measures are identified in the Approved Cottonwood RMP (*Aquatic Resources, Fish, and Special Status Fish* [AF]) and other appendices (**Appendix B**, Conservation and Restoration Watersheds; **Appendix D**, Aquatic and Riparian Management Strategy; and **Appendix H**, Desired Conditions and Watershed and Aquatic Condition Indicators. Other programs in the Approved Cottonwood RMP also may have specific reference to conservation measures that would be applicable for federally listed and candidate species, specifically *Wildlife and Special Status Wildlife* (WS) and *Special Status Plants* (SP) sections. Management actions and conservation measures are included in the following tables:

Table F-1: Canada Lynx;
Table F-2: Northern Idaho Ground Squirrel;
Table F-3: Sockeye Salmon, Spring/Summer Chinook Salmon, Fall Chinook Salmon, Steelhead Trout, and Bull Trout;
Table F-4: MacFarlane's Four-O'clock and Spalding's Catchfly; and
Table F-5: Yellow-Billed Cuckoo.

Because each species has unique requirements, terms such as "suitable habitat" are defined for federally listed animals and plants in **Appendix G**, Species-specific Habitat Definitions.

Table F-1
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Special Status Animal and Plant Management Note: Common to All Programs	The conservation measures contained throughout this table implement important elements included in the *Canada Lynx Conservation Assessment and Strategy* (Ruediger et al. 2000), and Recovery Outline for Lynx (USFWS 2005b). The conservation measures reflect the BLM's commitment to support species recovery, meet Endangered Species Act objectives, and strive to support recovery efforts in any future developed Recovery Plan and revisions.	The implementation actions reflect the BLM's commitment to support species recovery and meet Endangered Species Act objectives. Actions apply to BLM lands and activities only. Habitat terms used throughout this document are defined in **Appendix G**: Species-Specific Habitat Definitions.	
	1) In cooperation with Idaho Department of Fish and Game, Forest Service, Tribes, USFWS, and others:	1) Following actions to be completed in cooperation with others:	1) As stated below:
	a) Continue to cooperate in determining the distribution of populations and suitable habitats.	a) Mapping and data inventory: i) Continue to identify, record, and map the following habitats: foraging habitats, denning habitats, Lynx Analysis Units and other suitable habitat on BLM lands. For additional information regarding lynx habitat, see **Appendix G**, Species Specific Habitat Definitions. ii) Maintain a spatial database of species population and habitat information for BLM lands and Lynx Analysis Units.	a) CFO, in coordination with Forest Service. SO support for mapping as needed.
	b) Following current monitoring protocols, cooperate in conducting lynx surveys and habitat monitoring.	b) Cooperate with USFWS, Forest Service, and other partners to accomplish lynx surveys and habitat monitoring.	b) CFO in coordination with Forest Service and USFWS.

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	c) Participate in research essential to conservation of the species. Cooperate in determining specific limiting factors in terms of habitat needs and characteristics.	c) the BLM will participate as funding allows.	c) CFO in coordination with Forest Service and USFWS.
	d) Cooperate in the maintenance and improvement of habitat in key foraging areas, for example, snowshoe hare habitat, and other suitable lynx habitats.	d) Take advantage of opportunities as they arise. Manage suitable habitat to maintain and promote snowshoe hare winter habitat, denning habitat, and connectivity between suitable lynx habitats and Lynx Analysis Units.	d) CFO in coordination with Forest Service and USFWS.
	e) Working with other agencies, compile a general list of BMPs that would apply to all programs, to the extent that such a list would assist with consultation and species recovery. The intent of implementing BMPs is to avoid or minimize negative impacts.	e) Use guidance and BMPs to avoid or minimize adverse effects to lynx and support species recovery.	e) CFO in coordination with State Office, Forest Service and USFWS.
	2) Ensure that ongoing federal actions support or do not preclude species recovery.	2) Ongoing BLM activities:	2) CFO (all actions)
	a) Use *Canada Lynx Conservation Assessment and Strategy* (Ruediger et al. 2000), and future developed Recovery plan or updates for guidance in the identification of BMPs to avoid or minimize adverse effects to lynx or suitable habitat and for implementation of conservation measures.	a) As needed, review ongoing activities occurring within Lynx Analysis Units. b) Determine if direct or indirect negative impacts to the species or its suitable habitat are occurring as a result of ongoing discretionary BLM actions. If so, modify the activity to avoid or minimize negative impacts and, where feasible, promote species recovery. c) As needed, complete Section 7 consultation for ongoing activities that may affect this species and its habitat.	

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	3) Ensure that new federal actions support or do not preclude species recovery.	3) New BLM activities: a) Project-level inventories will be completed in suitable habitat during project planning if inventory information is not available or adequate. b) If direct or indirect negative impacts to the species or its habitat are anticipated as a result of new BLM actions, modify the activity to avoid or minimize anticipated negative impacts and, where feasible, promote species recovery. c) As needed, complete Section 7 consultation for new activities that may affect this species and its habitat.	3) CFO (all actions)
	4) Protect lynx from disturbance that might result in displacement during critical periods.	4) Avoid implementing activities near den sites during the breeding season and follow guidance for foraging areas during the wintering season.	4) CFO
	5) Maintain or restore lynx habitat connectivity within and between Lynx Analysis Units, and in linkage areas.	5) New BLM activities: a) New or expanded permanent developments and vegetation management projects must maintain or restore habitat connectivity in and between Lynx Analysis Units and in linkage area. b) Identify potential highway crossings and fencing when highway or forest highway construction or reconstruction is proposed.	5) As identified below: a) CFO in coordination Forest Service b) CFO and USFWS in coordination with appropriate other road management agencies (Forest Service, County, State, and federal).

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		c) Changes in Lynx Analysis Unit boundaries shall be based on site-specific habitat information and after review by Forest Service, USFWS, and the BLM Idaho State Office.	c) CFO in coordination with Forest Service
	6) Implement adaptive management as needed to achieve conservation objectives.	6) Conduct site-specific implementation and effectiveness monitoring. Adjust management as needed to ensure that management objectives are met.	6) CFO
	7) Support conservation easements, cooperative management efforts, and other programs on adjacent nonfederal lands to support recovery of the Canada lynx.	7) Take advantage of opportunities as they arise.	7) CFO
	8) Map locations of "over-snow motorized" designated and groomed routes occurring within Lynx Analysis Units.	8) Map the location and intensity of snow-compacting activities, and designated and groomed routes that occur within Lynx Analysis Units. The baseline period will include snow compacting activities and designated and groomed routes that were occuring during the period 1998 to 2000. The mapping is to be completed within one year of the Record of Decision (ROD) on this RMP, and changes in activities and routes are to be monitored every five years.	8) CFO
Air Resources	None	None	None

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Soil and Water Resources: Riparian/Wetland Areas (includes weed management)	1) Within Lynx Analysis Units (lynx habitat), activities in the **Soil and Water Resources, Riparian/Wetland Management (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Projects involving the application of pesticides (herbicides, insecticides, etc.) in riparian/wetlands that may affect the species will be analyzed at the project level and designed such that pesticide applications will support conservation and recovery and minimize risks of exposure.	2) Site-specific stipulations will be developed locally using the following criteria: a) Evaluate the benefits and risks of vegetation treatment, including the following: application methods; pesticides, carriers, and surfactants used; needed treatment buffers; and use of non-chemical weed control (for example, bio-controls, hand pulling). If management objectives can be effectively accomplished using non-chemical methods, such is the preferred alternative. b) Apply appropriate spatial and temporal buffers to avoid species' exposure to harmful chemicals and human disturbance within and adjacent to key habitat areas. c) Implement appropriate revegetation and weed control measures to reduce the risks of non-native species infestations following any ground/soil disturbing actions in or near suitable habitat.	2) CFO in consultation with USFWS (all actions)
	3) Where needed and feasible, coordinate with adjacent land owners and local governments	3) Take advantage of opportunities as they arise.	3) CFO

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	regarding control of invasive plants in riparian areas through cooperative weed management programs.		
	4) Conserve or restore riparian habitats in functional condition to maintain their integrity for use as travel and/or foraging areas.	4) Management actions: a) Emphasize eradication of non-native invasive species in riparian areas that occur within Lynx Analysis Units. b) Avoid issuing commercial firewood cutting permits in suitable habitats in riparian forests. If permits are issued, ensure that such activities are consistent with the long-term maintenance of functional riparian habitats occurring in lynx habitat in Lynx Analysis Units. c) As needed, close suitable habitat in riparian forests to non-commercial firewood cutting and post the closure.	4) CFO (all actions)
Upland Vegetation Management: Rangelands (includes weed management)	1) Activities in the **Upland Vegetation Management: Rangelands (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Projects involving the application of pesticides in uplands adjacent to lynx habitat or in restoration areas will be designed and implemented in accordance with the approach described in **the Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	2) See Soil and Water Resources: **Riparian/Wetland Areas (includes weed management)** Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	2) CFO

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Forest and Woodland Management and Forest Products (includes weed management)	1) Within lynx habitats, activities in the **Forest and Woodland Management (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage vegetation to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of Canada lynx.	2) Within Lynx Analysis Units manage vegetation to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of Canada lynx. Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages (early seral), limit disturbance in each Lynx Analysis Unit as follows: a) If more than 30 percent of the lynx habitat in a Lynx Analysis Unit is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat, then no additional habitat may be regenerated by vegetation management projects. b) Fuel treatment projects that create stand initiation structural stage will be included in the 30 percent calculation – meaning that if a fuel treatment project within the Wildland Urban Interface (WUI) creates more that 30 percent, then other projects that want to regenerate more would have to be modified or deferred until the standard can be met.	2) CFO in coordination with USFWS and Forest Service (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		c) Cumulative total of fuel treatment projects that do not meet the vegetation standards shall not exceed 6% of mapped lynx habitat in the Lynx Analysis Unit amendment area (Defined in the Draft Northern Rockies Lynx Amendment). This standard applies to all vegetation management projects and fuel treatment projects outside the WUI. d) Fuel treatment projects in the WUI should be designed to promote lynx conservation.	
	3) Provide for snowshoe hare habitat within Lynx Analysis Units.	3) Provide a mosaic of habitat conditions through time that support dense horizontal cover, and high densities of snowshoe hare. Provide winter snowshoe hare habitat in both the stand initiation structural stage and in mature, multi-story conifer vegetation. a) Short term adverse effects may occur to promote long term benefits for high quality snowshoe hare habitats.	3) CFO in coordination with Forest Service (all actions)
	4) Provide for proper amounts and distribution of denning habitat within Lynx Analysis Units.	4) Denning habitat should be distributed in each Lynx Analysis Unit in the form of pockets of large amounts of large woody debris, either down logs or root wads, or large piles of small wind thrown trees (jack-strawed piles). If denning habitat appears to be lacking in the Lynx Analysis Unit, then projects should be designed to retain some coarse woody debris, piles, or residual trees to provide denning habitat in the future.	4) CFO in coordination with Forest Service (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	5) Projects involving the application of pesticides in forested areas and woodlands adjacent to riparian and wetland areas that provide suitable lynx habitat will be designed and implemented in accordance with the approach described in the **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	5) See **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	5) CFO
	6) Within Lynx Analysis Units, focus vegetation management in areas to improve winter snowshoe hare habitat.	6) Within Lynx Analysis Units, focus vegetation management in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover. a) Timber management projects shall not regenerate more than 15 percent of lynx habitat on Forest Service or BLM lands in a Lynx Analysis Unit in a ten-year period. b) Precommercial thinning projects that reduce snowshoe hare habitat may occur from the stand initiation structural stage (early seral) until the stands no longer provide winter snowshoe hare habitat only: i) Within 200 feet of administrative sites, dwellings or outbuildings; or ii) For research studies or genetic tree tests evaluating genetically improved reforestation stock; or iii) Where a project is not likely to adversely affect lynx; or iv) Where a project is likely to have short	6) CFO in coordination with Forest Service (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		term adverse effects on lynx or its habitats, but would result in long-term benefits to lynx and its habitat. v) For conifer removal in aspen, or daylight thinning around individual aspen trees, where aspen is in decline; or vi) For daylight thinning of planted rust-resistant white pine where 80% of the winter snowshoe hare habitat is retained; or vii) To restore whitebark pine. c) Vegetation management projects that reduce snowshoe hare habitat in multi-story mature or late successional forests may occur only: i) Within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski area boundaries; or ii) For research studies or genetic tree tests evaluating genetically improved reforestation stock; or iii) For incidental removal during salvage harvest (e.g. removal due to location of skid trails). iv) Timber harvest is allowed in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover (e.g. uneven age	

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		management systems could be used to create openings where there is little understory so that new forage can grow. d) Vegetation management projects should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority should be given to stem-exclusion, closed-canopy structural stage stands for lynx or their prey (e.g. mesic, monotypic lodgepole stands). Winter snowshoe hare habitat should be near denning habitat. e) Habitat for alternate prey species, primarily red squirrel, should be provided in each Lynx Analysis Unit.	
	7) Report types and amounts of vegetation treatments affecting lynx habitat within Lynx Analysis Units.	7) Document and report treatments affecting lynx habitat within Lynx Analysis Units as follows: a) Annually report the acres of vegetation management projects that occurred in winter snowshoe hare habitat during the previous fiscal year. Report the type of activity, acres, and location (unit, Lynx Analysis Unit). CFO submits treatment reports to State Office and USFWS. b) Report the acres of fuel treatment projects that occurred in lynx habitat within the wildland urban interface, when the project decision is approved. Report whether or not the fuel treatment met the vegetation standards. If standard(s) are not met, report which	7) CFO (all actions), State Office, and USFWS.

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		standard(s), how many acres were affected, and why they were not met. CFO submits treatment reports to State Office and USFWS.	
Wildlife and Wildlife Habitat Management	1) Activities within **the Wildlife and Wildlife Habitat Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Coordinate with Idaho Department of Fish and Game, Forest Service, and USFWS to improve snowshoe hare habitat within Lynx Analysis Units.	2) Coordinate and implement projects to improve snowshoe hare habitat, where appropriate.	2) CFO in coordination with Idaho Department of Fish and Game, Forest Service, and USFWS
Fish and Aquatic Habitat Management	1) Activities within the **Fish and Aquatic Habitat Management** program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) See **Appendix B**, **Appendix D**, and **Appendix H** for additional watershed, riparian, and aquatic conservation measures that would promote functional riparian habitats within Lynx Analysis Units.	2) Coordinate and implement management actions to improve riparian habitats/travel corridors.	2) CFO
Fire Management: Fire Suppression	1) Activities within the **Fire Management: Fire Suppression** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery. Human life and firefighter safety and property take priority over species protection.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	2) Fire suppression efforts will be conducted, as possible, to conserve and restore lynx habitat within Lynx Analysis Units.	2) Fire management activities:	2) Responsibilities follow:
		a) Review Fire Management Plan for adequacy in addressing conservation measures. Modify the plan if needed.	a) FMO and CFO
		b) Apply MIST within Lynx Analysis Units, as appropriate. Consult with resource advisors to determine where MIST tactics should be applied to avoid or minimize negative impacts.	b) FMO and Incident Commander for fire
		c) Do not locate fire base camps, staging areas, and fueling areas in or adjacent to known den sites. Avoid conducting other related activities in these areas.	c) FMO and CFO
Fire Management: Emergency Stabilization and Rehabilitation (includes weed management)	1) Activities within the **Fire Management: Emergency Stabilization and Rehabilitation (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Implement Emergency Stabilization and Rehabilitation activities to promote lynx habitat rehabilitation.	2) Emergency Stabilization and Rehabilitation activities: a) If needed and if natural recovery would not achieve habitat objectives, implement Emergency Stabilization and Rehabilitation activities to promote rehabilitation of suitable habitat. b) As needed, protect disturbed areas using temporary closures or other measures until	2) CFO (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		desired vegetation is re-established and self-sustaining.	
	3) Fire rehabilitation projects involving the application of pesticides will be analyzed and implemented in accordance with the approach described in the **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	3) See **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	3) CFO
Fire Management: Wildland Fire Use	1) Activities within the **Fire Management: Wildland Fire Use** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Wildland fire use projects will be used to conserve and restore suitable lynx habitat.	2) Wildland fire use projects will be used to conserve and restore suitable habitats by avoiding or minimizing negative impacts to suitable habitat and other resources within Lynx Analysis Units. a) Do not create permanent travel routes that facilitate snow compaction in lynx habitat. Avoid construction of permanent firebreaks on ridges or saddles. b) Vegetation management projects should be used to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority should be given to stem-exclusion, closed-canopy structural stage stands for lynx or their prey (e.g. mesic, monotypic lodgepole stands).	2) CFO, Idaho Department of Fish and Game, Forest Service, and USFWS (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		Winter snowshoe hare habitat should be near denning habitat.	
Fire Management: Prescribed Fire	1) Activities within the **Fire Management: Prescribed Fire** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Prescribed fire projects will be designed to conserve suitable lynx habitat.	2) Prescribed fire projects will be designed to conserve suitable habitats by avoiding or minimizing negative impacts to suitable habitat, and use prescribed fire for enhancing habitats. a) Do not create permanent travel routes that facilitate snow compaction in lynx habitat. Avoid construction of permanent firebreaks on ridges or saddles. b) Vegetation management projects should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority should be given to stem-exclusion, closed-canopy structural stage stands for lynx or their prey (e.g. mesic, monotypic lodgepole stands). Winter snowshoe hare habitat should be near denning habitat.	2) CFO and FMO
Fire Management: Non-Fire Fuels Management (includes weed management)	1) Activities within the **Fire Management: Non-Fire Fuels Management (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant**	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	Management program section to promote recovery.		
	2) Implement projects involving the application of pesticides in accordance with the approach described in the **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	2) See **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	2) CFO
	3) Non-fire fuels projects will be designed to conserve and enhance lynx habitat within Lynx Analysis Units.	3) Non-fire fuels projects will be designed to conserve and enhance habitat within Lynx Analysis Units: a) Do not create permanent travel routes that facilitate snow compaction in lynx habitat. Avoid construction of permanent firebreaks on ridges or saddles. b) Vegetation management projects should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority should be given to stem-exclusion, closed-canopy structural stage stands for lynx or their prey (e.g. mesic, monotypic lodgepole stands). Winter snowshoe hare habitat should be near denning habitat.	3) CFO (all actions)
Fire Management: Community Assistance	1) Activities within the **Fire Management: Community Assistance** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO and State Office
	2) Follow all measures included throughout the **Fire Management** program sections.	2) See actions within **Fire Management** program sections. Incorporate into community assistance agreements.	2) CFO

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Cultural Management	1) Activities within the **Cultural Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
Paleontology Management	1) Activities within the **Paleontology Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
Visual Resources	None	None	None
Livestock Grazing Management: Leases	1) Activities within **Livestock Grazing Management: Leases** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage livestock grazing to be compatible with improving or maintaining lynx habitat.	2) Manage livestock grazing to be compatible with improving or maintaining lynx habitat within Lynx Analysis Units. a) Standard and Guideline Evaluations and Lease renewal actions: i) For review of ongoing actions, see Special Status Animal and Plant Management program section item (2). ii) For new actions, see **Special Status Animal and Plant Management** program section item (3). b) In fire- and harvest-created openings, livestock grazing should be managed so that	2) CFO

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		impacts do not prevent shrubs and trees from regenerating. c) In aspen stands, livestock grazing should be managed to contribute to their longterm health and sustainability. d) In riparian areas and willow carrs, livestock grazing should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes. e) In shrub-steppe habitats, livestock grazing should be managed in the elevation ranges of forested lynx habitat in Lynx Analysis Units, to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.	
Livestock Grazing Management: Livestock Management Facilities	1) Activities within the **Livestock Grazing Management: Livestock Management Facilities** program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage livestock facilities to promote and maintain e lynx habitat. Maintain and promote suitable habitat and restore areas for the lynx while implementing rangeland health standards and guidelines.	2) For review of ongoing actions, see **Special Status Animal and Plant Management** program section item (2). For new actions, see **Special Status Animal and Plant Management** program section item (3). As appropriate to avoid or minimize negative	2) CFO

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		impacts in lynx habitat, modify existing and avoid placement of new livestock facilities.	
Mineral Management: Locatable Minerals	1) Activities within the **Mineral Management: Locatable Minerals** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Approve plans of operations or allow notice level operations so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) Approval of plans of operations and notice-level operations: a) For review of existing plans of operation and notice-level operations (applying to areas either within Lynx Analysis Units and lynx habitat), see **Special Status Animal and Plant Management** program section item (2). To the extent allowed by law, modify plans of operation or notice-level operations that conflict with lynx management objectives in suitable habitat. For notice-level operations, notify the operator that modifications to proposed activities will be required to avoid negative impacts. b) For new plans of operation and notice-level operations (applying to areas within suitable habitat), see **Special Status Animal and Plant Management** program section item (3). To the extent allowed by law, avoid approving plans of operation or notice-level operations that conflict with lynx management objectives in suitable habitat. Consider the seasonal nature of the proposed activities, and whether this	2) CFO (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		conflicts with lynx recovery needs. For notice-level operations, notify the operator that modifications to proposed activities will be required to avoid negative impacts. If a plan of operations is to be approved in suitable habitat, apply stipulations to support or to not preclude species recovery. A notice will require modification by the operator until BLM determines that it will not result in undue or unnecessary degradation.	
	3) Manage human activities such as exploration and development of minerals to reduce impacts on lynx and its habitat.	3) Manage human activities such as exploration for development of minerals to reduce impacts on lynx and its habitat. a) For mineral development sites and facilities in remote areas, discourage winter access and use to minimize snow compaction in Lynx Analysis Units and lynx habitat. b) For mineral development sites and facilities that are closed, a reclamation plan that restores lynx habitat should be developed. c) Winter access for mineral exploration and development should be limited to designated routes or designated over-the-snow routes.	3) CFO (all actions)
Mineral Management: Saleable and Leasable Minerals	1) Activities within the **Mineral Management: Saleable and Leasable Minerals** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	2) Approve development of saleable or leasable minerals so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) Approval of saleable and leasable minerals: a) For review of existing mineral leases (applying to lynx habitat within Lynx Analysis Units), see **Special Status Animal and Plant Management** program section item (2). Modify existing mineral leases if negative impacts are occurring. b) For new sales or leases (applying to areas within Lynx Analysis Units and suitable habitat), see **Special Status Animal and Plant Management** program section item (3). Avoid development of saleable or leasable minerals in suitable habitat if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with bald eagle recovery needs. If a minerals lease or sale is to be issued in suitable habitat, apply stipulations to support or to not preclude species recovery.	2) CFO
	3) When offering leases within special status species habitat, specify a controlled surface use stipulation.	3) When offering leases within special status species habitat, then specify a controlled surface use stipulation (see **Appendix L**) to prevent degradation of habitat.	
Recreation Management	1) Activities within the **Recreation Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Developed facilities (boat access, paved campgrounds, vault toilets, interpretive kiosks,	2) Management of existing and new facilities: a) For review of existing facilities see **Special**	2) CFO (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	etc.): Manage existing and new recreation facilities so as to not preclude species habitat conservation and recovery. This includes management of the physical facilities, as well as disturbances to the species resulting from human uses.	**Status Animal and Plant Management** program section item (2). As appropriate to avoid or minimize negative impacts, modify existing facilities. b) For new facilities, or for expansion of uses or seasons of use at existing facilities, see **Special Status Animal and Plant Management** program section item (3). In addition, avoid development of new recreation facilities or expansion of existing facilities within lynx habitat when such has negative effects.	
	3) Dispersed use areas (informal areas, including camping areas and tie-up areas for pack animals and boats): Manage dispersed use sites so as not to preclude species habitat conservation and recovery. This includes limiting disturbances to the species resulting from human uses.	3) For review of ongoing activities, see **Special Status Animal and Plant Management** program section item (2). In addition, minimize human activity within Lynx Analysis Units if negative impacts are occurring. Close areas, either seasonally or year-round, as needed to protect the species and its habitat, and post and monitor the closure.	3) CFO
	4) Commercial and noncommercial recreation permits, including outfitter camps: Issue commercial and noncommercial recreation permits so as not to preclude species habitat conservation and recovery. This includes management of physical facilities (such as camps), as well as disturbances to the species resulting from human uses.	4) Issuance and review of existing and new permits: a) For review of existing permits, see **Special Status Animal and Plant Management** program section item (2). If needed, modify existing permits that conflict with recovery for lynx. b) For new permits, see **Special Status Animal and Plant Management** program section item (3). Avoid issuing recreation	4) CFO (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		permits if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with lynx recovery needs. If a recreation permit is to be issued, apply stipulations to the permit to support or to not preclude species conservation and recovery.	
	5) Manage recreational activities to maintain lynx habitat and connectivity.	5) As needed, coordinate with Idaho Department of Fish and Game, USFWS, and the Forest Service to manage recreational activities to maintain lynx habitat and connectivity. a) Concentrate activities in existing developed areas, rather than developing new areas in lynx habitat. b) Recreation developments and operations should be planned in ways that both provide for lynx movement and maintain the effectiveness of lynx habitat.	5) CFO, in cooperation with Idaho Department of Fish and Game, USFWS, and Forest Service.
Transportation and Travel Management	1) Activities within the **Transportation and Travel Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage roads, OHV routes and areas, as well as non-motorized trails, so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) Review of existing and new roads, OHV routes, and areas and non-motorized trails: a) For existing roads, designated OHV routes and areas, and designated non-motorized trails, see **Special Status Animal and Plant Management** program section item (2).	2) CFO (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		Modify management of roads, routes, or trails within Lynx Analysis Units to not preclude species habitat conservation and recovery. Seek opportunities to close and revegetate OHV routes or non-motorized trails and use areas within Lynx Analysis Units, if negative impacts are occurring. b) For new roads, OHV routes and areas, and non-motorized trails, see **Special Status Animal and Plant Management** program section item (3). Avoid constructing new roads, trails, routes, and areas if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with lynx recovery needs.	
	3) Maintain regular compliance checks on OHV closures to protect suitable habitat and to identify problems as soon as possible and take immediate corrective measures.	3) Ongoing, day-to-day BLM activities.	3) CFO
	4) Maintain the lynx's natural competitive advantage over other predators in deep snow, by discouraging the expansion of snow compacting activities in lynx habitat.	4) Maintain the lynx's natural competitive advantage over other predators in deep snow, by discouraging the expansion of snow compacting activities in lynx habitat. Where appropriate the following should be implemented: a) New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity. New permanent roads and trails should be situated away from forested stringers.	4) CFO (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		b) Cutting brush along low-speed, low-traffic-volume roads should be done to the minimum level necessary to provide for public safety. c) On new roads built for projects, public motorized use should be restricted. Effective closures should be provided in road designs. When the project is over, these roads should be reclaimed or decommissioned, if not needed for other management objectives. d) Designated over-the-snow routes or play areas should not expand outside baseline areas of consistent snow compaction by Lynx Analysis Unit or in a combination of immediately adjacent Lynx Analysis Units unless designation serves to consolidate use and improve lynx habitat. e) This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings. f) Use the same analysis boundaries for all actions subject to this guideline.	
	5) Reduce adverse highway effects on lynx by working cooperatively with other agencies to provide for lynx movement and habitat connectivity, and to reduce the potential of lynx mortality.	5) Reduce adverse highway effects on lynx by working cooperatively with other agencies to provide for lynx movement and habitat connectivity, and to reduce the potential of lynx mortality. Where appropriate the following should be implemented: a) Methods to avoid or reduce effects to lynx should be used in lynx habitat when	5) CFO in coordination with other state and federal agencies (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		upgrading unpaved roads to maintenance levels 4 or 5, if the result would be increased traffic speeds and volumes, or a foreseeable contribution to increases in human activity or development. b) Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways across federal land. Methods could include fencing, underpasses or overpasses.	
Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)	1) Activities within the **Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.	1) CFO
	2) Where feasible and funding is available, acquire through land exchange or purchase private lands in suitable habitat areas that could enhance lynx.	2) Take advantage of opportunities as they arise. Priority should be given to lands that are adjacent to or near public lands and/or areas that provide important lynx habitat within Lynx Analysis Units.	2) CFO

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	3) Retain lynx habitat in federal ownership to the extent possible, while balancing other needs.	3) Review each land tenure decision in terms of species habitat. Retain lynx habitat in public ownership unless compelling circumstances necessitate the land tenure adjustment. Avoid the loss of suitable habitat from federal ownership. If property with suitable habitat is to be transferred out of federal ownership, permanent conservation easements may be attached to the transfer that would result in equal or greater protection than under federal management. Such measures must be approved by the State Director.	3) CFO and State Office
Lands and Realty Management: Land Use Permits and Leases	1) Activities within the **Lands and Realty Management: Land Use Permits and Leases** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO and State Office
	2) Issue new land use permits and leases and review existing permits and leases at renewal so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) For new permits and renewal of existing permits (apply to areas within suitable habitat), see **Special Status Animal and Plant Management** program section item (3). Avoid issuing new permits or leases, or renewing existing permits or leases within Lynx Analysis Units if negative impacts are expected. a) Consider the seasonal nature of the proposed activities, and whether this conflicts with lynx recovery needs.	2) CFO (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		b) If a permit or lease is to be issued or re-issued within Lynx Analysis Units, apply stipulations to the permit that support or do not preclude species recovery and that avoid or minimize negative impacts. c) Manage human activities within lynx habitat such as non-recreational special uses and placement of utility transmission corridors to reduce impacts on lynx and lynx habitat. Winter access for non-recreational special uses should be limited to designated routes or designated over-the-snow routes.	
	3) Provide for lynx habitat needs and connectivity when developing new or expanding existing developed ski areas.	3) Provide for lynx habitat needs and connectivity when developing new or expanding existing developed ski areas. The following should be implemented where appropriate: a) When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris, so winter snowshoe hare habitat is maintained. b) When developing or expanding ski areas, nocturnal foraging should be provided consistent with the ski area's operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes. c) When developing or expanding ski areas and trails, access roads and lift termini should	3) CFO (all actions)

Table F-1
Canada Lynx *(Lynx canadensis)*—Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		be located to maintain and provide lynx diurnal security habitat.	
Lands and Realty Management: Rights-of-Way	1) Activities within the **Lands and Realty Management: Rights-of-Way** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Issue rights-of-way and review/renew existing rights-of-way so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) For new rights-of-way and renewal of existing rights-of-way (applying to areas within suitable habitat), see **Special Status Animal and Plant Management** program section items (2) and (3). a) Consider the seasonal nature of the proposed activities, and whether this conflicts with lynx recovery needs. b) If a right-of-way is to be issued or re-issued in suitable habitat, apply stipulations to the right-of-way that support or do not preclude species recovery and that avoid or minimize negative impacts.	2) CFO (all actions)
Special Designation Area Management	1) Activities within the **Special Designation Area Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Explore the potential for new designations that would enhance species recovery within Lynx Analysis Units.	2) Take advantage of opportunities as they arise.	1) CFO

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Special Status Animal and Plant Management Note: Common to All Programs	The conservation measures contained throughout this table implement important elements included in the Recovery Plan for the northern Idaho ground squirrel. The conservation measures reflect the BLM's commitment to support species conservation and meet Endangered Species Act objectives.	The implementation actions reflect the BLM's commitment to support species recovery and meet Endangered Species Act objectives. Actions apply to BLM lands and activities only. Habitat terms used throughout this document are defined in **Appendix G**: Species-Specific Habitat Definitions.	
	1) In cooperation with Idaho Department of Fish and Game, USFWS, Forest Service, and others:	1) Following actions to be completed in cooperation with others:	1) As stated below:
	a) Cooperate to identify and map populations and suitable habitats.	a) Mapping and data inventory: i) Identify, record, and map known populations, suitable habitat, restoration areas, and connectivity corridors on BLM lands. ii) the BLM's objective will be to systematically inventory the remaining unsurveyed suitable habitat on BLM lands. The amount of habitat to be surveyed each year will be based on available annual funding. iii) In cooperation with Conservation Data Center, maintain a spatial database of species population and habitat information for BLM lands, if found on BLM lands.	a) CFO, in coordination with USFWS, Idaho Department of Fish and Game, and Conservation Data Center (all actions). State Office support for mapping as needed.

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	b) If populations are found on BLM lands, cooperate in monitoring northern Idaho ground squirrel population trends and habitat conditions.	b) Cooperate with Idaho Department of Fish and Game and USFWS to conduct regular species monitoring.	b) CFO in coordination with Idaho Department of Fish and Game regional office and USFWS
	c) Cooperate in the management of suitable habitat areas to promote species recovery.	c) Habitat management and species recovery: i) Develop management plans for areas if populations are found on BLM lands. ii) Cooperate with other agencies as they develop management plans for metapopulations. This may include efforts to re-establish northern Idaho ground squirrel populations in suitable habitat on BLM lands. iii) Cooperate with others to identify barriers to population connectivity. Where possible, preserve and develop connecting areas that could serve as corridors between populations and patches of suitable habitat.	c) CFO in coordination with Idaho Department of Fish and Game regional office (all actions)
	d) Participate in research essential to conservation of the species. Cooperate in determining specific limiting factors in terms of habitat needs and characteristics. Cooperate in population viability analyses to ensure that conservation criteria objectives are being met.	d) Take advantage of opportunities as they arise.	d) CFO in coordination with Idaho Department of Fish and Game regional office.
	e) If northern Idaho ground squirrels are discovered on BLM lands, implement BMPs for the northern Idaho ground squirrel, if such measures are developed by other agencies and would apply to BLM programs.	e) Implement BMPs as described, if needed.	e) CFO

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	2) If northern Idaho ground squirrels are discovered on BLM lands, ensure that ongoing federal actions support or do not preclude species recovery.	2) Ongoing BLM activities: a) If found on BLM lands, review ongoing activities in areas with known populations and associated suitable habitat. b) Determine if direct or indirect negative impacts to the species or its habitat are occurring as a result of ongoing discretionary BLM actions. If so, modify the activity to avoid negative impacts and, if feasible, promote species recovery. c) Where needed, complete Section 7 consultation for ongoing activities that may affect this species and its habitat.	2) CFO (all actions)
	3) If northern Idaho ground squirrels are discovered on BLM lands, ensure that new federal actions support or do not preclude species recovery.	3) New BLM activities: a) Project-level inventories will be completed in suitable habitat during project planning if inventory information is not available or adequate. b) If direct or indirect negative impacts to known populations of this species are anticipated as a result of a new BLM action, prohibit the activity. If negative impacts to suitable habitat are anticipated as a result of new BLM actions, modify the activity to avoid negative impacts and, if feasible, promote species recovery. c) Where needed, complete Section 7 consultation for new activities that may affect this species and its habitat.	3) CFO (all actions)

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	4) Protect northern Idaho ground squirrels from disturbances that would preclude recovery during critical periods.	4) Avoid disturbing activities in areas with known populations during the above-ground activity season (late February to early October), and avoid ground-disturbing activities at all times of the year in areas with colonies of northern Idaho ground squirrels and in suitable habitat.	4) CFO
	5) Implement adaptive management as needed to achieve conservation objectives.	5) Conduct site-specific implementation and effectiveness monitoring. Adjust management as needed to ensure that management objectives are met.	5) CFO in coordination with Idaho Department of Fish and Game regional office.
	6) Support conservation easements, cooperative management efforts, and other programs on adjacent nonfederal lands to support recovery of the northern Idaho ground squirrel.	6) Take advantage of opportunities as they arise.	4) CFO
Air Resources	None	None	None
Soil and Water Resources: Riparian/Wetland Areas (includes weed management)	1) Activities within the **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO and State Office
	2) Projects involving the application of pesticides (herbicides, insecticides, etc.) in wetland and riparian areas adjacent to areas with suitable northern Idaho ground squirrel habitat will be designed and implemented in accordance with the approach described in the	2) See **Forest and Woodland Management (includes weed management)** program section.	2) CFO in consultation with USFWS (all actions)

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	Forest and Woodland Management (includes weed management) program section.		
Upland Vegetation Management: Rangelands (includes weed management)	1) Activities within the **Upland Vegetation Management: Rangelands (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery. As a part of promoting conservation, the goals are to support growth of forbs and grasses needed by the northern Idaho ground squirrel, to avoid negative impacts, or to minimize impacts if avoidance is not possible.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Projects involving the application of pesticides in forested areas and woodlands will be analyzed at the project level. Particular attention will be paid to avoiding impacts in forest openings that may be detrimental to northern Idaho ground squirrels and native grasses and forbs in the understory. Such projects will be designed and implemented in accordance with the approach described in the **Forest and Woodland Management (includes weed management)** program section so that native forbs and grass recruitment is not inhibited.	2) See **Forest and Woodland Management (includes weed management)** program section.	2) CFO

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Forest and Woodland Management and Forest Products (includes weed management)	1) Activities within the **Forest and Woodland Management (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Projects involving the application of pesticides that may affect the species will be analyzed at the project level and designed such that pesticide applications will support conservation and recovery and minimize risks of exposure.	2) Site-specific stipulations will be developed locally using the following criteria: a) Evaluate the benefits and risks of vegetation treatment, including the following: application methods; pesticides, carriers, and surfactants used; needed treatment buffers; and use of non-chemical weed control (for example, bio-controls, hand pulling). If management objectives can be effectively accomplished using non-chemical methods, such is the preferred alternative. b) Apply appropriate spatial or temporal buffers to avoid species' exposure to harmful chemicals. c) Areas near populations of ground squirrels will be considered priority areas for exotic species and noxious weed control. d) Implement appropriate revegetation and weed control measures to reduce the risks of non-native species infestations following any ground/soil disturbing actions in or near known populations.	2) CFO (all actions)
	3) Conduct weed control programs in suitable habitat to restore native forbs and grasses	3) Aggressively control invasive non-native plants, which replace high-nutrition native	3) CFO

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	needed by the northern Idaho ground squirrel, particularly in areas adjacent to or near forested openings.	flora with low-nutrient exotic species. Assure that adequate forage is available for northern Idaho ground squirrels throughout weed control areas.	
	4) Protect suitable habitat from encroachment by woody species, and enhance identified restoration areas and connectivity corridors.	4) Habitat protection actions: a) Consider timber harvest or issuance of commercial firewood cutting permits where appropriate to connect populations and enhance habitat. As part of the permits and activities, encourage retention of downed logs. b) Reduce conifer encroachment into suitable meadow habitat.	4) CFO (all actions)
	5) Where needed and feasible, coordinate with adjacent land owners and local governments regarding control of invasive non-native plants through cooperative weed management programs.	5) Take advantage of opportunities as they arise.	3) CFO
Wildlife and Wildlife Habitat Management	1) Activities within the **Wildlife and Wildlife Habitat Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO and State Office
	2) Coordinate with Idaho Department of Fish and Game to improve habitat conditions in areas providing suitable habitat for northern Idaho ground squirrels.	2) Coordinate and implement projects to improve quality and quantity of suitable habitat for northern Idaho ground squirrels, where appropriate.	2) CFO in cooperation with Idaho Department of Fish and Game

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Fish and Aquatic Habitat Management	1) Activities within the **Fish and Aquatic Habitat Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
Fire Management: Fire Suppression	1) Activities within the **Fire Management: Fire Suppression** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery. Human life and firefighter safety and property take priority over species protection.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Fire suppression efforts will be conducted, as possible, to protect or conserve northern Idaho ground squirrel habitat. If this species is found on BLM lands, fire suppression efforts will be conducted, as possible, to protect northern Idaho ground squirrel habitat. Place a high priority on protecting known populations.	2) Fire management activities: a) Review Fire Management Plan for adequacy in addressing conservation measures. Modify the plan if needed. b) Apply MIST in suitable habitat, as appropriate. Consult with resource advisors to determine where MIST tactics should be applied to avoid or minimize negative impacts. c) Do not locate fire base camps, staging areas, fueling areas, or other related activities in or adjacent to known populations. Avoid locating fire base camps and staging areas in suitable habitat.	2) Responsibilities follow: a) FMO and CFO b) FMO, Resource Advisor, and Incident Commander for fire c) FMO, Resource Advisor, and CFO

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	3) As needed, coordinate with Forest Service and Idaho Department of Lands personnel regarding fire suppression activities in or near areas with known populations.	3) Ongoing interagency coordination.	3) FMO, with support from CFO Resource Advisor
Fire Management: Emergency Stabilization and Rehabilitation	1) Activities within the **Fire Management: Emergency Stabilization and Rehabilitation** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery. Human life and firefighter safety and property take priority over species protection.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) If this species is found on BLM lands, implement Emergency Stabilization and Rehabilitation activities to promote northern Idaho ground squirrel habitat rehabilitation.	2) Emergency Stabilization and Rehabilitation activities: a) If needed and if natural recovery would not achieve habitat objectives, implement Emergency Stabilization and Rehabilitation activities to promote rehabilitation of suitable habitat. Design seed mixes that emphasize native grasses and forbs and would promote establishment of species needed to achieve suitable northern Idaho ground squirrel habitat, if natural recovery of such vegetation is doubtful. b) As needed, protect disturbed areas using temporary closures or other measures until grasses and forbs are re-established and self-sustaining.	2) CFO (all actions)

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	3) Fire rehabilitation projects involving the application of pesticides in suitable habitat will be analyzed and implemented in accordance with the approach described in the **Forest and Woodland Management (includes weed management)** program section.	3) See **Forest and Woodland Management (includes weed management)** program section.	3) CFO
Fire Management: Prescribed Fire	1) Activities within the **Fire Management: Prescribed Fire** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Prescribed fire projects will be designed to conserve suitable northern Idaho ground squirrel habitat.	2) When developing and implementing prescribed fire plans, avoid or minimize negative impacts to suitable habitat. Use prescribed fire as a tool for assisting with species conservation, if such activities improve northern Idaho ground squirrel habitat (for example, to control conifer encroachment). Do not include known populations in prescribed fire plans.	2) CFO and FMO
	3) Protect suitable habitat from encroachment by woody species, and implement appropriate vegetation treatments within restoration areas as needed.	3) Reduce conifer encroachment into suitable habitat, where and when appropriate. Create additional suitable habitat by treating restoration areas.	3) CFO
Fire Management: Non-Fire Fuels Management	1) Activities within the **Fire Management: Non-Fire Fuels Management** program will implement relevant conservation measures as described in the **Special Status Animal and**	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	Plant Management program section to promote recovery.		
	2) Implement projects involving the application of pesticides in accordance with the approach described in the **Forest and Woodland Management (includes weed management)** program section.	2) See **Forest and Woodland Management: (includes weed management)** program section.	2) CFO
	3) Promote establishment of plant species needed to achieve suitable northern Idaho ground squirrel habitat.	3) Avoid non-fire fuels management projects in or adjacent to known populations, unless such projects would enhance species recovery. Implement protection measures to avoid negative effects to known populations. In suitable habitat, consider using seed mixes that emphasize native grasses and forbs and would promote establishment of species needed to achieve suitable northern Idaho ground squirrel habitat.	3) CFO
	4) Protect suitable habitat from encroachment by woody species, and enhance identified restoration areas.	4) Habitat protection actions: a) Consider non-fire fuels treatments where appropriate to connect populations and enhance habitat. Dependent on site characteristics, treatments should provide for retention of adequate amounts of downed logs. b) Reduce conifer encroachment into suitable habitat.	4) CFO (all actions)
Fire Management: Community Assistance	1) Activities within the **Fire Management: Community Assistance** program will implement relevant conservation measures as described in the **Special Status Animal and**	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	Plant Management program section to promote recovery.		
	2) Follow all measures included throughout the **Fire Management** program sections.	2) See actions within **Fire Management** program sections. Incorporate into community assistance agreements.	2) CFO
Cultural Management	1) Activities within the **Cultural Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
Paleontology Management	1) Activities within the **Paleontology Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
Visual Resources	None	None	None
Livestock Grazing Management: Leases	1) Activities within **Livestock Grazing Management: Leases** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage livestock grazing and trailing to promote suitable habitat conditions. Maintain and promote suitable habitat for the northern Idaho ground squirrel while implementing rangeland health standards and guidelines.	2) Permit or lease renewal actions: a) For review of ongoing actions, see **Special Status Animal and Plant Management** program section item (2). In unsurveyed suitable habitat, schedule surveys so northern Idaho ground squirrel occurrence information is available for standards and	2) CFO (all actions)

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		guidelines assessments associated with permit and lease renewals. Use the survey prioritization process in **Special Status Animal and Plant Management** program section 1(b). b) For new actions, see **Special Status Animal and Plant Management** program section item (3). c) As appropriate to avoid or minimize negative impacts, modify livestock grazing permits and leases.	
	3) Promote restoration of suitable habitat following fire, fire rehabilitation, restoration treatments, or other major disturbances.	3) As needed, protect disturbed areas using temporary closures or other measures until the key northern Idaho ground squirrel habitat components are re-established and self-sustaining.	3) CFO
	4) Maintain regular compliance checks on grazing allotments with known populations to identify problems as soon as possible and take immediate corrective measures.	4) Ongoing, day-to-day BLM action.	4) CFO
Livestock Grazing Management: Livestock Management Facilities	1) Activities within the **Livestock Grazing Management: Livestock Management Facilities** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage livestock facilities to promote maintenance of suitable northern Idaho ground	2) For review of ongoing actions, see **Special Status Animal and Plant Management**	2) CFO

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	squirrel habitat while implementing rangeland health standards and guidelines.	program section item (2). For new actions, see **Special Status Animal and Plant Management** program section item (3). As appropriate to avoid negative impacts, modify existing and avoid placement of new livestock facilities in northern Idaho ground squirrel habitat.	
Mineral Management: Locatable Minerals	1) Activities within the **Mineral Management: Locatable Minerals** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Approve plans of operations or allow notice level operations so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) Approval of plans of operations and notice-level operations: a) For review of existing plans of operation and notice-level operations, see **Special Status Animal and Plant Management** program section item (2). To the extent allowed by law, modify plans of operation or notice-level operations that negatively impact suitable habitat. For notice-level operations, notify the operator that modifications to proposed activities will be required to avoid negative impacts. b) For new plans of operation and notice-level operations, see **Special Status Animal and Plant Management** program section item (3). To the extent allowed by law, avoid approving plans of operation or notice-level	2) CFO (all actions)

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		operations that negatively impact suitable habitat. For notice-level operations, notify the operator that modifications to proposed activities will be required to avoid negative impacts. If a plan of operations is to be approved in suitable habitat, apply stipulations to support or to not preclude species recovery. A notice will require modification by the operator until BLM determines that it will not result in undue or unnecessary degradation.	
Mineral Management: Saleable and Leasable Minerals	1) Activities within the **Mineral Management: Saleable and Leasable Minerals** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Approve development of saleable or leasable minerals so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) Approval of saleable and leasable minerals: a) For review of existing mineral leases, see **Special Status Animal and Plant Management** program section item (2). Modify existing mineral leases if negative impacts are occurring. b) For new sales or leases, see **Special Status Animal and Plant Management** program section item (3). Avoid development of saleable or leasable minerals in suitable habitat, if negative impacts are expected. If a	2) CFO (all actions)

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		minerals lease or sale is to be issued in suitable habitat, apply stipulations to support or to not preclude species recovery.	
Recreation Management	1) Activities within the **Recreation Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Developed facilities (paved campgrounds, vault toilets, interpretive kiosks, etc.): Manage existing and new recreation facilities so as not to preclude species habitat conservation and recovery. This includes management of the physical facilities, as well as disturbances to the species resulting from human uses.	2) Management of existing and new facilities: a) For review of existing facilities, see **Special Status Animal and Plant Management** program section item (2). As appropriate to avoid negative impacts, modify existing facilities. b) For new facilities, or for expansion of uses or seasons of use at existing facilities, see **Special Status Animal and Plant Management** program section item (3). In addition, avoid development of new recreation facilities or expansion of existing facilities in or adjacent to suitable habitat, if negative impacts are anticipated.	2) CFO (all actions)
	3) Dispersed use areas (informal areas, including camping areas and tie-up areas for pack animals): Manage dispersed use sites so as not to preclude species habitat conservation. This includes limiting disturbances to the species resulting from human uses.	3) For review of ongoing activities, see **Special Status Animal and Plant Management** program section item (2). In addition, minimize human activity in and adjacent to areas with known populations. Close areas, either seasonally or year-round, as needed if negative impacts are occurring to	3) CFO

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		protect the species and its habitat, and post and monitor the closure.	
	4) Commercial and noncommercial recreation permits, including outfitter camps: Issue commercial and noncommercial recreation permits so as not to preclude species habitat conservation and recovery. This includes management of physical facilities (such as camps), as well as disturbances to the species resulting from human uses.	4) Issuance and review of existing and new permits: a) For review of existing permits, see **Special Status Animal and Plant Management** program section item (2). If needed, modify existing permits that negatively impact suitable habitat. b) For new permits, see **Special Status Animal and Plant Management** program section item (3). Avoid issuing recreation permits if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with northern Idaho ground squirrel recovery. Prohibit new recreation activities in areas that are adjacent to or within known populations, if negative impacts are expected.	4) CFO (all actions)
	5) Coordinate with the Idaho Department of Fish and Game to educate the public regarding the status and conservation of the northern Idaho ground squirrel to discourage recreational shooting.	5) In cooperation with Idaho Department of Fish and Game, consider seasonal closures to protect the northern Idaho ground squirrel from being shot. Take advantage of other educational and enforcement opportunities as they arise.	5) CFO, in cooperation with Idaho Department of Fish and Game and USFWS

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Transportation and Travel Management	1) Activities within the **Transportation and Travel Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO and State Office
	2) Manage roads, OHV routes and areas, as well as non-motorized trails, so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) Review of existing and new roads, OHV routes and areas, and non-motorized trails: a) For existing roads, designated OHV routes and areas, and designated non-motorized trails, see **Special Status Animal and Plant Management** program section item (2). Modify routes near known populations if negative impacts are occurring. Evaluate the need for seasonal OHV use restrictions in or adjacent to suitable habitat and, if needed, implement restrictions to reduce disturbance. Seek opportunities to close and revegetate OHV routes or non-motorized trails and use areas in or adjacent to suitable habitat, if negative impacts are occurring. b) For new roads, OHV routes and areas, and non-motorized trails, see **Special Status Animal and Plant Management** program section item (3). Avoid constructing new roads, trails, routes, and areas if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with northern Idaho ground squirrel recovery needs. In particular,	

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		avoid opening new roads, trails, routes, and areas in or adjacent to suitable habitat.	
	3) Maintain regular compliance checks on OHV closures to protect known populations and to identify problems as soon as possible and take immediate corrective measures.	3) Ongoing, day-to-day BLM activities.	3) CFO
Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)	1) Activities within the **Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Where feasible and funding is available, acquire through land exchange or purchase private with known populations or that could enhance habitat for northern Idaho ground squirrels.	2) Take advantage of opportunities as they arise. Priority should be given to lands that are adjacent to or near public lands.	2) CFO
	3) Retain habitat for northern Idaho ground squirrel (if found on BLM lands) in federal ownership unless such a transfer would result in a net benefit to the species.	3) Review each land tenure decision in terms of species habitat. Retain known populations in public ownership. Avoid the loss of suitable habitat from federal ownership. If property with known populations is to be transferred out of federal ownership, permanent conservation easements will be attached to the transfer or other measures will be taken that would result in equal or greater protection than under federal management. Such measures must be approved by the State Director.	3) CFO and State Office

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Lands and Realty Management: Land Use Permits and Leases	1) Activities within the **Lands and Realty Management: Land Use Permits and Leases** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Issue new land use permits and leases so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) For new permits and renewal of existing permits, see **Special Status Animal and Plant Management** program section item (3). Prohibit issuing new permits or leases, and avoid renewing existing permits or leases, within or adjacent to known populations if negative impacts are expected. If a permit or lease is to be issued or re-issued in suitable habitat, apply stipulations to the permit that support or do not preclude species recovery and that avoid negative impacts.	2) CFO
Lands and Realty Management: Rights-of-Way	1) Activities within the **Lands and Realty Management: Rights-of-Way** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Issue rights-of-way so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) For new rights-of-way and renewal of existing rights-of-way, see **Special Status Animal and Plant Management** program section item (3). In areas with known populations, do not issue new rights-of-way if negative impacts are expected. In suitable	2) CFO

Table F-2
Northern Idaho Ground Squirrel *(Spermophilus brunneus brunneus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		habitat, only issue or re-issue rights-of-way with stipulations to avoid negative impacts to northern Idaho ground squirrel habitat.	
Special Designation Area Management	1) Activities within the **Special Designation Area Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) If this species is found on BLM lands, explore the potential for new designations that would enhance species recovery.	2) If the species is found, seek opportunities to create appropriate protective designations.	1) CFO

Table F-3
Sockeye Salmon *(Oncorhynchus nerka)*, Fall Chinook Salmon *(Oncorhynchus tshawytscha)*, Spring/Summer Chinook Salmon *(Oncorhynchus tshawytscha)*, Steelhead Trout *(Oncorhynchus mykiss)*, and Bull Trout *(Salvelinus confluentus)* – Management, Conservation, and Restoration Measures

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Special Status Fish Management Note: Common to All Programs	In addition to pertinent recovery plan actions, the conservation measures contained throughout this table implement important elements for sockeye salmon, fall chinook salmon, spring/summer chinook salmon, steelhead trout, and bull trout recovery. The conservation measures reflect the BLM's commitment to support species recovery.	The implementation actions reflect the BLM's commitment to support species recovery and meet Endangered Species Act objectives. Actions apply to BLM lands and activities only.	
	1) In cooperation with National Marine Fisheries Service, USFWS, Idaho Department of Fish and Game, Tribes, Forest Service, and others:	1) Following actions to be completed in cooperation with others:	1) As stated below:
	a) Continue to cooperate in determining the distribution of populations and suitable habitats.	a) Mapping and data inventory: i) Use CFO, Idaho Department of Fish and Game, Tribes, National Marine Fisheries Service, USFWS, Forest Service, and other data to identify, record, and map known populations and suitable habitat on BLM lands. ii) Maintain a spatial database of species population and habitat information for BLM lands. iii) Participate in surveys and map new fish distribution as found. Systematic inventories will continue to be conducted in cooperation with other agencies.	a) CFO, in coordination with Idaho Department of Fish and Game, Tribes, National Marine Fisheries Service, USFWS, and Forest Service (all actions)
	b) Following acceptable monitoring protocols, continue to cooperate in monitoring for species presence, population status, and habitat	b) Cooperate with Idaho Department of Fish and Game, Tribes, National Marine Fisheries Service, USFWS, and Forest Service to conduct	

Table F-3
Sockeye Salmon *(Oncorhynchus nerka)*, Fall Chinook Salmon *(Oncorhynchus tshawytscha)*, Spring/Summer Chinook Salmon *(Oncorhynchus tshawytscha)*, Steelhead Trout *(Oncorhynchus mykiss)*, and Bull Trout *(Salvelinus confluentus)* – Management, Conservation, and Restoration Measures *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	condition on a regular basis.	regular monitoring of populations and habitat conditions on BLM lands. See **Appendix H** – Desired Conditions and Watershed and Aquatic Condition Indicators for desired condition of watershed and aquatic condition indicators. Acceptable monitoring methods would be adaptive and include protocols that have been generally accepted by state, federal, and tribes to document existing desired conditions.	
	c) Participate in research essential to recovery of the species. Cooperate in determining specific limiting factors in terms of habitat needs and characteristics.	c) The BLM will participate as funding allows.	
	d) Cooperate in the management and improvement of watershed, riparian, and aquatic habitat to promote species recovery.	d) Where appropriate, update or develop management plans for suitable habitat, particularly in areas with known populations, with emphasis in restoration watersheds (see **Appendix B** – Conservation and Restoration Watersheds).	
	e) Working with other agencies, compile a general list of BMPs that would apply to all programs, to the extent that such a list would assist with species and aquatic and riparian habitat conservation. The intent of implementing BMPs is to avoid or minimize negative impacts.	e) BMPs: i) CFO will coordinate with Idaho Department of Fish and Game, Tribes, National Marine Fisheries Service, USFWS, and Forest Service in the development of BMPs. ii) CFO to implement BMPs.	
	2) Ensure that ongoing federal actions support or do not impede species recovery in the long term.	2) Ongoing BLM activities: a) Review ongoing activities in locations that have the potential to affect known	2) CFO, in coordination with National Marine Fisheries Service,

Table F-3
Sockeye Salmon *(Oncorhynchus nerka)*, Fall Chinook Salmon *(Oncorhynchus tshawytscha)*, Spring/Summer Chinook Salmon *(Oncorhynchus tshawytscha)*, Steelhead Trout *(Oncorhynchus mykiss)*, and Bull Trout *(Salvelinus confluentus)* – Management, Conservation, and Restoration Measures *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		populations. b) Determine if direct or indirect negative impacts that affect population size or recovery are occurring as a result of ongoing discretionary BLM actions. If so, modify the activity to avoid or minimize negative impacts so it causes no downward trend in populations or its habitats and, where feasible, promote species recovery. See **Appendix D** – Aquatic and Riparian Management Strategy for additional management direction. c) Where needed, complete Section 7 consultation for ongoing activities that may affect the species and its riparian and aquatic habitats.	USFFWS, Idaho Department of Fish and Game, and Tribes (all actions)
	3) Ensure that new federal actions support or do not preclude species recovery.	3) New BLM activities: a) Project-level inventories and monitoring will be completed in suitable habitat during project planning if inventory information is not available or adequate. b) If direct or indirect negative impacts to the species or its habitat are anticipated as a result of new BLM actions, modify the activity to avoid or minimize negative impacts and, where feasible, promote species recovery. See **Appendix D** – Aquatic and Riparian Management Strategy for additional management direction. c) Avoid implementing activities that have the potential to adversely impact suitable habitat	3) CFO, in coordination with National Marine Fisheries Service, USFWS, Idaho Department of Fish and Game, and Tribes (all actions)

Table F-3
Sockeye Salmon *(Oncorhynchus nerka)*, Fall Chinook Salmon *(Oncorhynchus tshawytscha)*, Spring/Summer Chinook Salmon *(Oncorhynchus tshawytscha)*, Steelhead Trout *(Oncorhynchus mykiss)*, and Bull Trout *(Salvelinus confluentus)* – Management, Conservation, and Restoration Measures *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		for species or result in "take". It is acknowledged that short term adverse impacts to aquatic habitat and species may occur (even for desired restoration projects); such activities may be acceptable if they do not impede long term achievement of desired conditions and recovery for the species. d) Where needed, complete Section 7 consultation for new activities that may affect species and aquatic habitats.	
	4) Implement adaptive management as needed to achieve recovery objectives.	4) Conduct site-specific implementation and effectiveness monitoring. Adjust management as needed to ensure that management objectives are met. See **Appendix H** – Desired Conditions and Watershed and Aquatic Condition Indicators.	4) CFO
	5) Support land exchanges and acquisitions, conservation easements, cooperative management efforts, and other programs on adjacent nonfederal lands to support recovery for listed species.	5) Take advantage of opportunities as they arise.	5) CFO
Vegetation – Riparian and Wetlands Resources: (includes weed management)	1) Activities within **Vegetation – Riparian and Wetlands Resources: (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Fish Management** program section to promote recovery. As a part of recovery, the goals are to promote desired conditions (proper functioning and good	1) Apply relevant conservation measures from the **Special Status Fish Management** program section at the beginning of this table.	1) CFO

Table F-3
Sockeye Salmon *(Oncorhynchus nerka)*, Fall Chinook Salmon *(Oncorhynchus tshawytscha)*, Spring/Summer Chinook Salmon *(Oncorhynchus tshawytscha)*, Steelhead Trout *(Oncorhynchus mykiss)*, and Bull Trout *(Salvelinus confluentus)* – Management, Conservation, and Restoration Measures *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	condition riparian and wetland habitats) in watersheds with listed fish and to avoid negative impacts, or to minimize impacts if avoidance is not possible.		
	2) Projects involving the application of pesticides (herbicides, insecticides, etc.) that may affect the species will be analyzed at the project level and designed such that pesticide applications will support recovery and minimize risks of exposure.	2) Site-specific stipulations will be developed locally using the following criteria: a) Evaluate the benefits and risks of vegetation treatment, including the following: application methods; pesticides, carriers, and surfactants used; needed treatment buffers; and use of non-chemical weed control (for example, bio-controls, hand pulling). If management objectives can be effectively accomplished using non-chemical methods, such is the preferred alternative. b) Apply appropriate spatial and temporal buffers to avoid species' exposure to harmful chemicals. c) Implement appropriate revegetation and weed control measures to reduce the risks of non-native species infestations following any ground/soil disturbing actions in or near suitable habitat. d) Use least toxic chemicals to accomplish vegetation treatment objectives.	2) CFO in consultation with National Marine Fisheries Service and USFWS (all actions)
	3) Where needed and feasible, coordinate with adjacent land owners and local governments through cooperative riparian restoration management programs.	3) Take advantage of opportunities as they arise.	3) CFO

Table F-3
Sockeye Salmon *(Oncorhynchus nerka)*, Fall Chinook Salmon *(Oncorhynchus tshawytscha)*, Spring/Summer Chinook Salmon *(Oncorhynchus tshawytscha)*, Steelhead Trout *(Oncorhynchus mykiss)*, and Bull Trout *(Salvelinus confluentus)* – Management, Conservation, and Restoration Measures *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	4) Conserve and restore riparian vegetation in watersheds providing habitat for federally listed fish.	4) Management actions: a) Emphasize riparian restoration efforts in watersheds identified in **Appendix B** (Conservation and Restoration Watersheds). Riparian and aquatic restoration opportunities would also be promoted where opportunities exists or in partnership with others. b) See **Appendix D** (Aquatic and Riparian Management Strategy) and **Appendix H** (Desired Conditions and Watershed and Aquatic Condition Indicators) for appropriate management direction and desired conditions.	4) CFO (all actions)
Aquatic Resources, Fish, and Special Status Fish Management	1) Activities within the **Aquatic Resources, Fish, and Special Status Fish Management** program will implement relevant conservation measures as described in the **Special Status Fish Management** program to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Implement appropriate actions and activities to promote species recovery and good quality (proper functioning) riparian and aquatic habitats.	2) Coordinate and implement management actions to improve riparian and aquatic habitats and species recovery. See **Appendix B** -Conservation and Restoration Watersheds, **Appendix D** -Aquatic and Riparian Management Strategy, and **Appendix H** – Desired Conditions and Watershed and Aquatic Condition Indicators for additional direction, strategy, and desired conditions.	2) CFO, Idaho Department of Fish and Game, Tribes, National Marine Fisheries Service, USFWS, and Forest Service.

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Special Status Animal and Plant Management Note: Common to All Programs	The conservation measures contained throughout this table implement important elements included in the Recovery Plans for the MacFarlane's four-o'clock and Spalding's catchfly. The conservation measures reflect the BLM's commitment to support species recovery and meet Endangered Species Act objectives.	The implementation actions reflect the BLM's commitment to support species recovery and meet Endangered Species Act objectives. Actions apply to BLM lands and activities only. Habitat terms used throughout this document are defined in **Appendix G**: Species-Specific Habitat Definitions.	
	1) In cooperation with Idaho Department of Fish and Game Conservation Data Center, USFWS, and others:	1) Following actions to be completed in cooperation with others:	1) As stated below:
	a) Cooperate to develop consistent interagency inventory and monitoring methods, or use established USFWS protocols.	a) Cooperate in the development of interagency inventory methods and data standards for mapping or database management.	a) CFO, in coordination with Conservation Data Center, USFWS, and other partners
	b) Cooperate to identify and map populations and suitable habitats. Participate in surveys within suitable habitats, and map new populations as found.	b) Surveys, mapping, and data management: i) Cooperate with Conservation Data Center and USFWS to record and map all plant occurrences, known populations, high-priority habitat areas, and suitable habitat for BLM lands. ii) The BLM's objective will be to systematically inventory 2,000 acres of MacFarlane's four-o'clock and 2,000 acres of Spalding's catchfly suitable habitat per year. The amount of habitat to be surveyed each year will be based on available annual funding.	b) CFO, in coordination with Conservation Data Center and USFWS (all actions)

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		If funding permits, the CFO will target a systematic inventory of additional areas of the suitable habitat annually with a goal of surveying all suitable habitats for MacFarlane's four-o'clock and Spalding's catchfly within five years. Prioritize surveys and inventories to address areas of suitable habitat with a high likelihood of species occurrence. Inventories should be scheduled to complement other program needs such as the grazing permit or lease renewal schedule. iii) In cooperation with Conservation Data Center, maintain a spatial database of species population and habitat information for BLM lands.	
	c) Following current monitoring protocols, cooperate in monitoring MacFarlane's four-o'clock and Spalding's catchfly population trends and habitat conditions.	c) Conduct regular monitoring of populations on BLM lands.	c) CFO
	d) Cooperate in the management of high-priority habitat areas and populations to promote species recovery.	d) Update or develop ACEC plans or other implementation-level plans as needed.	d) CFO in coordination with USFWS.
	e) Participate in research essential to recovery of the species. Cooperate in determining specific limiting factors in terms of habitat needs and characteristics. Cooperate in population viability analyses to ensure that recovery criteria objectives are being met.	e) The BLM will participate as funding allows.	e) CFO in coordination with Conservation Data Center and USFWS.

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	f) Support seed banks in a long-term seed storage facility.	f) As needed, provide funding to a suitable repository to support a seed bank.	f) CFO and State Office
	g) Working with other agencies, compile a general list of BMPs that would apply to all programs, to the extent that such a list would assist with consultation and species recovery. The intent of implementing BMPs is to avoid or minimize negative impacts.	g) BMPs: i) Coordinate development of BMPs with CFO and USFWS. ii) CFO to implement BMPs.	g) Responsibilities: i) CFO and USFWS ii) CFO
	h) Support the establishment and maintenance of new populations in suitable MacFarlane's four-o'clock and Spalding's catchfly habitat. The goal of these activities is to maintain or enhance viable populations.	h) Maintain and conserve the population of MacFarlane's four-o'clock (BLM transplants) at Lucile Caves (designated ACEC/RNA), and develop two additional experimental transplant sites as funding allows to support recovery for the species. Investigate the feasibility and development of new Spalding's catchfly populations through plantings as funding allows. Provide for protection and conservation of established populations to support recovery for the species.	h) CFO in coordination with and USFWS
	2) Ensure that ongoing federal actions support or do not preclude species recovery.	2) Ongoing BLM activities: a) As needed, review ongoing activities in high-priority habitat areas where local consultation has not yet been completed. b) Determine if direct or indirect negative impacts to the species or its habitat are occurring as a result of ongoing discretionary BLM actions. If so, modify the activity to avoid or minimize anticipated negative impacts and, where feasible, promote species	2) CFO (all actions)

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		recovery. c) Where needed, complete Section 7 consultation for ongoing activities that may affect this species and its habitat.	
	3) Ensure that new federal actions support or do not preclude species recovery.	3) New BLM activities: a) Project-level inventories will be completed in suitable habitat during project planning if inventory information is not available or adequate. b) If direct or indirect negative impacts to the species or its habitat are anticipated as a result of new BLM actions, modify the activity to avoid or minimize anticipated negative impacts and, where feasible, promote species recovery. c) Where needed, complete Section 7 consultation for new activities that may affect this species and its habitat.	3) CFO (all actions)
	4) Implement adaptive management as needed to achieve conservation objectives.	4) Conduct site-specific implementation and effectiveness monitoring. Adjust management as needed to ensure that management objectives are met.	4) CFO
	5) Support conservation easements, cooperative management efforts, and other programs on adjacent nonfederal lands to support recovery of MacFarlane's four-o'clock and Spalding's catchfly.	5) Take advantage of opportunities as they arise.	5) CFO
Air Resources	None	None	None

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Soil and Water Resources: Riparian/Wetland Areas (includes weed management)	1) Activities within the **Soil and Water Resources: Riparian/Wetlands Areas (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Projects involving the application of pesticides (herbicides, insecticides, etc.) in wetland and riparian areas adjacent to grasslands with suitable MacFarlane's four-o'clock and Spalding's catchfly habitat will be designed and implemented in accordance with the approach described in the **Upland Vegetation Management: Rangelands (includes weed management)** program section.	2) See **Upland Vegetation Management: Rangelands (includes weed management)** program section.	2) CFO in consultation with USFWS (all actions)
Upland Vegetation Management: Rangelands (includes weed management)	1) Activities within the **Upland Vegetation Management: Rangelands (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery. As a part of promoting recovery, the goals are to promote habitat conservation, to avoid negative impacts, or to minimize impacts if avoidance is not possible.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Projects involving the application of pesticides that may affect the species will be analyzed at the project level and designed such that pesticide applications will support	2) Site-specific stipulations will be developed locally using the following criteria: a) Evaluate the benefits and risks of vegetation treatment including the following:	2) CFO in consultation with USFWS (all actions)

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	conservation and recovery and minimize risks of exposure.	application methods; pesticides, carriers, and surfactants used; needed treatment buffers; and use of non-chemical weed control (for example, bio-controls, hand pulling). If management objectives can be effectively accomplished using non-chemical methods, such is the preferred alternative. b) Apply appropriate spatial and temporal buffers to avoid species' exposure to harmful chemicals. c) Emphasize eradication of competing non-natives in high-priority habitat areas as a top priority. d) Implement appropriate revegetation and weed control measures to reduce the risks of non-native species infestations following any ground/soil disturbing actions in or near known populations.	
	3) Where needed and feasible, coordinate with adjacent land owners and local governments regarding control of invasive plants in upland areas through cooperative weed management programs. One of the BLM's priorities within the cooperative weed management program will be protection of listed and candidate plants on BLM lands.	3) Take advantage of opportunities as they arise.	3) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Forest and Woodland Management and Forest Products (includes weed management)	1) Activities within the **Forest and Woodland Management (includes weed management)** program will implement relevant conservation measures as described in **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Projects involving the application of pesticides in forested areas and woodlands adjacent to suitable MacFarlane's four-o'clock and Spalding's catchfly habitat will be designed and implemented in accordance with the approach described in the **Upland Vegetation Management: Rangelands (includes weed management)** program section.	2) See **Upland Vegetation Management: Rangelands (includes weed management)** program section.	2) CFO
Wildlife and Wildlife Habitat Management	1) Activities within the **Wildlife and Wildlife Habitat Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO and State Office
Fish and Aquatic Habitat Management	1) Activities within the **Fish and Aquatic Habitat Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
Fire Management: Fire Suppression	1) Activities within the **Fire Management: Fire Suppression** program will implement relevant conservation measures as described in the **Special Status Animal and Plant**	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	Management program section to promote recovery. Human life and firefighter safety and property take priority over species protection.		
	2) Fire suppression efforts will be conducted, as possible, to protect MacFarlane's four-o'clock and Spalding's catchfly habitat. Place a high priority on protecting suitable habitat.	2) Fire management activities: a) Review Fire Management Plan for adequacy in addressing conservation measures. Modify the plan if needed. b) Apply MIST in suitable habitat, as appropriate. Consult with resource advisors to determine where MIST tactics should be applied to avoid or minimize negative impacts. c) Do not locate fire base camps, staging areas, and fueling areas within known populations. Avoid these and other related activities in or adjacent to high-priority habitat areas if negative impacts may occur.	2) Responsibilities follow: a) FMO and CFO b) FMO and/or Resource Advisor and Incident Commander for fire c) FMO and CFO
	3) As needed, coordinate with Forest Service and Idaho Department of Lands personnel regarding fire suppression activities in or near suitable habitat.	3) Ongoing interagency coordination.	3) FMO, with support from CFO resource advisor
Fire Management: Emergency Stabilization and Rehabilitation	1) Activities within the **Fire Management: Wildland Fire Use** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Implement projects involving the application of pesticides in accordance with the approach described in **Upland Vegetation**	2) See **Upland Vegetation Management: Rangelands (includes weed management)** program section.	2) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	Management: Rangelands (includes weed management) program section.		
	3) Promote establishment of habitats that support MacFarlane's four-o'clock and Spalding's catchfly populations.	3) Avoid non-fire fuels management projects in or near known populations, unless such projects would enhance species recovery or are necessary for hazardous fuels reduction near the urban interface. Implement protection measures to avoid or minimize negative impacts to know populations. In suitable habitat, design native seed mixes that emphasize local stock and would promote species recovery.	3) CFO
Fire Management: Wildland Fire Use	1) Activities within the **Fire Management: Wildland Fire Use** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Wildland fire use projects (where allowed) will be designed to conserve suitable habitat.	2) When developing wildland fire use plans, avoid burning suitable habitat, and develop appropriate burn prescriptions that maximize the conservation of suitable habitat for MacFarlane's four-o'clock and Spalding's catchfly.	2) CFO
Fire Management: Prescribed Fire	1) Activities within the **Fire Management: Prescribed Fire** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	2) Prescribed fire projects will be designed to conserve or restore suitable MacFarlane's four-o'clock and Spalding's catchfly habitat.	2) When developing and implementing prescribed fire plans, avoid or minimize negative impacts to suitable habitat, and use prescribed fire as a tool for assisting with species conservation.	2) CFO and FMO
Fire Management: Non-Fire Fuels Management	1) Activities within the **Fire Management: Non-Fire Fuels Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Implement projects involving the application of pesticides in accordance with the approach described in the **Upland Vegetation Management: Rangelands (includes weed management)** program section.	2) See **Upland Vegetation management: Rangelands (includes weed management)** program section.	2) CFO
	3) Promote establishment of habitats that support MacFarlane's four-o'clock and Spalding's catchfly populations.	3) Avoid non-fire fuels management projects in or near known populations, unless such projects would enhance species recovery or are necessary for hazardous fuels reduction near the urban interface. Implement protection measures to avoid or minimize negative impacts to known populations. In suitable habitat, design native seed mixes that emphasize local stock and would promote species recovery.	2) CFO
Fire Management: Community Assistance	1) Activities within the **Fire Management: Community Assistance** program will	1) Apply relevant conservation measures from the **Special Status Animal and Plant**	1) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	**Management** program section at the beginning of this table.	
	2) Follow all measures included throughout the **Fire Management** program sections.	2) See actions within **Fire Management** program sections. Incorporate into community assistance agreements.	2) CFO
Cultural Management	1) Activities within the **Cultural Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
Paleontology Management	1) Activities within the **Paleontology Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
Visual Resources	None	None	None
Livestock Grazing Management: Leases	1) Activities within the **Livestock Grazing Management: Leases** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage livestock grazing and trailing to promote suitable habitat conditions. Maintain or enhance suitable habitat for MacFarlane's four-o'clock and Spalding's catchfly while implementing rangeland health standards and	2) Lease renewal actions: a) For review of ongoing actions, see **Special Status Animal and Plant Management** program section item (2). In unsurveyed suitable habitat, schedule surveys so	2) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	guidelines.	occurrence information is available for standards and guidelines assessments associated with lease renewals. Use the survey prioritization process in **Special Status Animal and Plant Management** program section 1(b). b) For new actions, see **Special Status Animal and Plant Management** program section item (3). c) As appropriate to avoid or minimize negative impacts, modify livestock grazing permits and leases.	
	3) Promote restoration of suitable habitat following fire, fire rehabilitation, restoration treatments, or other major disturbances.	3) As needed, protect disturbed areas using temporary closures or other measures until the risk of erosion or other impacts has passed and habitat components are re-established and self-sustaining.	3) CFO
	4) Maintain regular compliance checks on grazing allotments with known populations to identify problems as soon as possible and take immediate corrective measures.	4) Ongoing, day-to-day BLM action.	4) CFO
Livestock Grazing Management: Livestock Management Facilities	1) Activities within the **Livestock Grazing Management: Livestock Management Facilities** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage livestock facilities to promote maintenance of suitable MacFarlane's four-	2) For review of ongoing actions, see **Special Status Animal and Plant Management**	2) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	o'clock and Spalding's catchfly habitat while implementing rangeland health standards and guidelines.	program section item (2). For new actions, see **Special Status Animal and Plant Management** program section item (3). As appropriate to avoid or minimize negative impacts, modify existing and avoid placement of new livestock facilities in high-priority habitat areas.	
Mineral Management: Locatable Minerals	1) Activities within the **Mineral Management: Locatable Minerals** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Approve plans of operations or allow notice level operations so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) Approval of plans of operations and notice-level operations: a) For review of existing plans of operation and notice-level operations, see **Special Status Animal and Plant Management** program section item (2). To the extent allowed by law, modify plans of operation or notice-level operations that may have negative impacts on the species or its habitat. For notice-level operations, notify the operator that modifications to proposed activities will be required to avoid negative impacts. b) For new plans of operation and notice-level operations, see **Special Status Animal and Plant Management** program section item (3). To the extent allowed by law, avoid approving plans of operation or notice-level	2) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		operations that may have negative impacts on the species or its habitat. For notice-level operations, notify the operator that modifications to proposed activities will be required to avoid negative impacts. If a plan of operations is to be approved in or adjacent to high-priority habitat areas, apply stipulations to support or to not preclude species recovery. A notice will require modification by the operator until BLM determines that it will not result in undue or unnecessary degradation.	
Mineral Management: Saleable and Leasable Minerals	1) Activities within the **Mineral Management: Saleable and Leasable Minerals** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Approve development of saleable or leasable minerals so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) Approval of saleable and leasable minerals: a) For review of existing mineral leases, see **Special Status Animal and Plant Management** program section item (2). Modify existing mineral leases if negative impacts are occurring. b) For new sales or leases, see **Special Status Animal and Plant Management** program section item (3). Avoid development of saleable or leasable minerals in or adjacent to high-priority habitat areas if negative impacts are expected. If a minerals lease or sale is to be issued in or adjacent to high-priority	2) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		habitat areas, apply stipulations to support or to not preclude species recovery. A notice will require modification by the operator until the BLM determines that it will not result in undue or unnecessary degradation.	
Recreation Management	1) Activities within the **Recreation Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Developed facilities (boat access, paved campgrounds, vault toilets, interpretive kiosks, etc.): Manage existing and new recreation facilities so as to not preclude species habitat conservation. This includes management of the physical facilities, as well as disturbances to the species resulting from human uses.	2) Management of existing and new facilities: a) For review of existing facilities see **Special Status Animal and Plant Management** program section item (2). As appropriate to avoid or minimize negative impacts, modify existing facilities. b) For new facilities, or for expansion of uses or seasons of use at existing facilities, see Special Status Animal and Plant Management program section item (3). In addition, avoid development of new recreation facilities or expansion of existing facilities in or adjacent to high-priority habitat areas if negative impacts are anticipated.	2) CFO
	3) Dispersed use areas (informal areas, including camping areas and tie-up areas for pack animals and boats): Manage dispersed use sites so as not to preclude species habitat conservation and recovery. This includes limiting disturbances to the species resulting	3) For review of ongoing activities, see **Special Status Animal and Plant Management** program section item (2). In addition, minimize human activity in and adjacent to high-priority habitat areas if negative impacts are occurring. Close areas,	3) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	from human uses.	either seasonally or year-round, as needed to protect the species and its habitat, and post and monitor the closure.	
	4) Commercial and noncommercial recreation permits, including outfitter camps: Issue commercial and noncommercial recreation permits so as not to preclude species habitat conservation. This includes management of physical facilities (such as camps), as well as disturbances to the species resulting from human uses.	4) Issuance and review of existing and new permits: a) For review of existing permits, see **Special Status Animal and Plant Management** program section item (2). If needed, modify existing permits that conflict with providing suitable habitat conditions. b) For new permits, see **Special Status Animal and Plant Management** program section item (3). Avoid issuing recreation permits if negative impacts are expected. In particular, avoid permitting new recreation activities in high-priority areas. If a recreation permit is to be issued, apply stipulations to the permit to support or to not preclude species conservation and recovery.	
Transportation and Travel Management	1) Activities within the **Recreation Management: Travel Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage roads, OHV routes and areas, as well as non-motorized trails, so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species	2) Review of existing and new roads, OHV routes, and areas and non-motorized trails: a) For existing roads, designated OHV routes and areas, and designated non-motorized	2) CFO (all actions)

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	resulting from human uses.	trails, see **Special Status Animal and Plant Management** program section item (2). Modify routes in and adjacent to high-priority habitat areas if negative impacts are occurring. Implement restrictions to reduce disturbance. Seek opportunities to close and revegetate OHV routes or non-motorized trails and use areas in and adjacent to high-priority habitat areas if negative impacts are occurring. b) For new roads, OHV routes and areas, and non-motorized trails, see **Special Status Animal and Plant Management** program section item (3). Avoid constructing new roads, trails, routes, and areas if negative impacts are expected. In particular, avoid opening new roads, trails, routes, and areas in and adjacent to high-priority habitat areas.	
	3) Maintain regular compliance checks on OHV closures to protect known populations and to identify problems as soon as possible and take immediate corrective measures.	3) See **Special Status Animal and Plant Management** program section item (2).	3) CFO
Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)	1) Activities within the **Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Where feasible and funding is available, acquire through land exchange or purchase	2) Take advantage of opportunities as they arise. Priority should be given to lands that	2) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	private lands that support known populations.	are adjacent to or near public lands and/or a population occurring on BLM and private lands.	
	3) Retain occupied habitat for MacFarlane's four-o'clock and Spalding's catchfly in federal ownership unless such a transfer would result in a net benefit to the species.	3) Review each land tenure decision in terms of species habitat. Avoid the loss of known populations from federal ownership. If property with known populations is to be transferred out of federal ownership, permanent conservation easements will be attached to the transfer or other measures will be taken that would result in equal or greater protection than under federal management. Such measures must be approved by the State Director.	2) CFO and State Office
Lands and Realty Management: Land Use Permits and Leases	1) Activities within the **Lands and Realty Management: Land Use Permits and Leases** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Issue new land use permits and leases and review existing permits and leases at renewal so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) For new permits and renewal of existing permits, see **Special Status Animal and Plant Management** program section item (3). Avoid issuing new permits or leases, or renewing existing permits or leases, within or adjacent to high-priority habitat areas if negative impacts are expected. If a permit or lease is to be issued or re-issued in such areas, apply stipulations to the permit that support or do not preclude species recovery	2) CFO

Table F-4
MacFarlane's Four-O'clock *(Mirabilis macfarlanei)* and Spalding's catchfly *(Silene spaldingii)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		and that avoid or minimize negative impacts.	
Lands and Realty Management: Rights-of-Way	1) Activities within the **Lands and Realty Management: Rights-of-Way** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Issue new rights-of-way and review existing rights-of-way at renewal so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) For new rights-of-way and renewal of existing rights-of-way (applying to areas within suitable habitat), see **Special Status Animal and Plant Management** program section items (2) and (3). Avoid issuing rights-of-way, or renewing existing rights-of-way, within or adjacent to high-priority habitat areas if negative impacts are expected. In these areas, re-issue exiting right-of-way with stipulations to minimize negative impacts. In suitable habitat, only issue or re-issue rights-of-way with stipulations to avoid negative impacts to MacFarlane's four-o'clock or Spalding catchfly habitat.	2) CFO
Special Designation Area Management	1) Activities within the **Special Designation Area Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Explore the potential for new designations that would enhance species recovery.	2) Take advantage of opportunities as they arise.	1) CFO

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Special Status Animal and Plant Management Note: Common to All Programs	The conservation measures contained throughout this table implement important elements for yellow-billed cuckoo conservation. The conservation measures reflect the BLM's commitment to support species conservation.	The implementation actions reflect the BLM's commitment to support species recovery and meet Endangered Species Act objectives. Actions apply to BLM lands and activities only. Habitat terms used throughout this document are defined in **Appendix G**: Species-Specific Habitat Definitions.	
	1) In cooperation with Idaho Department of Fish and Game, Tribes, USFWS, and others:	1) Following actions to be completed in cooperation with others:	1) As stated below:
	a) Continue to cooperate in determining the distribution of populations and suitable habitats.	a) Mapping and data inventory: i) Use Idaho Department of Fish and Game, Conservation Data Center, USFWS, and other data to identify, record, and map known populations and suitable habitat on BLM lands. ii) Maintain a spatial database of species population and habitat information for BLM lands. iii) Participate in surveys and map new populations as found. Systematic inventories will continue to be conducted in cooperation with other agencies.	a) CFO, in coordination with Idaho Department of Fish and Game regional office. State Office support for mapping as needed.
	b) Following current monitoring protocols, continue to cooperate in monitoring for species presence on a regular basis.	b) Cooperate with Idaho Department of Fish and Game and USFWS to conduct regular monitoring of populations on BLM lands. Assist in documenting whether cuckoos are using habitats and the type of use.	b) CFO in coordination with Idaho Department of Fish and Game and USFWS.
	c) Participate in research essential to conservation of the species. Cooperate in determining specific limiting factors in terms of habitat needs and characteristics.	c) The BLM will participate as funding allows.	c) CFO in coordination with USFWS and Idaho Department of Fish and Game.

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	d) Cooperate in the management and improvement of suitable habitat to promote species conservation.	d) Where appropriate, update or develop management plans for suitable habitat, particularly in areas with known populations, as well as in restoration areas.	d) CFO, with support from State Office
	e) Working with other agencies, compile a general list of BMPs that would apply to all programs, to the extent that such a list would assist with species and habitat conservation. The intent of implementing BMPs is to avoid or minimize negative impacts.	e) BMPs: i) CFO will coordinate with USFWS, Idaho Department of Fish and Game, and State Office in the development of BMPs. ii) CFO to implement BMPs.	e) Responsibilities: i) State Office, District Office, and CFO with USFWS and Idaho Department of Fish and Game. ii) CFO
	2) Ensure that ongoing federal actions support or do not preclude species recovery.	2) Ongoing BLM activities: a) Review ongoing activities in locations with known populations. b) Determine if direct or indirect negative impacts to the species or its habitat are occurring as a result of ongoing discretionary BLM actions. If so, modify the activity to avoid or minimize negative impacts and, where feasible, promote species conservation.	2) CFO (all actions)
	3) Ensure that new federal actions support or do not preclude species conservation.	3) New BLM activities: a) Project-level inventories will be completed in suitable habitat during project planning if inventory information is not available or adequate. b) If direct or indirect negative impacts to the species or its habitat are anticipated as a result of new BLM actions, modify the activity to avoid or minimize negative impacts and, where feasible, promote species conservation. c) Avoid implementing activities that have the	3) CFO (all actions)

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		potential to disturb or displace known populations of cuckoos during the breeding season (May through September).	
	4) Implement adaptive management as needed to achieve conservation objectives.	4) Conduct site-specific implementation and effectiveness monitoring. Adjust management as needed to ensure that management objectives are met.	4) CFO
	5) Support conservation easements, cooperative management efforts, and other programs on adjacent nonfederal lands to support conservation of the yellow-billed cuckoo.	5) Take advantage of opportunities as they arise.	5) CFO
Air Resources	None	None	None
Soil and Water Resources: Riparian/Wetland Areas (includes weed management)	1) Activities within **the Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation. As a part of conservation, the goals are to promote multi-tiered forested riparian habitat development and maintenance in suitable habitat and restoration areas, to avoid negative impacts, or to minimize impacts if avoidance is not possible.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Projects involving the application of pesticides (herbicides, insecticides, etc.) that may affect the species will be analyzed at the project level and designed such that pesticide	2) Site-specific stipulations will be developed locally using the following criteria: a) Evaluate the benefits and risks of vegetation treatment, including the following:	2) CFO in consultation with USFWS (all actions)

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	applications will support conservation and minimize risks of exposure.	application methods; pesticides, carriers, and surfactants used; needed treatment buffers; and use of non-chemical weed control (for example, bio-controls, hand pulling). If management objectives can be effectively accomplished using non-chemical methods, such is the preferred alternative. b) Apply appropriate spatial and temporal buffers to avoid species' exposure to harmful chemicals. c) Implement appropriate revegetation and weed control measures to reduce the risks of non-native species infestations following any ground/soil disturbing actions in or near suitable habitat.	
	3) Where needed and feasible, coordinate with adjacent land owners and local governments regarding control of invasive plants in riparian areas through cooperative weed management programs.	3) Take advantage of opportunities as they arise.	3) CFO
	4) Conserve riparian vegetation in suitable habitat (for example, healthy willow stands and cottonwood trees) to maintain their integrity for use by yellow-billed cuckoos, and initiate management in restoration areas.	4) Management actions: a) Emphasize eradication of non-native invasive species in riparian areas that compete with willow and cottonwood tree regeneration. Continue to identify problem areas (such as areas infested with tamarisk, Russian olive, and false indigo) and implement appropriate weed control measures. b) Avoid issuing commercial firewood cutting permits in suitable habitats in riparian forests. If permits are issued, ensure that such	4) CFO (all actions)

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		activities are consistent with the long-term maintenance of suitable habitat and enhancement of restoration areas. c) As needed, close suitable habitat in riparian forests to non-commercial firewood cutting and post the closure.	
Upland Vegetation Management: Rangelands (includes weed management)	1) Activities in the **Upland Vegetation Management: Rangelands (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Projects involving the application of pesticides in uplands adjacent to suitable yellow-billed cuckoo habitat or in restoration areas will be designed and implemented in accordance with the approach described in the **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	2) See **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	2) CFO
Forest and Woodland Management (includes weed management)	1) Activities within the **Forest and Woodland Management (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2)) Projects involving the application of pesticides in forested areas and woodlands adjacent to suitable yellow-billed cuckoo habitat or in restoration areas will be designed and implemented in accordance with the	2) See **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	2) CFO

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	approach described in the **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.		
Wildlife and Wildlife Habitat Management	1) Activities within the **Wildlife and Wildlife Habitat Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) In restoration areas, cooperate in creating opportunities for yellow-billed cuckoo occupancy by enhancing habitat.	2) Consider planting or other habitat enhancement measures to improve yellow-billed cuckoo habitat value.	2) CFO in cooperation with Idaho Department of Fish and Game
Fish and Aquatic Habitat Management	1) Activities within the **Fish and Aquatic Habitat Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) See **Appendix B** (Conservation and Restoration Watersheds) and **Appendix D** (Aquatic and Riparian Management Strategy) for additional watershed, riparian, and aquatic conservation measures that would promote functional riparian habitats.	2) Coordinate and implement management actions to improve riparian and aquatic habitats. Emphasis conservation and restoration measures would focus on cottonwood community riparian habitats.	1) CFO
Fire Management: Fire Suppression	1) Activities within **the Fire Management: Fire Suppression** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	conservation. Human life and firefighter safety and property take priority over species protection.		
	2) Fire suppression efforts will be conducted, as possible, to protect yellow-billed cuckoo habitat.	2) Fire management activities: a) Review Fire Management Plan for adequacy in addressing conservation measures. Modify the plan if needed. b) Apply MIST in suitable habitat, as appropriate. Consult with resource advisors to determine where MIST tactics should be applied to avoid or minimize negative impacts. c) Do not locate fire base camps, staging areas, and fueling areas in suitable habitat. Avoid locating these and other related activities in suitable habitat.	2) Responsibilities follow: a) FMO and CFO b) FMO, Resource Advisors, and Incident Commander for fire c) FMO, Resource Advisors, and CFO
	3) Coordinate with Forest Service, Idaho Department of Lands, or other applicable agency personnel regarding fire suppression activities in or near suitable habitat.	3) Ongoing interagency coordination.	3) FMO, with support from CFO Resource Advisor
Fire Management: Emergency Stabilization and Rehabilitation	1) Activities within **the Fire Management: Emergency Stabilization and Rehabilitation (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Implement Emergency Stabilization and Rehabilitation activities to promote yellow-billed cuckoo habitat rehabilitation.	2) Emergency Stabilization and Rehabilitation activities: a) If needed and if natural recovery would not	2) CFO (all actions)

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		achieve habitat objectives, implement Emergency Stabilization and Rehabilitation activities to promote rehabilitation of suitable habitat (emphasis on cottonwood stands). Plant locally appropriate trees and shrubs, if natural recovery of such vegetation is doubtful. b) As needed, protect disturbed areas using temporary closures or other measures until the cottonwood saplings (and other target tree and shrub species) are re-established and self-sustaining.	
	3) Fire rehabilitation projects involving the application of pesticides within or adjacent to suitable habitat areas will be analyzed and implemented in accordance with the approach described in **the Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	3) See **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	3) CFO
Fire Management: Wildland Fire Use	1) Activities within the **Fire Management: Wildland Fire Use** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Wildland fire use projects (where allowed) will be designed to conserve suitable yellow-billed cuckoo habitat.	2) When developing wildland fire use plans, avoid burning suitable habitat, and develop appropriate burn prescriptions that maximize the conservation of suitable habitat for yellow-billed cuckoo.	2) FMO and CFO

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Fire Management: Prescribed Fire	1) Activities within the **Fire Management: Prescribed Fire** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Prescribed fire projects will be designed to conserve suitable yellow-billed cuckoo habitat and restoration areas.	2) When developing and implementing prescribed fire plans, avoid or minimize negative impacts to suitable habitat, and use prescribed fire as a tool for enhancing restoration areas.	2) CFO and FMO
Fire Management: Non-Fire Fuels Management (includes weed management)	1) Activities within the **Fire Management: Non-Fire Fuels Management (includes weed management)** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Implement projects involving the application of pesticides within or adjacent to suitable habitat or restoration areas in accordance with the approach described in the **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	2) See **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	2) CFO
	3) Promote establishment of vegetation needed to achieve suitable yellow-billed cuckoo habitat.	3) Incorporate conservation actions into the fuels projects, as needed. For example, design seed mixes or plant species that will enhance or promote the growth of cottonwoods, willows, or other target shrub and tree species.	2) CFO

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Fire Management: Community Assistance	1) Activities within the **Fire Management: Community Assistance** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Follow all measures included throughout the **Fire Management** program sections.	2) See actions within **Fire Management** program sections. Incorporate into community assistance agreements.	2) CFO
Cultural Management	1) Activities within **the Cultural Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
Paleontology Management	1) Activities within the **Paleontology Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
Visual Resources	None	None	None
Livestock Grazing Management: Leases	1) Activities within **Livestock Grazing Management: Leases** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage livestock grazing and trailing to promote growth and recruitment of healthy riparian vegetation communities (for example, willows and cottonwood trees). Maintain and	2) Permit or lease renewal actions: a) For review of ongoing actions, **see Special Status Animal and Plant Management** program section item (2).	2) CFO (all actions)

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	promote suitable habitat and restore areas for the yellow-billed cuckoo while implementing rangeland health standards and guidelines.	b) For new actions, see **Special Status Animal and Plant Management** program section item (3). c) As appropriate to avoid or minimize negative impacts modify livestock grazing leases.	
	3) Promote restoration of suitable habitat following fire, fire rehabilitation, restoration treatments, or other major disturbances.	3) As needed, protect disturbed areas using temporary closures or other measures until the willow shrubs and cottonwood saplings (or other target riparian species) are re-established and self-sustaining.	3) CFO
	4) Maintain regular compliance checks on grazing allotments with known populations to identify problems as soon as possible and take immediate corrective measures.	4) Ongoing, day-to-day BLM action.	4) CFO
Livestock Grazing Management: Livestock Management Facilities	1) Activities within the **Livestock Grazing Management: Livestock Management Facilities** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage livestock facilities to promote healthy riparian vegetation communities (for example, willows and cottonwood trees). Maintain and promote suitable habitat and restore areas for the yellow-billed cuckoo while implementing rangeland health standards and guidelines.	2) For review of ongoing actions, see **Special Status Animal and Plant Management** program section item (2). For new actions, see **Special Status Animal and Plant Management** program section item (3). As appropriate to avoid or minimize negative impacts, modify existing and avoid placement of new livestock facilities.	2) CFO

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Mineral Management: Locatable Minerals	1) Activities within the **Mineral Management: Locatable Minerals** program will implement relevant conservation measures as described in **the Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Approve plans of operations or allow notice level operations so as not to preclude species and habitat conservation. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) Approval of plans of operations and notice-level operations: a) For review of existing plans of operation and notice-level operations, see **Special Status Animal and Plant Management** program section item (2). To the extent allowed by law, modify plans of operation or notice-level operations that conflict with yellow-billed cuckoo management objectives in suitable habitat. For notice-level operations, notify the operator that modifications to proposed activities will be required to avoid negative impacts. b) For new plans of operation and notice-level operations, see **Special Status Animal and Plant Management** program section item (3). To the extent allowed by law, avoid approving plans of operation or notice-level operations that conflict with yellow-billed cuckoo management objectives in suitable habitat. Consider the seasonal nature of the proposed activities, and whether this conflicts with yellow-billed cuckoo conservation needs. For notice-level operations, notify the operator that modifications to proposed activities will be required to avoid negative	2) CFO (all actions)

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		impacts. If a plan of operations is to be approved in suitable habitat, apply stipulations to support or to not preclude species conservation. A notice will require modification by the operator until BLM determines that it will not result in undue or unnecessary degradation.	
Mineral Management: Saleable and Leasable Minerals	1) Activities within the **Mineral Management: Saleable and Leasable Minerals** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Approve development of saleable or leasable minerals so as not to preclude species habitat conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) Approval of saleable and leasable minerals: a) For review of existing mineral leases, **see Special Status Animal and Plan Management** program section item (2). Modify existing mineral leases if negative impacts are occurring. b) For new sales or leases, see **Special Status Animal and Plant Management** program section item (3). Avoid development of saleable or leasable minerals in suitable habitat if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with yellow-billed cuckoo conservation needs. If a minerals lease or sale is to be issued in suitable habitat, apply stipulations to support or to not preclude species conservation.	2) CFO (all actions)

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Recreation Management	1) Activities within the **Recreation Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Developed facilities (boat access, paved campgrounds, vault toilets, interpretive kiosks, etc.): Manage existing and new recreation facilities so as to not preclude species habitat conservation. This includes management of the physical facilities, as well as disturbances to the species resulting from human uses.	2) Management of existing and new facilities: a) For review of existing facilities see **Special Status Animal and Plant Management** program section item (2). As appropriate to avoid or minimize negative impacts, modify existing facilities. b) For new facilities, or for expansion of uses or seasons of use at existing facilities, see **Special Status Animal and Plant Management** program section item (3). In addition, avoid development of new recreation facilities or expansion of existing facilities in suitable habitat, if negative impacts are expected to occur.	2) CFO (all actions)
	3) Dispersed use areas (informal areas, including camping areas and tie-up areas for pack animals and boats): Manage dispersed use sites so as not to preclude species habitat conservation. This includes limiting disturbances to the species resulting from human uses.	3) For review of ongoing activities, see **Special Status Animal and Plant Management** program section item (2). In addition, minimize human activity in suitable habitat, if negative impacts are occurring. Close areas, either seasonally or year-round, as needed to protect the species and its habitat, and post and monitor the closure.	3) CFO
	4) Commercial and noncommercial recreation permits, including outfitter camps: Issue commercial and noncommercial recreation permits in accordance with goals for promoting	4) Issuance and review of existing and new permits: a) For review of existing permits, see **Special Status Animal and Plant Management**	4) CFO (all actions)

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	species and habitat conservation. This includes management of physical facilities (such as camps), as well as disturbances to the species resulting from human uses.	program section item (2). If needed, modify existing permits that negatively impact the species or suitable habitat conditions. b) For new permits, see **Special Status Animal and Plant Management** program section item (3). Avoid issuing recreation permits if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with yellow-billed cuckoo conservation needs. In particular, avoid permitting new recreation activities in suitable habitat. If a recreation permit is to be issued, apply stipulations to the permit to support or to not preclude species conservation.	
	5)) Coordinate with the Idaho Department of Fish and Game to educate recreation users at boat ramps and at designated camp areas about the need to conserve yellow-billed cuckoo habitat.	5) Take advantage of opportunities as they arise.	5) CFO, in cooperation with Idaho Department of Fish and Game and USFWS
Transportation and Travel Management	1) Activities within the **Transportation and Travel Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Manage roads, OHV routes and areas, as well as non-motorized trails, so as not to preclude species habitat conservation. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) Review of existing and new roads, OHV routes, and areas and non-motorized trails: a) For existing roads, designated OHV routes and areas, and designated non-motorized trails, see **Special Status Animal and Plant Management** program section item (2).	2) CFO (all actions)

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		Modify routes, in locations with known populations, if negative impacts are occurring. Evaluate the need for seasonal OHV use restrictions within or adjacent to suitable habitat and, if needed, reduce or avoid disturbance to the species and its habitat. Implement use restrictions or closures to reduce disturbance to the species and its habitat. Seek opportunities to close and revegetate OHV routes or non-motorized trails and use areas in suitable habitats, if negative impacts are occurring. b) For new roads, OHV routes and areas, and trails, see **Special Status Animal and Plant Management** program section item (3). Avoid constructing new roads, trails, routes, and designating OHV areas if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with yellow-billed cuckoo conservation needs. In particular, avoid opening new roads, trails, routes, and areas in suitable habitat.	
	3) Maintain regular compliance checks on OHV closures to protect known populations and to identify problems as soon as possible and take immediate corrective measures.	3) Ongoing, day-to-day BLM activities.	3) CFO
Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)	1) Activities within the **Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.**) program will implement relevant conservation measures as described in the **Special Status**	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	Animal and Plant Management program section to promote conservation.		
	2) Where feasible and funding is available, acquire through land exchange or purchase private lands that support known populations or could enhance habitat for yellow-billed cuckoo.	2) Take advantage of opportunities as they arise. Priority should be given to lands that are adjacent to or near public lands.	2) CFO
	3) Retain yellow-billed cuckoo habitat in federal ownership to the extent possible, while balancing other needs.	3) Review each land tenure decision in terms of species habitat. Retain suitable habitat in public ownership unless compelling circumstances necessitate the land tenure adjustment. If property with suitable habitat is to be transferred out of federal ownership, permanent conservation easements may be attached to the transfer that would result in equal or greater protection than under federal management. Such measures must be approved by the State Director.	3) CFO and State Office
Lands and Realty Management: Land Use Permits and Leases	1) Activities within the **Lands and Realty Management: Land Use Permits and Leases** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Issue new land use permits and leases and review existing permits and leases at renewal so as not to preclude species habitat conservation. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) For new permits and renewal of existing permits, see **Special Status Animal and Plant Management** program section item (3). Avoid issuing new permits or leases, or renewing existing permits or leases, in suitable habitat if negative impacts are expected. Consider the seasonal nature of the	2) CFO

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		proposed activities, and whether this conflicts with yellow-billed cuckoo conservation needs. If a permit or lease is to be issued or re-issued in suitable habitat, apply stipulations to the permit that support or do not preclude species conservation and that avoid or minimize negative impacts.	
Lands and Realty Management: Rights-of-Way	1) Activities within the **Lands and Realty Management: Rights-of-Way** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO
	2) Issue rights-of-way and review/renew existing rights-of-way so as not to preclude species habitat conservation. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	2) For new rights-of-way and renewal of existing rights-of-way (applying to areas within suitable habitat), see **Special Status Animal and Plant Management** program section item (3). Avoid issuing rights-of-way, or renewing existing rights-of-way, in suitable habitat if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with yellow-billed cuckoo conservation needs. If a right-of-way is to be issued or re-issued in suitable habitat, apply stipulations to the right-of-way that support or do not preclude species conservation and that avoid or minimize negative impacts.	2) CFO
Special Designation Area Management	1) Activities within **the Special Designation Area Management** program will implement relevant conservation measures as described in the **Special Status Animal and Plant**	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table F-5
Yellow-Billed Cuckoo *(Coccyzus americanus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	Management program section to promote conservation.		
	2) Explore the potential for new designations that would enhance species conservation, such as good-condition cottonwood/willow riparian areas.	2) Take advantage of opportunities as they arise.	2) CFO

APPENDIX G—SPECIES-SPECIFIC HABITAT DEFINITIONS

INTRODUCTION

The primary purpose of this appendix is to provide clarification on the use of terminology used for various species or habitats. This appendix provides support information and definitions that are applicable to federally listed, proposed, or candidate species, and species specific habitats that occur on BLM-administered lands within the CFO. With new species being designated or delisted (i.e., listed, proposed, or candidate), and/or with updated research, information, monitoring, or survey information, definitions may be added, modified, or deleted. Specific species life stage habitat requirements may be modified or added with new study, research, and survey supporting information.

DEFINITIONS

General Definitions Applicable to All Species

Avoid	To the extent possible, do not implement the adverse action. If the action needs to take place, then add project design measures or take additional steps (mitigation) to minimize impacts. Avoidance is the preferred management approach in the identified habitats for species conservation.
Best Management Practices	Generally accepted state-of-the-art techniques and procedures used in project-level operations to avoid or minimize impacts to species and their habitats.
Minimize	To reduce to the smallest possible amount, extent, size, or degree as is feasible from a technical or management standpoint.
Modify	To "modify" a management activity could have a wide range of site-specific actions, ranging from eliminating the activity, to changing seasonal use, to minor design measure or operational changes. The goal of modifying an activity is to meet the intent of a specific conservation measure or its implementing action.
Adjacent	The area outside of a mapped habitat area, but within a zone of influence to the habitat area for which a BLM activity may affect the species. Some activities, such as those that can affect watershed conditions and erosion, can have wide zones of influence for aquatic species. Other activities, such as those that do not affect the suitable habitat but can affect use of that habitat, can have a narrower zone of influence. Thus, this adjacent zone of influence will vary among species and land use activities. The species-specific and land use-specific application of this term will be determined at the local level.
Adaptive management	A type of natural resource management that implies making decisions as part of an ongoing process. Monitoring the results of actions will provide a flow of information that may indicate the need to change a course of action. Scientific findings and the needs of society may also indicate the need to adapt resource management to new information.

Birds

*Yellow-Billed Cuckoo (*Coccyzus americanus*)*

Suitable habitat	This species favors areas along waterways with dense stands of mature cottonwoods and a thick understory, often of willows, although red-osier dogwood is the common understory shrub in occupied habitat along the upper Snake River. The minimum amount of riparian habitat needed for suitable yellow-billed cuckoo nesting habitat is an area 300 feet wide and at least 25 acres in size. The definition of suitable habitat may change as new information concerning the species is gathered.
Restoration areas (for nesting)	Areas identified by the BLM where the riparian vegetative component is currently not meeting the needs of the species. These areas have the site potential for a multitiered, mature riparian forest—at the size described in the definition for "suitable habitat"—through passive or active management. For example, in some cases, a restoration area may be an area where the understory shrub component is missing. In other cases, mature cottonwoods are absent in an area but young cottonwoods and willows are present with the potential to provide suitable habitat in the near future.

Plants

*MacFarlane's Four O'clock (*Mirabilis macfarlanei*)*

Clone	A genetically uniform assemblage of individuals (ramets) derived from a single genetic individual (genet). Vegetative growth through stolons, rhizomes, corms, bulbils, root buds, etc.
Colony	A group of *M. macfarlanei* plants generally less than one air mile from other groupings of *M. macfarlanei* plants that are similarly geographically located. Colony sometimes referred to as a subpopulation (See definition of "population").
Desired habitat conditions	Suitable habitat that is in excellent ecological condition (high priority habitat areas), and consists of at least 85 to 100 percent of the climax plant community (e.g., bluebunch wheatgrass, Sandberg's bluegrass, arrowleaf balsamroot, etc.). Noxious weeds not present or comprise a small percentage of the foliar cover (less than one percent).
Genet	Collective name for all ramets of the same individual.
High priority habitat area	An area that includes suitable habitat and other BLM lands within 0.5-mile of a population. Other BLM lands identified as essential for recovery efforts may also be included, such as experimental transplant area(s).
Known population	An existing population recorded in the Idaho Department of Fish and Game Conservation Data Center database or other USFWS approved database.

Occupied habitat	Habitat associated with an existing population essential for sustaining that population in the long term.
Population	Refers to all *M. macfarlanei* plants that occur within a specific geographic area. A population can be made up of scattered plants or one or more colonies, generally within one air mile of each other.
Ramet	Vegetative offspring of a clonal plant.
Seed Banks (artificial)	An artificial seed bank is a collection of plant seeds that are housed in a "bank" that is a steel-reinforced concrete seed vault that is temperature and humidity controlled. Seed storage is a way of providing an insurance policy for plants if they become extinct in the wild. If plants disappear in the wild, their unique genetics can be resurrected only if seeds have been stored elsewhere.
Suitable habitat	Low- to mid-elevation canyon grassland habitats in west-central Idaho and northeastern Oregon. Habitat for *M. macfarlanei* generally consists of canyon grassland bunchgrass communities dominated by bluebunch wheatgrass. Plants are found on gravelly to loamy and sandy soils between approximately 1,000 to 4,000 feet. Slopes generally are steep, but plants may also occur on moderate slopes. Plants can be found on all aspects, but most often occur on south and west aspects. The definition of suitable habitat may change as new information concerning the species is gathered.

*Spalding's Catchfly (*Silene spaldingii*)*

Colony	A group of *S. spaldingii* plants generally less than one air mile from other groupings of *S. spaldingii* plants that are similarly geographically located. Colony sometimes referred to as a subpopulation. (See definition of "population.")
Desired habitat conditions	Suitable habitat that is in excellent ecological condition (high priority habitat areas), and consists of at least 85 to 100 percent of the climax plant community (e.g., bluebunch wheatgrass, Sandberg's bluegrass, arrowleaf balsamroot, etc.). Noxious weeds not present or comprise a small percentage of the foliar cover (less than one percent).
High priority habitat areas	An area that includes suitable habitat and other BLM lands within 0.5-mile of a population. Other BLM lands identified as essential for recovery efforts may also be included, such as experimental transplant area(s).
Known population	An existing population recorded in the Idaho Department of Fish and Game Conservation Data Center database or other USFWS approved database.
Occupied habitat	Habitat associated with an existing population essential for sustaining that population in the long term.
Population	Refers to all *S. spaldingii* plants that occur within a specific geographic area. A population can be made up scattered plants or one or more colonies, generally within one air mile of each other.

Seed banks	An artificial seed bank is a collection of plant seeds that are housed in a "bank" that is a steel-reinforced concrete seed vault and is temperature and humidity controlled. Seed storage is a way of providing an insurance policy for plants if they become extinct in the wild. If plants disappear in the wild, their unique genetics can be resurrected only if seeds have been stored elsewhere.
Suitable habitat (Specific to Idaho)	Suitable habitat in Idaho includes remaining pieces of Palouse Prairie in west-central Idaho and the canyon grasslands of the Snake River and Salmon River in Idaho. This habitat includes open, mesic (moist) grassland communities, sometimes with occasional shrubs (such as snowberry and rose) or conifers (such as ponderosa pine and Douglas-fir). These grasslands are comprised of Idaho fescue and bluebunch wheatgrass communities. *S. spaldingii* is found at elevations ranging from 1,380 feet to 5,100 feet, usually with deep soils and generally on northerly slopes where soil moisture is relatively higher. Suitable habitat in other states may differ slightly from the Idaho habitat. The definition of suitable habitat may change as new information concerning the species is gathered.

Mammals

*Northern Idaho Ground Squirrel (*Spermophilus brunneus brunneus*)*

Connectivity corridor	For species that are habitat specific, metapopulation persistence may also depend on the existence of corridors of suitable vegetation linking the otherwise isolated habitat patches in which these animal subpopulations live. Beier and Loe (1992[1]) provided a definition of how corridors should function: "Corridors provide avenues along which (1) wide ranging animals can travel, migrate, and meet mates... (2) plants can propagate... (3) genetic interchange can occur... (4) populations can respond to environmental change... [and] (5) locally extirpated populations can be replaced from other areas." For the northern Idaho ground squirrel, connectivity corridors include the lands between two squirrel populations or a population and other patches of suitable habitat. It is assumed that corridors will have protective vegetative cover (e.g., forested, riparian, shrub plant communities) so that it may be used during dispersal. Soils in connectivity corridors do not need to be suitable for burrowing.

[1]Beier, P. and S. Loe. 1992. In My Experiences: A checklist for evaluating impacts to wildlife movement corridors. Wildlife Society Bulletin 20:434-440.

Suitable habitat	The northern Idaho ground squirrel occupies dry, rocky, sparsely vegetated meadows surrounded by forests of ponderosa pine or Douglas-fir at elevations of 3,800 to 5,200 feet. Northern Idaho ground squirrels also occupied rocky, open, moderately sloped sub-alpine habitats up to 7,500 feet. Nearly all the meadow sites used by the Northern Idaho ground squirrel are on dry, shallow soils with no young tree invasion. Nest burrows are located in adjacent small patches of well-drained deeper soils. Surface features, such as logs or rocks, make a site more attractive to this species. Ponderosa pine-shrub steppe habitat associations on south-facing slopes at less than 30 percent slope and at elevations below 1,830 meters (6,000 feet) are considered by USFWS to be potentially suitable habitat and are included in this definition of suitable habitat. Suitable habitat is found in Adams and Valley Counties in Idaho. Suitable habitat also includes connectivity corridors among known populations. The definition of suitable habitat may change as new information concerning the species is gathered.
Restoration Area	Areas where active management could restore suitable habitat conditions. For northern Idaho ground squirrel, these areas would be located in association with known populations with the site potential for suitable habitat but lacking appropriate open meadows and native vegetation (such as grasses and forbs). Forest encroachment limits suitable habitat and population connectivity among meadow areas. When restoration objectives are met, the habitat becomes suitable.

*Canada Lynx (*Lynx canadensis*)*

Lynx Analysis Unit	An area of at least the size used by an individual lynx, from about 25 to 50 square miles. A Lynx Analysis Unit is a unit for which the effects of a project would be analyzed; its boundaries should remain constant.
Suitable denning habitat	Denning habitat is the environment lynx use when giving birth and rearing kittens until they are mobile. The most common component is large amounts of coarse woody debris to provide escape and thermal cover for kittens. Denning habitat must be within daily travel distance of winter snowshoe hare habitat; the typical maximum daily distance for females is about three to six miles. Denning habitat includes mature and old growth forests with plenty of coarse woody debris. It also can include young regenerating forests with piles of coarse woody debris, or areas where down trees are jack-strawed.
Suitable foraging habitat	Foraging habitat is habitat that supports lynx primary prey (snowshoe hare) and alternate prey, especially red squirrels. The highest quality snowshoe hare habitat contains a high density of young trees or shrubs that are tall enough to protrude above the snow in winter. Red squirrel densities tend to be highest in mature cone-bearing forest with substantial quantities of coarse woody debris.

Unsuitable lynx habitat	Lynx habitat in an unsuitable condition consists of lynx habitat in the stand initiation structural stage where the trees are generally less than 10 to 30 years old and have not grown tall enough to protrude above the snow during winter. Stand-replacing fires or certain vegetation management techniques can create unsuitable lynx habitat. Vegetation management projects that can result in unsuitable habitat include clearcuts and seed tree harvest, and sometimes shelterwood cuts and commercial thinning depending on the resulting stand composition and structure.
Travel habitat and Travel corridors	Travel Habitat: Lynx move through a wide range of forested conditions, containing very dense to very sparse vegetation, including forage and denning habitat. Travel Habitat provides connectivity between suitable lynx habitats within Lynx Analysis Units and between Lynx Analysis Units. On a landscape scale, travel habitat allows lynx to move between forage and denning habitats. Travel habitat consists of forests that will be used by lynx, but provide limited habitat for snowshoe hare and no or limited habitat for denning. Travel Corridors: Lynx often move along physical features of landscapes, such as major ridges, saddles, and streams. Such travel routes are called "travel corridors" where they are covered by lynx habitat. Travel corridors are similar to travel habitat; they both function to facilitate lynx movement. However, travel corridors differ from travel habitat because of their specified, preferred location and because travel corridors can also be forage or denning habitat. Travel corridors should form a continuous network across the landscape and be associated with as many foraging opportunities for lynx as possible.

APPENDIX H—DESIRED CONDITIONS AND WATERSHED AND AQUATIC CONDITION INDICATORS

AQUATIC HABITATS

Desired Conditions (Plan Component)

Within designated conservation and restoration watersheds the desired condition is to provide aquatic habitat to support native and nonnative vertebrate and invertebrate populations. Stream channel conditions are within the range consistent with the riparian and aquatic ecosystems in which they developed.

The dynamic nature and complexity of aquatic systems can result in a wide range of values that make selection of precise target values difficult. These habitat features may not all occur within a specific stream segment all the time, but generally should be achievable through time and be represented within the watershed. However, these desired stream features may change as scientists and biologists gain a greater understanding of aquatic ecosystems processes and function. It is recognized that because of past land uses and current conditions, it may not be possible to achieve desired stream features to reach desired conditions during the life of the RMP (15 to 20 years), even with intensive restoration actions taking place.

Within non-designated (conservation/restoration) watersheds, BLM authorized land uses would be evaluated at the project level or stream/river reach level and authorized uses would strive to support achievement of desired conditions, or not impede achievement of desired conditions in the long term. Existing desired conditions would be maintained and would not be adversely affected in the long term.

The lower and upper thresholds defining this range are the desired stream and riparian habitat conditions listed below.

Habitat Connectivity: Native fish species have access to historically occupied habitats. Decisions to remove barriers would be dependent on evaluations of the potential impacts from nonnative species competition and/or maintenance of genetic integrity of special status and other native fish species.

Water Temperature - Cold Water Biota: Habitat complexity provides daily, seasonally, annually and spatially variable water temperatures within expected normal ranges. Generally this is less than 22 degrees Celsius (°C) with a maximum daily average no greater than 19°C. Specific life stage desired water temperatures are:

- Salmonid summer rearing temperature is less than 16°C;
- Salmonid spawning and incubation temperature is less than 14°C;
- Bull trout summer rearing temperature is less than 12°C;

- Bull trout spawning temperature is 4 to 9°C; and
- Bull trout egg incubation temperature is 2 to 5°C.

Pool Frequency: One pool every five to seven channel widths in pool-riffle stream channels and one to four channel widths in step-pool stream channels.

Width to Depth Ratio: Less than or equal to 10:1 for confined channel types (Rosgen channel types A, E and G); less than 20:1 for moderately confined channel types (Rosgen channel type B); and less than 40:1 for unconfined channel types (Rosgen channel types C and F).

Channel Substrate Condition: Spawning gravel surface fines (<6.4 mm) <10 percent C channels (e.g., pool tails); spawning gravels surface fines <5 percent A and B channels; spawning gravel fines by depth, <25 percent; or cobble embeddedness less than 30 percent in Rosgen channel types A2 and A3, B2 and B3, C2 and C3, E3, G2 and G3.

Large Woody Debris (applies to forested systems): Near-natural patterns in size and amount of in-channel, large woody debris and potential wood on stream banks and flood plain.

Bank Stability: Bank stability greater than 95 percent for A and B and E channel types; greater than 90 percent for C channel types within 80 percent of any stream reach.

Riparian and RCA Vegetation: Riparian and wetland conditions in proper functioning condition. Conditions reflect natural disturbances processes. In forest habitats, desired conditions generally mature to late seral condition. Percent similarity of riparian vegetation to the potential natural community composition is >75 percent (good and excellent ecological condition). Over 75 percent of the plant community type along the streambank provides high bank stability, deep fibrous roots, and good resistance to streambank erosion. The riparian vegetation provides adequate shade, large wood debris recruitment, and connectivity.

The desired conditions identified above are updates or the same specific high quality conditions identified in **Table H-1** below.

AQUATIC SPECIES

Desired Conditions

Desired conditions occur when special status fish and desired native and nonnative aquatic species (fish, amphibians, invertebrates, plants, and other aquatic species) are present and generally well distributed in historically occupied habitats. In some watersheds where land uses have degraded aquatic habitats, desired species may not be well distributed in historically occupied habitats. Stronghold populations (specifically special status fish) continue to thrive and expand into neighboring unoccupied habitats. Also, in depressed populations, special status fish and desired native and nonnative aquatic species will increase in numbers. Special status species and desired native aquatic species exhibit genetic integrity and life history strategies necessary to ensure self-sustaining populations. Spatial extents of habitat disturbances are less than the area occupied by aquatic species of concern, in order to preserve their population structure and life history strategies.

Populations of native and nonnative fishes are consistent with federal recovery goals and state and tribal population goals. Cooperation and coordination with state agencies, federal agencies, tribes, and other groups ensures efficient and effective program implementation toward conservation of native and desired, nonnative aquatic species.

INDICATORS OF WATERSHED AND AQUATIC CONDITION

The three classes of indicator ranking for the environmental baseline portion of the checklist were changed from 1) properly functioning, 2) functioning at risk, and 3) not properly functioning; to habitat quality and condition rankings of of 1) high, 2) moderate, 3) low. The classification of function was not felt to be appropriate for many of the indicators (i.e., road density) in terms of what was being rated, and the link between the indicators and actual function has not been proven in many cases. The ranking of high, moderate, or low is a more general statement about overall habitat condition indicated without being a value statement about the indicator or its link to a functioning ecosystem. The Checklist for Documenting Environmental Baseline and Effects of Action(s) on Relevant Indicators at the end of this appendix identifies a rating of environmental baseline conditions.

The order of the pathways identified in Table H-1 was revised by the North Central Idaho Level 1 Team. Instead of starting with fine grain environmental elements and getting bigger, the order was reversed to start with the overall watershed scale indicators and then focus down through the channel condition, and finally specific habitat elements. Flow/hydrology indicators were added to watershed condition pathway.

The definitions of the effects of the action (restore/maintain/degrade) on the checklist were modified. The definitions were expanded to include the concept of the action's effect on the natural rate of recovery (see checklist definitions). Also, the restore definition was modified to include any improvement in this indicator, not just improvement that raised the indicator by a whole class.

The purpose of the matrix of pathways of watershed and aquatic conditions is to provide a rating for baseline conditions; these may be modified with new information or science which is applicable to conditions occurring in north central Idaho. This matrix may be updated, modified, or dropped if the following occurs: updated rating strategy is more appropriate, new science provides updated information, or new area/watershed resource data is more appropriate.

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Table H-1
Matrix of Pathways and Indicators of Watershed and Aquatic Condition Local Adaptation for the Clearwater, Salmon, and Snake River Basins (North Central Idaho)[1]

Pathway	Indicator	High Condition[2]	Moderate Condition[2]	Low Condition[2]
Watershed Condition	Watershed Road Density	**<1** mile per square mile	**1-3** mile per square mile	**>3** mile per square mile
	Streamside Road Density	**<1** mile per square mile	**1-2** mile per square mile	**>2** mile per square mile
	Landslide Prone Road Density	**<1** mile per square mile	**1-2** mile per square mile	**>2** mile per square mile
	Riparian Vegetation Condition	Percent similarity of riparian vegetation to the potential natural community composition is **>75 percent**. Over 75 percent of the plant community type along the streambank provides high bank stability, deep fibrous roots, and good resistance to streambank erosion. The riparian vegetation provides adequate shade, large wood debris recruitment, and connectivity. In forest habitats generally mature to late seral condition.	Percent similarity of riparian vegetation to the potential natural community composition is **50-75 percent.** Fifty to seventy-five percent of the plant community type along the streambank provides high bank stability, deep fibrous roots, and good resistance to streambank erosion. The riparian vegetation provides adequate shade, large wood debris recruitment, and connectivity. In forest habitats generally mid-seral condition.	Percent similarity of riparian vegetation to the potential natural community composition is **50 percent or less**. Less than 50 percent of the plant community type along the streambank provides high bank stability, deep fibrous roots, and good resistance to streambank erosion. The riparian vegetation provides moderate loss of function for shade, large wood debris recruitment, and connectivity. In forest habitats generally early seral condition.
	Change in Peak/Base Flow	Watershed hydrograph indicates peak flow, base flow, and flow timing characteristics comparable to a watershed functioning within its natural regime.	Some evidence of altered peak flow, base flow, and flow timing characteristics comparable to a watershed functioning within its natural regime.	Pronounced changes in peak flow, base flow, and flow timing characteristics comparable to a watershed functioning within its natural regime.

Table H-1
Matrix of Pathways and Indicators of Watershed and Aquatic Condition Local Adaptation for the Clearwater, Salmon, and Snake River Basins (North Central Idaho)[1] *(continued)*

Pathway	Indicator	High Condition[2]	Moderate Condition[2]	Low Condition[2]
	Water Yield[3] (equivalent clear-cut area (ECA)	**<15 percent** ECA (entire watershed), and all subwatersheds (6th hydrologic unit code) **<15 percent** ECA and **low concentration** of disturbance in landslide prone, streamside, or 0-1 order headwater areas.	**15-20 percent** ECA (entire watershed), or one or more subwatersheds **15-30 percent** ECA or **concentration** of disturbance in landslide prone, streamside, or 0-1 order headwater areas.	**>20 percent** ECA (entire watershed), or one or more subwatersheds **>30 percent** ECA and/or **concentration** of disturbance in landslide prone, streamside, or 0-1 order headwater areas.
	Sediment Yield Clearwater National Forest[4]	A channels <=**100 percent** B channels <=**45 percent** C channels <=**35 percent**	A channels <=**100 percent, <=110 percent** B channels <=**45 percent, <=55 percent** C channels <=**35 percent, <=50 percent**	A channels **>110 percent** B channels **>55 percent** C channels **>50 percent**
	Sediment Yield Nez Perce National Forest[5]	Current chronic sediment yield **<=5 percent** over natural base.	Current chronic sediment yield **6-15 percent** over natural base.	Current chronic sediment yield **>15 percent** over natural base.
Channel Conditions and Dynamics	Width/Depth Ratio[6]	**A channel types <10** **B channel types <20** **C channel types <40** **E channel types <7** **F channel types <35** **G channel types <9**	**A channel types <10-12** **B channel types <20-35** **C channel types <40-60** **E channel types <7-9** **F channel types <35-70** **G channel types <9-11**	**A channel types >12** **B channel types >35** **C channel types >60** **E channel types >9** **F channel types >70** **G channel types >11**

Table H-1
Matrix of Pathways and Indicators of Watershed and Aquatic Condition Local Adaptation for the Clearwater, Salmon, and Snake River Basins (North Central Idaho)[1] *(continued)*

Pathway	Indicator	High Condition[2]	Moderate Condition[2]	Low Condition[2]
	Streambank Stability	A and B channel types **>95 percent** C channel types **>90 percent** E channel types **= 100 percent**	A and B channel types **90-95 percent** C channel types **80-90 percent** E channel types **95-100 percent**	A and B channel types **<90 percent** C channel types **<80 percent** E channel types **<95 percent**
	Floodplain Connectivity	Off-channel areas are frequently hydrologically linked to main channel; overbank flows occur in the frequency and magnitude expected for the valley bottom or channel type setting.	**Reduced linkage** of wetland, floodplains and riparian areas to main channel; overbank flows are **reduced or increased** relative to historic frequency, as evidenced by moderated aggradation or degradation.	**Severe reduction of increase** in overbank flows occur relative to the frequency and magnitude expected for the valley bottom or channeltype setting; wetland area drastically reduced and riparian vegetation/succession altered significantly.
Water Quality	Temperature (Steelhead) - Spawning[7]	**<57** degrees Fahrenheit (°F) (14°C)	**57-60**°F (14-15.5°C)	**>60**°F (15.5°C)
	Temperature (Steelhead) - Rearing and Migration[8]	**<57**°F (14°C)	**57-6**4°F (14-17.8°C)	**>64**°F (17.8°C)

Table H-1
Matrix of Pathways and Indicators of Watershed and Aquatic Condition Local Adaptation for the Clearwater, Salmon, and Snake River Basins (North Central Idaho)[1] *(continued)*

Pathway	Indicator	High Condition[2]	Moderate Condition[2]	Low Condition[2]
	Temperature (Bull Trout)[9]	7-day average maximum temperature in a reach during the following life history stages: incubation = 2-5°C rearing = 4-12°C spawning = 4-9°C Also temperatures do not exceed 15°C in areas used by adults during migration (no thermal barriers).	7-day average maximum temperature in a reach during the following life history stages: incubation = <2 or 6°C rearing = <4 or 13-15°C spawning = <4 or 10°C Also, temperatures in areas used by adults during migration sometimes exceed 15°C.	7-day average maximum temperature in a reach during the following life history stages: incubation = <1 or >6°C rearing = >15°C spawning = <4 or >10°C Also temperatures in areas used by adults during migration regularly exceed 15°C (thermal barriers present).
	Suspended Sediment[10]	**<= 10 days >= 25 milligrams per liter** and <= **5 days >= 80 milligrams per liter** in a year	**11-30 days >= 25 milligrams per liter** and **<= 10 days >= 80 milligrams per liter** in a year	**> 31 days >= 25 milligrams per liter** or **>= 11 days >= 80 milligrams per liter** in a year
	Chemical Contamination/Nutrients	**Low levels** of chemical contamination from agricultural, grazing, industrial and other sources, no excess nutrients.	**Moderate levels** of chemical contamination from agricultural, grazing, industrial and other sources, some excess nutrients.	**High levels** of chemical contamination from agricultural, grazing, industrial and other sources, high levels of excess nutrients.
Habitat Access	Physical Barriers - Adult	Any man-made barriers present in watershed allow full upstream and downstream fish passage at all flow (**no barrier**).	Any man-made barriers present in watershed are a **partial barrier**[11] to upstream or downstream fish passage.	Any man-made barriers present in watershed are a **full barrier** to upstream or downstream fish passage at all flows.

Table H-1
Matrix of Pathways and Indicators of Watershed and Aquatic Condition Local Adaptation for the Clearwater, Salmon, and Snake River Basins (North Central Idaho)[1] *(continued)*

Pathway	Indicator	High Condition[2]	Moderate Condition[2]	Low Condition[2]
	Physical Barriers - Juvenile	Any man-made barriers present in watershed allow full upstream and downstream fish passage at all flow (**no barrier**).	Any man-made barriers present in watershed are a **partial barrier** to upstream or downstream fish passage.	Any man-made barriers present in watershed are a **full barrier** to upstream or downstream fish passage at all flows.
Habitat Elements	Cobble Embeddedness	**<20 percent**	**20-30 percent**	**>30 percent**
	Percent Surface Fines (<= 6 mm)	**A and B channel types <= 10 percent** **C and E channel types <= 20 percent**	**A and B channel types = 11-20 percent** **C and E channel types = 21-30 percent**	**A and B channel types >= 21 percent** **C and E channel types >= 31 percent**
	Percent Fines by Depth (<= 6 mm)[12]	**<20 percent**	**20-25 percent**	**>25 percent**
	Large Woody Debris	Near-natural levels of acting and potential large wood debris.	Acting levels of large wood debris are near-natural, potential levels are below near-natural, or vice versa.	Both acting and potential levels of large wood debris are below near-natural levels.

Table H-1
Matrix of Pathways and Indicators of Watershed and Aquatic Condition Local Adaptation for the Clearwater, Salmon, and Snake River Basins (North Central Idaho)[1] *(continued)*

Pathway	Indicator	High Condition[2]	Moderate Condition[2]	Low Condition[2]
	Pool Frequency[13] channel number width (feet) pools/mile <= 5 184 >5 and <=10 96 >10 and <=15 70 >15 and <=20 56 >20 and <=25 47 >25 and <=50 26 >50 and <=75 23 >75 18	**Meets** following pool frequency occurrence.	Meets pool frequency standards but large woody debris recruitment or other **pool-creating factors are inadequate** to maintain pools over time.	**Does not meet** pool frequency standards.
	Pool Quality[14]	Pool quality rating **>4**	Pool quality rating **3-4**	Pool quality rating **<3**
	Off-Channel Habitat (if applicable for channel types)	Backwaters with cover, and low energy off-channel areas.	Some backwaters and high energy side channels.	Few or no backwaters, no off-channel areas.
	Habitat refugia	**Adequate** habitat refugia exist within watershed (number, size, condition, species requirements, and connectivity).	**Limited** habitat refugia exist within watershed (number, size, condition, species requirements, and connectivity).	**Inadequate** habitat refugia exist within watershed (number, size, condition, species requirements, and connectivity).
Take[15]	Harassment	Current levels or risks of harassment are thought to be **low**.	Current levels or risks of harassment are thought to be **moderate**.	Current levels or risks of harassment are thought to be **high**.

Table H-1
Matrix of Pathways and Indicators of Watershed and Aquatic Condition Local Adaptation for the Clearwater, Salmon, and Snake River Basins (North Central Idaho)[1] *(continued)*

Pathway	Indicator	High Condition[2]	Moderate Condition[2]	Low Condition[2]
	Redisturbance	Current levels or risks of redisturbance are thought to be **low**.	Current levels or risks of redisturbance are thought to be **moderate**.	Current levels or risks of redisturbance are thought to be **high**.
	Juvenile Harvest	Current levels or risks of juvenile harvest are thought to be **low**.	Current levels or risks of juvenile harvest are thought to be **moderate**.	Current levels or risks of juvenile harvest are thought to be **high**.
Bull Trout Subpopulation Characterization and Integration of Species and Habitat Indicators,[16] the following indicators are for rating bull trout only.				
Subpopulation Characteristics within subpopulation watersheds	Subpopulation Size[16]	Mean total subpopulation size or local habitat capacity more than several thousand individuals. All life stages evenly represented in the subpopulation.	Adults in subpopulation are less than 500 but >50.	Adults in subpopulation have less than 50.
	Growth and Survival[16]	Subpopulation has the resilience to recover from short term disturbances (e.g., catastrophic events, etc.) or subpopulation declines within one to two generations (five to 10 years). The subpopulation is characterized as increasing or stable. At least 10+ years of data support this estimate.[17]	When disturbed, the subpopulation will not recover to redisturbance conditions within one generation (five years). Survival or growth rates have been reduced from those in the best habitats. The subpopulation is reduced in size, but the reduction does not represent a long-term trend. At least 10+ years of data support this characterization.[17]	The subpopulation is characterized as in rapid decline or is maintaining at alarmingly low numbers. Under current management the subpopulation condition will not improve within two generations (5 to 10 years). This is supported by a minimum of 5+ years of data[17].

Table H-1
Matrix of Pathways and Indicators of Watershed and Aquatic Condition Local Adaptation for the Clearwater, Salmon, and Snake River Basins (North Central Idaho)[1] *(continued)*

Pathway	Indicator	High Condition[2]	Moderate Condition[2]	Low Condition[2]
	Life History Diversity and Isolation[16]	The migratory form is present and the subpopulation exists in close proximity to other spawning and rearing groups. Migratory corridors and rearing habitat (lake and larger rivers) are in good to excellent condition for the species. Neighboring subpopulations are large with high likelihood of producing surplus individuals or straying adults that will mix with other subpopulation groups.	The migratory form is present but the subpopulation is not close to other subpopulations or habitat disruption has produced a strong correlation among subpopulations that do exist in proximity to each other.	The migratory form is absent and the subpopulation is isolated to the local stream or a small watershed not likely to support more than 2,000 fish.
	Persistence and Genetic Integrity[16]	Connectivity is high among multiple (five or more) subpopulations with at least several thousand fish each. Each of the relevant subpopulations has a low risk of extinction. The probability of hybridization or displacement by competitive species is low to nonexistent.	Connectivity among multiple subpopulations does occur, but habitats are more fragmented. Only one or two of the subpopulations represent most of the fish production. The probability of hybridization or displacement by competitive species is imminent, although few documented cases have occurred.	Little or no connectivity remains for refounding subpopulations in low numbers, in decline, or nearing extinction. Only a single subpopulation or several local populations that are very small or that otherwise are at high risk remain. Competitive species readily displace bull trout. The probability of hybridization is high and documented cases have occurred.

Table H-1
Matrix of Pathways and Indicators of Watershed and Aquatic Condition Local Adaptation for the Clearwater, Salmon, and Snake River Basins (North Central Idaho)[1] *(continued)*

Pathway	Indicator	High Condition[2]	Moderate Condition[2]	Low Condition[2]
Bull Trout Integration of Species and Habitat Conditions[16]		Habitat quality and connectivity among subpopulations are high. The migratory form is present. Disturbance has not altered channel equilibrium. Fine sediments and other habitat characteristics influencing survival or growth are consistent with pristine habitats. The subpopulation has the resilience to recover from short-term disturbance within one to two generations (five to 10 years). The subpopulation is fluctuating around equilibrium or is growing.	Fine sediments, stream temperature, or the availability of suitable habitats has been altered and will not recover to predisturbance conditions within one generation (five years). Survival or growth rates have been reduced from those in the best habitats. The subpopulation is reduced in size, but the reduction does not represent a long-term trend. The subpopulation is stable or fluctuating in a downward trend. Connectivity among subpopulations occurs but habitats are more fragmented.	Cumulative disruption of habitats has resulted in a clear declining trend in the subpopulation size. Under current management, habitat conditions will not improve within two generations (five to 10 years). Little or no connectivity remains among subpopulations. The subpopulation survival and recruitment responds sharply to normal environmental events.

[1]Local adaptation of Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale, National Marine Fisheries Service Environmental and Technical Services Division, Habitat Conservation Branch, August 1996. Local adaptation and use by Cottonwood BLM, Clearwater National Forest, and Nez Perce National Forest, November 1997, through the level 1 streamlining process.

[2]Indicators of high, moderate, and low habitat condition.

[3]Statistic is for watershed as a whole, while evaluation of concentration is consideration of potential for flow regimes changes in 0-1 channels.

[4]Rating of current modeled percent over natural base sediment yield.

[5]Rating of current modeled chronic level as percent over natural base sediment yield, spikes associated with recent activities need to be described in indicator narrative discussions.

[6]Width/Depth ratio based on bankfull width to bankfull depth.

[7]Period for spawning and incubation is February 1 through July 15th for steelhead, from Idaho State Water Quality regulations. Temperature is seven-day running average of daily maximums.

[8]Period for rearing and migration is all year. Temperature is 7-day running average of daily maximums.

[9]Taken from A Framework to Assist in Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Bull Tout Subpopulation Watershed Scale, USFWS, February 1998.
[10]When data are absent, then watershed assumed to meet the categories based on extrapolation from best location of data, or when data for extrapolation is not available, then leave unrated.
[11]May result in restricted fish passage at certain flow regimes.
[12]Fines by depth in spawning gravels.
[13]A pool is defined as a habitat unit classified as a pool (general) during a stream survey.
[14]Pool quality rating methodology from stream survey protocol for Cottonwood BLM, Clearwater National Forest, and Nez Perce National Forest.
[15]Indicators of direct species take, does not include habitat degradation aspects of take.
[16]Taken from A Framework to Assist in Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Bull Tout Subpopulation Watershed Scale, USFWS, February 1998.
[17]If less data is available and a trend cannot be confirmed, a subpopulation will be considered at risk until enough data is available to accurately determine its trend.[16]

CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF ACTION(S) ON RELEVANT INDICATORS

Watershed Name: _____Subbasin: _____

PATHWAYS	ENVIRONMENTAL BASELINE[1]			EFFECTS OF THE ACTION(S)		
INDICATORS	**High**	**Moderate**	**Low**	**Restore[2]**	**Maintain[3]**	**Degrade[4]**
Watershed Conditions						
Watershed Road Density						
Streamside Road Density						
Landslide Prone Road Density						
Riparian Veg Condition						
Peak/Base Flow						
Water Yield (ECA)						
Sediment Yield						
Channel Condition and Dynamics						
Width/Depth Ratio						
Streambank Stability						
Floodplain Connectivity						
Water Quality						
Temp - Steelhead Spawning						
Temp- Steelhead Rear/Migration						
Temperature - Bull Trout						
Suspended Sediment						
Chem. Contam./Nutrients						
Habitat Access						
Physical Barriers - Adult						
Physical Barriers – Juvenile						
Habitat Elements						
Cobble Embeddedness						
Percent Surface Fines						
Percent Fines by Depth						
Large Woody Debris						
Pool Frequency						

PATHWAYS	ENVIRONMENTAL BASELINE[1]			EFFECTS OF THE ACTION(S)		
INDICATORS	**High**	**Moderate**	**Low**	**Restore[2]**	**Maintain[3]**	**Degrade[4]**
Pool Quality						
Off-channel Habitat						
Habitat Refugia						
Take						
Harassment						
Redd Disturbance						
Juvenile Harvest						
Bull Trout Subpopulation Characteristics and Habitat Integration						
Subpopulation Size						
Growth and Survival						
Life History Diversity, Isolation						
Persistence and Genetic Integrity						
Integration of Species and Habitat Conditions						

[1]Indicators of high, moderate, or low habitat condition.
[2]For the purposes of this checklist, "restore" means to change the function of an indicator for the better, or that the rate of restoration rate is increased.
[3]For the purposes of this checklist, "maintain" means that the function of an indicator will not be degraded and that the natural rate of restoration for this indicator will not be retarded.
[4]For the purposes of this checklist, "degrade" means to change the function of an indicator for the worse, or that the natural rate of restoration for this indicator is retarded. In some cases, a low environmental baseline indicator maybe further worsened, and this should be noted.

APPENDIX I—WILDLAND FIRE MANAGEMENT

WILDLAND FIRE MANAGEMENT OPTIONS

Summary of Fire Management Area Priorities

Fire management priorities were identified to rank fire management areas (FMAs) and were derived using specific FMA condition assessments and fire management goals from the National Fire Plan. In the event of multiple wildland fire ignitions or limited resources/funding, these CFO priorities should be considered. Priorities were established among FMAs for fire suppression, fuels treatment, and community assistance/protection actions using a rating system of Low, Moderate, and High. FMAs are depicted on **Map 7**, Fire Management Units, of the ROD.

Table I-1
Priority Ranking Among FMAs in the CFO

FMA	Suppression	Prescribed Fire Treatments	Non-Fire Fuels Treatment	Emergency Stabilization and Rehabilitation	Community Assistance/Protection
Clearwater	Low	Low	Low	N/A	High
Craig Mountain	Moderate	Moderate	Moderate	N/A	Low
Elk City	Moderate	High	High	N/A	Moderate
Salmon	High	High	High	N/A	High

*Site-specific planning must be in place prior to project implementation.

Priorities, objectives, and strategies were also assessed and recommended within each FMA. These reflect the overarching priorities established for the CFO, but vary based on the conditions, values, risks, and hazards present. The FMA descriptions provide information to be used when suppressing wildland fires, in fuels treatment planning, and conducting community assistance/protection. In the event of a wildland fire ignition, this information identifies values at risk and assists in determining which suppression strategies and tactics are appropriate to meet resource protection objectives. This applies to both initial attack and extended attack when preparing a Wildland Fire Situation Analysis.

Suppression Priorities

The National Fire Plan mandates prioritizing suppression responsibilities with regard to resource priorities. Consider the following suppression priorities to address National Fire Plan goals:

1. Firefighter and public safety is the first priority.

2. Other priorities will support BLM fire policy, as amended, and will be reflected in all Wildland Fire Situation Analyses and Wild Fire Decision Support System analyses. CFO priorities include the following:

    - Protect cultural and natural resources;
    - Protect areas with highly erodible soils;
    - Protection of the resource values identified with ACECs/RNAs;
    - Protection of federally listed, proposed, and candidate species; BLM sensitive species; and associated habitats;
    - Protect RHCAs and preserving riparian management objectives;
    - Protect areas at risk of invasion from cheatgrass/noxious and invasive plant species;
    - Protect commercial forest resources and plantations;
    - Protect active grazing allotments and improvements; and
    - Minimize the cost of fire protection.

Suppression Protocols Common to All FMAs

The following suppression protocols apply to suppression actions occurring in all FMAs throughout the CFO, consistent with National Fire Plan policy:

- Follow the Programmatic Biological Assessment of the Fire Management Program or appropriate updated or amended Programmatic Biological Assessment of the Fire Management Program.[1]
- Fire line construction should avoid cultural resource sites and Endangered Species Act listed plant populations when feasible.
- Avoid dozer line construction within RHCAs where practical. Prior to the construction of machine fire lines, an aquatic specialists or qualified resource advisor, will review the flagged location for the fire line and identify concerns and recommendation.
- Within WSAs, fuels and vegetation treatments and wildland fire management activities should follow BLM Manual H-8550-1, Interim Policy for Lands Under Wilderness Review.[2] The use of earth-moving equipment within these areas requires approval of the authorized officer.
- Encourage the use of natural firebreaks and existing roads to contain wildland fire.
- Evaluate the resource values, hazards present, and management prescriptions within specific areas when applying guidelines to ACECs.

[1]BLM. 1999. Programmatic Biological Assessment of the BLM CFO Fire Management Program. BLM, Cottonwood, ID.
[2]BLM. 1995. Interim Management Policy for Lands Under Wilderness Review, H-8550-1. BLM, Portland, Oregon. July 5, 1995.

- Establishment of control lines, base camps, and support facilities should be avoided in known habitat for special status species and special management areas unless life and property are threatened (see Programmatic Biological Assessment of the Fire Management Program).[3]
- Protect and/or maintain municipal watersheds.
- Maintain interagency cooperation to facilitate coordinated fire management activities across administrative boundaries.
- Fire management activities will take into account Nez Perce Tribal trust interests.
- When a wildland fire escapes initial attack, the responsible line officer will determine if a BLM resource advisor will be assigned to ensure that resource management concerns are adequately addressed and that necessary mitigation occurs. The resource advisor will ensure emergency consultation is initiated with USFWS or National Marine Fisheries Service whenever suppression activities impact special status species habitat.
- Conduct fire suppression and prescribed burning in accord with Interim Strategies for Managing Anadromous Fish Producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California standards and guidelines, CFO Programmatic Biological Assessment of the Fire Management Program,[3] and as needed, appropriate Section 7 consultation (Endangered Species Act).
- To minimize spread of noxious and invasive plant species, equipment used for suppression should be cleaned before arriving on-site and prior to leaving the incident. Staging areas and fire camps should not be located on sites with noxious and invasive plant species infestations.
- Developed recreation sites and structures on public lands will be protected.
- Follow MIST guidelines to protect special status species habitat, Special Management Areas, and highly erodible soils and to prevent habitat fragmentation, the spread of noxious and invasive plant species, damage to ACECs and RNAs, and any known cultural or historical resources.
- Annually, before the fire season, and again when a fire is reported, a resource advisor will coordinate with the BLM archaeologist to determine areas of potential conflict between archaeological resources and fire suppression activities. Information gathered will include types of sites and their locations on the land. This coordination between the two specialists will continue for the duration of the incident through suppression and rehabilitation. The resource advisor will coordinate with the BLM archaeologist about consulting with the Idaho State Historic Preservation Office and tribal groups.
- The CFO archaeologist will be notified of any cultural resources encountered during suppression activities.
- The repair of fire suppression activity damage is to be planned and performed primarily by the suppression incident organization as soon as possible and prior to demobilization

[3]BLM. 1999. Programmatic Biological Assessment of the BLM CFO Fire Management Program. BLM, Cottonwood, ID.

whenever practical. Funding for fire suppression activity damage repair actions will be charged to the project code for the wildfire suppression effort that resulted in the damage.

Fuels Treatment Priorities

Consider the following fuel treatment priorities to address National Fire Plan goals, which recommend the use of prescribed burning be used in support of resource management objectives:

1. Use prescribed fire and non-fire fuels treatments to improve ecosystems (FRCC2 or FRCC3) and where public/firefighter safety or WUI are at risk.
2. Use prescribed fire and non-fire fuels treatments to maintain and protect functioning ecosystems (FRCC1) and where public/firefighter safety or WUI are at risk.
3. Use prescribed fire and non-fire fuels treatments to improve wildlife habitat.
4. Use prescribed fire and non-fire fuels treatments to improve forest stand composition and vigor.

Fuels treatment rationale was identified by the CFO staff and was based on the Interior Columbia Basin Ecosystem Management Project and county wildland fire mitigation plans. Due to limited funding and several areas needing treatment, priorities were identified in the WUI to reduce the risk of wildland fire and to increase safety for firefighters, the general public, and private property. Additionally, wildland that has been classified as FRCC2 and FRCC3 has been identified for treatment to restore natural ecosystem function and to reduce the risk of wildland fire. The figures identified in each FMA table are potential target acres based on a five year period.

Specific geographic areas within each FMA may be prioritized for treatment based on National Fire Plan direction.

Non-fire fuels treatment is an essential component of the CFO fire management program. Where prescribed burning is not feasible to accomplish resource objectives, areas may be identified for non-fire fuels treatment. This would consist of mechanical, biological, and chemical treatments. These treatments may be used in conjunction with, prior to, or as an alternative to prescribed fire.

Non-fire fuels treatments will be tailored to specific resource management objectives, such as hazardous fuels reduction, restoration of priority vegetation types, and noxious and invasive plant species management. Treatment options include: pre-commercial/commercial thinning, building fuel breaks, removing material by chipping slash piles or making it available for firewood or electrical generation, and chemical or biological treatments. Whenever possible, the treatment method will be designed to provide local economic benefits.

Table I-2 below displays a range of projected annual fuels treatment acres that will meet National Fire Plan goals. The low end of the range displays current fiscal year 2004 treatment acres.

Actual annual implementation acres are dependent on budget allocations. **Table I-2** aggregates FMA recommendations.

Table I-2
Current and Projected Range of Annual Fuels Treatment Acres for the CFO

FMA	Acres	Mechanical	Other*	Prescribed Fire Acres	Total Treatment Acres
Clearwater	10,706	50-225	100-325	150-450	300-1,000
Craig Mountain	28,279	0-500	200-2,200	250-900	450-3,600
Elk City	13,027	100-600	100-400	100-600	300-1,600
Salmon	77,300	300-600	1,300-7,200	1,000-2,000	2,600-9,800
Total	129,312	450-1,925	1,700-10,125	1,500-3,850	4,000-16,000

*Includes seedings, biological treatments, and chemical applications.
Source: BLM 2005. Fire Management Plan, North Idaho, Coeur d'Alene and Cottonwood Field Offices. August 2005. Prepared by North Wind, Inc., for the BLM, Coeur d'Alene District, Coeur d'Alene, ID. 199 pp.

Fuels Treatment Protocols Common to All FMAs

The following fuels treatment protocols apply to site specific actions occurring in all FMAs throughout the CFO, consistent with National Fire Plan policy. Fuels treatment objectives and strategies consider these protocols:

- Use noxious and invasive plant species inventory and pre and post-burn treatments to reduce the overall threat of noxious and invasive plant species invasion, establishment, and spread.
- Avoid ignition in high-risk areas where constraints prevent effective treatment of noxious and invasive plant species or where the potential for rapid post-fire spread of noxious and invasive plant species is high.

Emergency Stabilization and Rehabilitation Priorities

Emergency stabilization plans and/or rehabilitation plans are prepared after a wildfire to minimize threats to life or property and stabilize and prevent unacceptable degradation to natural and cultural resources resulting from the effects of the fire, in a cost-effective and expeditious manner.

Emergency Stabilization and Rehabilitation Protocols Common to All FMAs

Emergency stabilization priorities are: 1) human life and safety; and 2) property and unique or critical biological/cultural resources (620 DM 3.7). Burned area rehabilitation priorities are 1) to repair or improve lands damaged directly by a wildfire and 2) to rehabilitate or establish healthy, stable ecosystems in the burned area (620 DM 3.8).

Emergency Stabilization
The objective of emergency stabilization is "To determine the need for and to prescribe and implement emergency treatments to minimize threats to life or property or to stabilize and prevent unacceptable degradation to natural and cultural resources resulting from the effects of a fire" (620 DM 3.4A). As updates and revisions to the departmental manuals are completed, conformance to the new direction will supersede the criteria included herein.

Emergency stabilization plans are prepared by an interdisciplinary team, immediately following a wildfire and specify emergency treatments and activities to be carried out within one year following containment of the wildfire. Generally, activities are only prescribed within the perimeter of a burned area. Acceptable treatments or activities outside a burn perimeter could include such things as emergency stream channel work to protect structures, roads, and other improvements from flood damage. Allowable emergency stabilization actions are limited to the following items, grouped by issue topic:

Human Life and Safety

- Replacing or repairing minor facilities essential to public health and safety when no other protection options are available.

Soil/Water Stabilization

- Placing structures to slow soil and water movement.
- Stabilizing soil to prevent loss of degradation or productivity.
- Increasing road drainage frequency and/or capacity to handle additional post-fire runoff.
- Installing protective fences or barriers to protect treated or recovering areas.

Designated Critical Habitat for Federal/State Listed, Proposed, or Candidate Species

- Conducting assessments of critical habitat in those areas affected by emergency stabilization treatments.
- Seeding or planting to prevent permanent impairment of designated critical habitat for federal and state listed, proposed or candidate threatened and endangered species.

Critical Heritage Resources

- Conducting assessments of significant heritage sites in those areas affected by emergency stabilization treatments.
- Stabilizing critical heritage resources.
- Patrolling, camouflaging, burying significant heritage sites to prevent looting.

Invasive Plants

- Seeding to prevent establishment of invasive plants, and direct treatment of invasive plants. Such actions will be specified in the emergency stabilization plan only when immediate action is required and when standard treatments are used that have been validated by monitoring data from previous projects, or when there is documented research establishing the effectiveness of such actions.
- Using integrated pest management techniques to minimize the establishment of non-native invasive species within the burned area. When there is an existing approved management plan that addresses non-native invasive species, emergency stabilization treatments may be used to stabilize the invasive species.

Monitoring

- Monitoring of emergency stabilization treatments and activities for up to three years from date of fire containment.

Rehabilitation

The objectives of rehabilitation are 1) to evaluate actual and potential long-term post-fire impacts to critical cultural and natural resources and identify those areas unlikely to recover naturally from severe wildland fire damage; 2) to develop and implement cost-effective plans to emulate historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with approved land management plans, or if that is infeasible, then to restore or establish a healthy, stable ecosystem in which native species are well represented; and 3) to repair or replace minor facilities damaged by wildland fire (620 DM 3.4B). As updates and revisions to the departmental manuals are completed, conformance to the new direction will supersede the criteria included herein.

Rehabilitation plans are prepared by an interdisciplinary team as a separate plan, independently of an emergency stabilization plan. The rehabilitation plan specifies non-emergency treatments and activities to be carried out within three years following containment of a wildfire. Generally, rehabilitation activities are prescribed only within the perimeter of a burned area. Allowable rehabilitation actions are limited to the following items, grouped by issue topic:

Lands Unlikely to Recover Naturally

- Repair or improve lands unlikely to recover naturally from wildland fire damage by emulating historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with existing land management plans.

Weed Treatments

- Chemical, manual, and mechanical removal of invasive species, and planting of native and non-native species, restore or establish a healthy, stable ecosystem even if this ecosystem cannot fully emulate historical or pre-fire conditions.

Tree Planting

- Tree planting to reestablish burned habitat, reestablish native tree species lost in fire, prevent establishment of invasive plants.

Repair/Replace Fire Damage to Minor Facilities

- Repair or replace fire damage to minor operating facilities (e.g., fences, campgrounds, interpretive signs and exhibits, shade shelters, wildlife guzzlers, etc.). Rehabilitation may not include the planning or replacement of major infrastructure, such as visitor centers, residential structures, administration offices, work centers and similar facilities. Rehabilitation does not include the construction of new facilities that did not exist before the fire, except for temporary and minor facilities necessary to implement burned area rehabilitation efforts.

Monitoring

- Monitoring of rehabilitation treatments and activities for up to three years from date of fire containment.

Community Assistance/Protection Priorities

Consider the following community assistance/protection priorities to address National Fire Plan goals:

- WUI areas identified in the six county wildland fire mitigation plans. Prioritize funding to be available to implement county wildland fire mitigation plans.
- WUI areas and communities at risk as identified in the *Federal Register*.
- WUI areas within or adjacent to areas with high fire risk.
- Communities of interest that are not included on the *Federal Register*, but are considered to be significant WUI areas to the CFO.

The rationale for establishing community assistance/protection priority ranking and determining protocols are derived from national, state and local guidance. Each FMA was assessed for the values.

Areas designated as high priority for community assistance and protection have the greatest WUI intermix and are at highest risk for loss of life and/or property due to fire. Areas designated as moderate and low have a lower concentration of WUI intermix. Regardless of the priority ranking and in the event of multiple ignitions, wildland fires threatening WUI will always receive the highest priority.

Community Assistance/Protection Protocols Common to All FMAs

The following community assistance protocols apply to site specific actions occurring in all FMAs throughout the CFO, consistent with National Fire Plan policy and land use plan direction:

- Continue to collaborate with local partners to assess WUI areas, update existing mitigation plans, and implement a prevention and education program.
- Assess the needs of local fire protection organizations. Provide RFA, as identified in county mitigation plans, to increase their suppression capabilities and effectiveness.
- Provide planning and implementation assistance to private landowners and communities at risk so that hazardous fuels can be reduced as identified in county mitigation plans.
- Ensure that all community assistance planning and project implementation activities are considered for their effects on cultural resources and are conducted in compliance with the National Historic Preservation Act and BLM policy.

Values at Risk

For ecosystem health and fire management, values at risk present in the Clearwater FMA are separated into the following (**Table I-3**):

Table I-3
Clearwater FMA Values at Risk

WUI and Public Health and Safety	Special Status Species		
	Plants	**Terrestrial Wildlife**	**Aquatic Wildlife**
▪ All communities at risk **Recreation Sites:** ▪ Pink House ▪ Harpers Bend ▪ Lewis and Clark National Historic Trail	**Type 2:** ▪ Broad-fruit mariposa lily ▪ Douglas' clover ▪ Green-band mariposa lily ▪ Jessica's aster **Type 3:** ▪ Hazel's prickly phlox	**Type 1:** ▪ Canada lynx ▪ Gray wolf ▪ Yellow-billed cuckoo **Type 3:** ▪ Bald Eagle ▪ Brewer's sparrow ▪ Calliope hummingbird ▪ Common garter snake ▪ Fisher ▪ Flammulated owl ▪ Fringed myotis ▪ Hammond's flycatcher ▪ Lewis woodpecker ▪ Townsend's big-eared bat ▪ Mountain quail ▪ Northern goshawk ▪ Olive-sided flycatcher ▪ Peregrine falcon ▪ Prairie falcon ▪ Williamson's sapsucker ▪ Willow flycatcher ▪ Wolverine	**Type 1:** ▪ Bull trout ▪ Fall Chinook salmon ▪ Steelhead trout **Type 2:** ▪ Pacific lamprey ▪ Redband trout ▪ Westslope cutthroat trout **Type 3:** ▪ Coeur d'Alene salamander ▪ Coho salmon ▪ Idaho giant salamander ▪ Spring/summer Chinook salmon ▪ Western toad ▪ Woodhouse toad

Table I-3
Clearwater FMA Values at Risk *(continued)*

Special Management Areas	Cultural Resources	Commercial Resources
▪ Clearwater River from Kooskia to Lewiston Special Recreation Management Area ▪ Lolo Creek preliminary suitable under the WSR Act ▪ Clearwater Weed Management Area (includes all BLM-managed land in this FMA) ▪ Lower Lolo Creek ACEC ▪ Cottonwood Islands ACEC/RNA ▪ Upper Lolo Creek ACEC	**Prehistoric Sites:** ▪ Lithic scatters ▪ Pithouses **Historic sites:** ▪ Railroad Construction Settlement Mining ▪ Lewis and Clark National Historic Trail **Ethnographic Sites:** ▪ Nez Perce Tribe's Traditional Home Territory ▪ Traditional Cultural Properties	▪ Commercial forest stands and plantations ▪ Active livestock allotments and/or range improvements

Other Wildlife Considerations
None noted

Type 1: Federally Listed, Proposed and Candidate Species—Includes species that are listed under the Endangered Species Act, proposed or candidates for listing.

Type 2: Range-wide/Globally Imperiled Species-High Endangerment—Includes species that are experiencing declines throughout their range with a high likelihood of being listed under the Endangered Species Act in the foreseeable future due to their rarity and significant endangerment factors.

Type 3: Range-wide/Globally Imperiled Species-Moderate Endangerment—Includes species that are globally rare with moderate endangerment factors. Their global rarity and inherent risks associated with rarity make them imperiled species.

Type 4: Species of Concern—Includes species that are generally rare in Idaho with currently low endangerment threats.

Type 5: Watch List—Includes species that are not considered Idaho BLM sensitive species, but current population or habitat information suggests that species may warrant sensitive species status in the future.

For ecosystem health and fire management, values at risk in the Craig Mountain FMA are separated into the following (**Table I-4**):

Table I-4
Values at Risk in the Craig Mountain FMA

WUI and Public Health and Safety	Special Status Species		
	Plants	**Terrestrial Wildlife**	**Aquatic Wildlife**
▪ All communities at risk ▪ Lewis and Clark National Historic Trail	**Type 1:** ▪ Spalding's catchfly **Type 2:** ▪ Broad-fruit mariposa lily ▪ Idaho hawksbeard ▪ Palouse goldenweed ▪ Plumed clover ▪ Spacious monkeyflower ▪ Stalk-leaved monkeyflower **Type 3:** ▪ Chatterbox orchid ▪ Goldback fern ▪ Hall's orthotrichum ▪ Western ladies-tresses	**Type 1:** ▪ Gray wolf ▪ Yellow-billed cuckoo **Type 3:** ▪ Bald eagle ▪ Brewer's sparrow ▪ Calliope hummingbird ▪ Fisher ▪ Flammulated owl ▪ Fringed myotis ▪ Hammond's flycatcher ▪ Lewis' woodpecker ▪ Mountain quail ▪ Northern goshawk ▪ Olive-sided flycatcher ▪ Peregrine falcon ▪ Prairie falcon ▪ Townsend's big-eared bat ▪ Williamson's sapsucker ▪ Willow flycatcher	**Type 1:** ▪ Bull trout ▪ Fall Chinook salmon ▪ Sockeye salmon ▪ Spring/summer Chinook salmon ▪ Steelhead trout **Type 2:** ▪ Columbia River tiger beetle ▪ Pacific lamprey ▪ Redband trout ▪ Shortface lanx ▪ Westslope cutthroat trout **Type 3:** ▪ Coho salmon ▪ Columbia pebblesnail ▪ Western toad

Special Management Areas	Cultural Resources	Commercial Resources
▪ Wapshilla Ridge ACEC/RNA ▪ Captain John Creek ACEC/RNA ▪ Lower Salmon River ACEC	**Prehistoric Sites:** ▪ Intensively occupied sites ▪ Lithic scatters ▪ Rock art ▪ Pithouses **Historic sites:** ▪ Extensive mining sites, including ditch systems, reservoirs, and associated hydraulic mine cuts ▪ Chinese mining sites **Ethnographic Sites:** ▪ Nez Perce tribe's traditional home territory ▪ Traditional cultural properties may be present in this FMA.	▪ Commercial forest stands and plantations occur throughout the FMA. ▪ Active livestock allotments and/or range improvements are included on a portion of this FMA.
		Other Wildlife Considerations
		None noted

For ecosystem health and fire management, values at risk present in the Elk City FMA are separated into the following six categories (**Table I-5**).

Table I-5
Values at Risk in the Elk City FMA

WUI and Public Health and Safety	Special Status Species		
	Plants	**Terrestrial Wildlife**	**Aquatic Wildlife**
▪ All communities at risk	**Type 3:** ▪ Case's corydalis ▪ Deer-fern ▪ Idaho barren strawberry ▪ Payson's milkvetch ▪ Candystick	**Type 1:** ▪ Canada lynx ▪ Gray wolf **Type 3:** ▪ Bald eagle ▪ Calliope hummingbird ▪ Common garter snake ▪ Fisher ▪ Flammulated owl ▪ Hammond's flycatcher ▪ Lewis' woodpecker ▪ Northern goshawk ▪ Olive-sided flycatcher ▪ Townsend's big-eared bat ▪ Williamson's sapsucker ▪ Willow flycatcher ▪ Wolverine	**Type 1**: ▪ Bull trout ▪ Steelhead trout **Type 2:** ▪ Pacific lamprey ▪ Redband trout ▪ Westslope cutthroat trout **Type 3:** ▪ Coeur d'Alene salamander ▪ Idaho giant salamander ▪ Spring/summer Chinook salmon ▪ Western toad

Special Management Areas	Cultural Resources	Commercial Resources
▪ East Fork American River ACEC ▪ The Clearwater Weed Management Area includes portions of the BLM in this FMA ▪ American River Historic Sites District ACEC	**Historic Sites:** ▪ Mining sites including ditch systems, reservoirs, and associated hydraulic mine cuts ▪ Sites related to hardrock mining ▪ Remnants of trails and stage roads **Ethnographic Sites**: ▪ Nez Perce Tribe's Traditional Home Territory ▪ Traditional Cultural Properties may also be located in this FMA	▪ Commercial forest stands and plantations occur throughout the FMA. ▪ Active livestock allotments and/or range improvements are included on a portion of these lands.

	Other Wildlife Considerations
	None noted

For ecosystem health and fire management, values at risk present in the Salmon FMA are separated into the following (**Table I-6**):

Table I-6
Values at Risk in the Salmon FMA

WUI and Public Health and Safety	Special Status Species		
	Plants	**Terrestrial Wildlife**	**Aquatic Wildlife**
▪ All communities at risk ▪ Nez Perce National Historic Trail ▪ Lewis and Clark National Historic Trail **Recreation sites:** ▪ Elkhorn Creek ▪ Island Bar ▪ Shorts Bar ▪ Lucile Bar ▪ Slate Creek ▪ Skookumchuck Bar ▪ Hammer Creek ▪ Pine Bar	**Type 1:** ▪ MacFarlane's four-o'clock ▪ Spalding's catchfly **Type 2:** ▪ Broad-fruit mariposa lily ▪ Green-band mariposa lily ▪ Plumed clover **Type 3:** ▪ Chatterbox orchid ▪ Hazel's prickly phlox ▪ Tolmie's onion	**Type 1:** ▪ Canada lynx ▪ Gray wolf ▪ Yellow-billed cuckoo **Type 2:** ▪ Boulder pile mountainsnail ▪ Idaho banded mountainsnail ▪ Lava rock mountainsnail ▪ Striate mountainsnail **Type 3:** ▪ Bald eagle ▪ Brewer's sparrow ▪ Calliope hummingbird ▪ Fisher ▪ Flammulated owl ▪ Fringed myotis ▪ Hammond's flycatcher ▪ Lewis' woodpecker ▪ Mountain quail ▪ Northern goshawk ▪ Olive-sided flycatcher ▪ Peregrine falcon ▪ Prairie falcon ▪ Townsend's big-eared bat ▪ Williamson's sapsucker ▪ Willow flycatcher ▪ Wolverine	**Type 1:** ▪ Bull trout ▪ Fall Chinook salmon ▪ Sockeye salmon ▪ Spring/summer Chinook salmon ▪ Steelhead trout **Type 2:** ▪ Columbia River tiger beetle ▪ Marbled disc ▪ Pacific lamprey ▪ Redband trout ▪ Shortface lanx ▪ Westslope cutthroat trout **Type 3:** ▪ Idaho giant salamander ▪ Western toad

Table I-6
Values at Risk in the Salmon FMA *(continued)*

Special Management Areas	Cultural Resources	Commercial Resources
▪ Lower Salmon River ACEC ▪ Upper Salmon River ACEC ▪ Long Gulch ACEC/RNA ▪ Lucile Caves ACEC/RNA ▪ Skookumchuck ACEC/RNA ▪ The Salmon River from Long Tom Bar to the confluence with the Snake River is a proposed Wild & Scenic River corridor and is managed as an Special Recreation Management Area ▪ Snowhole Canyon WSA ▪ Marshall Mountain WSA ▪ Russell Bar ponderosa pine seed orchard house and outbuildings ▪ Salmon River Weed Management Area ▪ Joseph Plains Weed Management Area	**Prehistoric Sites:** ▪ Lithic scatters, rock art, and pithouses **Historic sites:** ▪ Extensive mining sites in the FMA with ditch systems, reservoirs, and associated hydraulic mine cuts ▪ The Skookumchuck cabin is the only standing log structure along the Salmon River under federal ownership ▪ Numerous Chinese mining sites **Ethnographic Sites:** ▪ Nez Perce Tribe's Traditional Home Territory ▪ Traditional Cultural Properties may also be located in this FMA	▪ Commercial forest stands and plantations occur throughout the FMA. ▪ Active livestock allotments and/or range improvements are included on most parcels.
		Other Wildlife Considerations
		None noted
		Other Resource Considerations
		▪ Whitebark pine forest located on the Marshall Mountain township ▪ Old-growth ponderosa pine located in the Little Salmon and main Salmon river drainages

APPENDIX J—GRAZING ANIMAL UNIT MONTHS (AUM) BY ALLOTMENT

Table J-1
Grazing AUMs by Allotment

Allotment Name	Allotment Number	Kind of Livestock	AUMs
Hammer Creek	36103	Cattle	8
Shuck Creek	36105	Cattle	130
Lower Sotin Creek	36106	Cattle	8
West Greer	36107	Cattle	11
Big Canyon Mouth	36109	Cattle	3
Bear Gulch	36110	Cattle	79
Wet Gulch	36112	Cattle	20
Long Gulch Road	36113	Cattle	5
		Horse	4
Elmen	36115	Cattle	1
Deep Creek	36116	Cattle	8
Oxbow	36118	Cattle	66
Maloney Creek	36119	Cattle	7
Gold Hill	36120	Cattle	16
Mahoney Creek	36123	Cattle	10
		Horse	5
Blacktail Butte	36125	Cattle	5
Wildcat Creek	36129	Cattle	344
Spring Camp	36134	Cattle	49
Round Springs Creek	36135	Cattle	22
Wolf Creek	36137	Cattle	112
Butcher Bar	36138	Cattle	52
Tramway	36141	Cattle	10
Yanks Creek	36142	Cattle	5
Incendiary Creek	36143	Cattle	10
Basin	36144	Cattle	105
First Creek	36145	Cattle	9
Buffalo Gulch	36146	Cattle	92
Tom Taha Creek	36148	Cattle	8
Coyote Gulch	36150	Cattle	1
Lacy Meadows	36151	Cattle	32
Little Canyon	36152	Cattle	55
Upper Slippery Creek	36154	Cattle	5
Big Canyon Barn	36155	Cattle	38
American Bar	36156	Cattle	20
Paul	36157	Cattle	12
Big Creek	36158	Cattle	32
Cottonwood Creek	36160	Cattle	16
White House Bar	36161	Cattle	31
Upper Sixmile Creek	36163	Cattle	22
Swale Creek	36165	Cattle	8
Mcintire	36167	Cattle	12
Maple Canyon	36168	Cattle	23
Adams Grade	36169	Horse	5
Big Cave	36171	Cattle	11
American River	36173	Cattle	15
Horse Canyon Creek	36174	Cattle	15
Peck	36175	Cattle	2
Telcher Creek	36177	Cattle	12
Middle Pot. Creek	36180	Cattle	2
Skookumchuck Creek	36182	Cattle	14
Wolcott Creek	36183	Cattle	11
		Horse	4
Rhett Creek	36184	Cattle	79
Russell Bar	36186	Cattle	6
Rock Creek I	36187	Cattle	25
Lawyer Ca Ranch	36189	Cattle	5
Butcher Creek	36190	Cattle	1

Table J-1
Grazing AUMs by Allotment (*continued*)

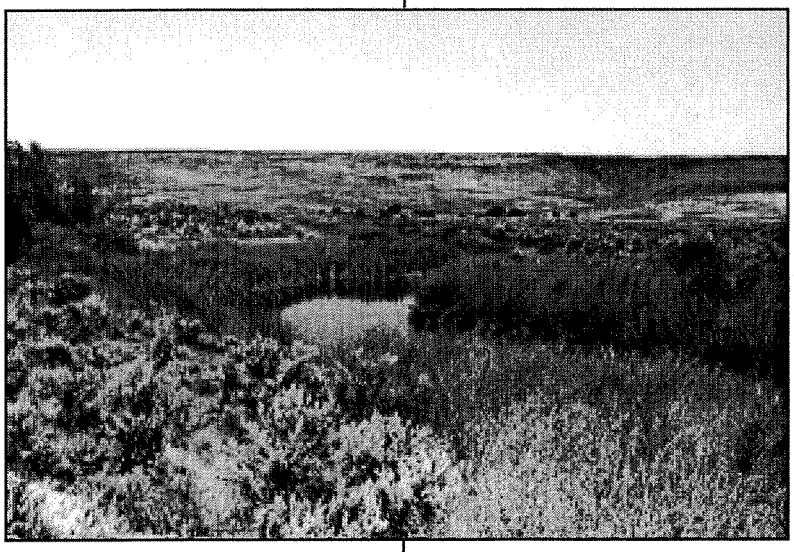
Allotment Name	Allotment Number	Kind of Livestock	AUMs	Allotment Name	Allotment Number	Kind of Livestock	AUMs
China Creek	36191	Cattle	23	Mcleod	36253	Cattle	5
Shawley	36193	Cattle	4	Warm Springs	36255	Cattle	118
Rattlesnake Ridge	36195	Cattle	597	Little Elk	36256	Cattle	103
Simler	36196	Cattle	36-	Sherwin Creek	36257	Cattle	37
Adams	36197	Cattle	17	Wickiup Creek	36260	Cattle	135
Scully Creek	36198	Cattle	84	Kirks Fork	36261	Cattle	45
Sheep Creek I	36200	Cattle	27	Dryden Site	36262	Cattle	3
South Tom Taha Creek	36201	Cattle	6	Getta Creek	36264	Cattle	49
Divide Creek	36203	Cattle	166	Mader	36265	Cattle	18
Cottonwood Flats	36204	Cattle	8	Lucile Bar	36266	Cattle	101
Threemile Creek	36205	Cattle	3	Ericson Ridge	36267	Cattle	2
Little Potlatch Creek	36207	Cattle	3	Hewett	36268	Cattle	9
Rice Creek Bridge	36208	Cattle	5	Central Ridge Point	36270	Cattle	6
Wheeler Canyon	36210	Cattle	7	Goat Ridge	36271	Cattle	39
Little Elk Creek	36212	Cattle	18	Packers Creek	36273	Cattle	40
Schmidt Creek	36214	Cattle	53	Catholic Creek	36278	Cattle	5
Harpers Bend	36216	Cattle	10	Wapshilla Ridge	36279	Cattle	0
Joe Creek	36226	Horse	4	Bug Slope	36280	Cattle	22
Slippery Creek	36228	Horse	3	John Day	36281	Cattle	179
Bracket Gulch	36231	Cattle	6	Pine Bar	36282	Cattle	37
Whisky Creek	36233	Cattle	29	Pratt	36283	Cattle	4
		Horse	30	Suzie Creek	36285	Cattle	5
Big Meadow	36234	Cattle	59	Upper Suzie Ck.	36286	Cattle	2
North Pardee	36235	Cattle	9	Upper Big Creek	36287	Horse	3
Myrtle	36236	Cattle	16	Sally Ann Creek	36288	Cattle	2
Taylor Bar	36237	Cattle	9	Craig Mountain	36289	Cattle	0
Partridge Creek	36240	Cattle	30	Corral Creek	36290	Cattle	0
Denny Creek	36241	Cattle	237	Race & Squaw Creek	36291	Cattle	23
Sugarloaf	36244	Cattle	29	Whitebird	36292	Horse	6
Trail Creek	36245	Cattle	85	Lyons Bar	36293	Cattle	53
Blackhawk Bar	36252	Cattle	23	Fall Creek	36294	Cattle	12

Table J-1
Grazing AUMs by Allotment (*continued*)

Allotment Name	Allotment Number	Kind of Livestock	AUMs	Allotment Name	Allotment Number	Kind of Livestock	AUMs
Lower Buffalo Gulch	36295	Horse	3	Papoose Creek	36348	Cattle	28
Upper Big Canyon	36297	Cattle	34	Squaw Bar	36349	Cattle	7
Lower Lolo Creek	36298	Cattle	32	Airport	36351	Horse	23
Slate Creek	36304	Cattle	1	Whiskey Butte	36352	Cattle	50
Lockwood Creek	36310	Cattle	5	Spaulding	36353	Cattle	6
		Horse	5	Turner	36354	Cattle	10
Fall Creek II	36315	Cattle	8	Snowhole	36355	Cattle	5
Cedar Creek	36317	Cattle	25	Osborn Individual	36357	Cattle	66
Central Ridge	36320	Cattle	12	Sheep Mountain	36359	Cattle	214
Tahoe Ridge	36325	Cattle	6	North Fork	36360	Cattle	100
Bear Creek	36326	Cattle	2	Otto Creek	36361	Cattle	3
Lower Highrange Creek	36340	Cattle	7	Lower Otto Creek	398*	Cattle	15
John Day Mountain	36345	Cattle	34	Whiskey South		Cattle	0
Bear Creek	36346	Cattle	8				
		Total AUMs	**5,126**		**Total Number of Allotments**		**142**

Source: Huibregtse 2005

APPENDIX K—IDAHO STANDARDS FOR RANGELAND HEALTH AND GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT



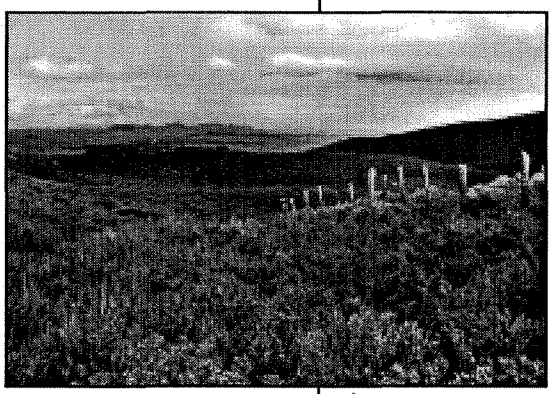
Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management

FINAL

U.S. Department of the Interior
Bureau of Land Management

August 1997

Dear Reader,



After nearly two years of hard work, I am proud to announce the completion of "Standards for Rangeland Health and Guidelines for Livestock Grazing Management" for Idaho. These standards and guidelines, which provide the resource measures and guidance needed to ensure healthy, functional rangelands, went into effect on August 12 after they were approved by the Secretary of the Interior.

As you will recall, the BLM presented proposed standards and guidelines, developed by the 45 members of our three Resource Advisory Councils, to the public for feedback earlier this spring. We received 22 letters from individuals and organizations suggesting revisions. We provided a copy of each letter, as well as a summary of comments, to our Resource Advisory Councils and asked them to carefully consider each suggestion and provide us with recommendations for changes. We used our Resource Advisory Councils' recommendations, as well as input from the BLM Washington Office and the Department of the Interior, to develop the final standards and guidelines.

Subsequently, we conducted a comprehensive review of all of our existing land use plans in Idaho and found that the final standards and guidelines conform with them. We then prepared an Administrative Determination to that effect to meet National Environmental Policy Act requirements.

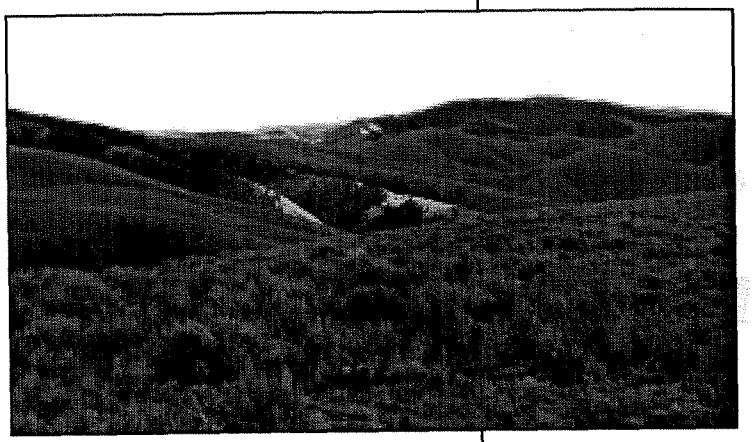
Now, we turn our attention away from developing standards and guidelines to implementing them. We are currently in the process of developing a strategy to prioritize our livestock grazing allotments and evaluate them to determine if standards and guidelines are being met or if significant progress towards meeting them is being achieved. As soon as this strategy is completed, sometime in the next few weeks, we will provide you with the appropriate detailed information.

The final standards and guidelines are the product of extensive discussion, debate, and compromise by individuals and organizations representing a wide variety of interests. Please be assured that we will offer many opportunities for interested parties to provide input as we implement the standards and guidelines and that your continued participation is critical to our success.

Sincerely,

Martha G. Hahn

Martha Hahn
BLM Idaho State Director



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Standards for Rangeland Health

The Standards for Rangeland Health, as applied in the State of Idaho, are to be used as the Bureau of Land Management's management goals for the betterment of the environment, protection of cultural resources, and sustained productivity of the range. They are developed with the specific intent of providing for the multiple use of the public lands. Application of the standards should involve collaboration between the authorized officer, interested publics, and resource users.

Rangelands should be meeting the Standards for Rangeland Health or making significant progress toward meeting the standards. Meeting the standards provides for proper nutrient cycling, hydrologic cycling, and energy flow.

Monitoring of all uses is necessary to determine if the standards are being met. It is the primary tool for determining rangeland health, condition, and trend. It will be performed on representative sites.

Appropriate to soil type, climate, and landform, indicators are a list of typical physical and biological factors and processes that can be measured and/or observed (e.g., photographic monitoring). They are used in combination to provide information necessary to determine the health and condition of the rangelands. Usually, no single indicator provides sufficient information to determine rangeland health. Only those indicators appropriate to a particular site are to be used. The indicators listed below each standard are not intended to be all inclusive.

The issue of scale must be kept in mind in evaluating the indicators listed after each standard. It is recognized that individual isolated sites within a landscape may not be meeting the standards; however, broader areas must be in proper functioning condition. Furthermore, fragmentation of habitat that reduces the effective size of large areas must also be evaluated for its consequences.

STANDARD 1 (WATERSHEDS)

Watersheds provide for the proper infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Indicators may include, but are not limited to, the following:

1. The amount and distribution of ground cover, including litter, for identified ecological site(s) or soil-plant associations are appropriate for site stability.

2. Evidence of accelerated erosion in the form of rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface sealing, and compaction layers below the soil surface is minimal for soil type and landform.

STANDARD 2 (RIPARIAN AREAS AND WETLANDS)

Riparian-wetland areas are in properly functioning condition appropriate to soil type, climate, geology, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

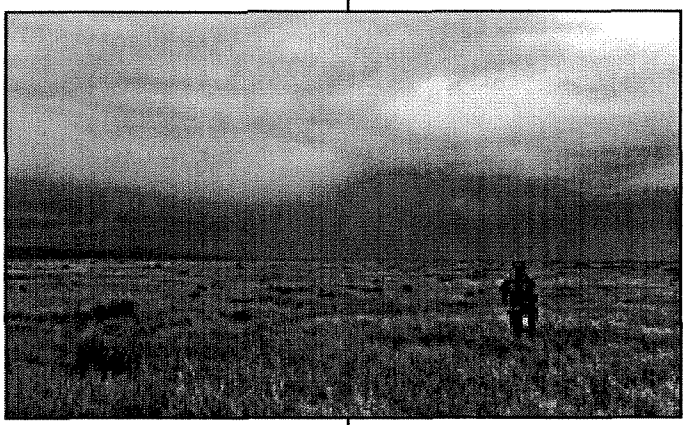
Indicators may include, but are not limited to, the following:

1. The riparian/wetland vegetation is controlling erosion, stabilizing streambanks, shading water areas to reduce water temperature, stabilizing shorelines, filtering sediment, aiding in floodplain development, dissipating energy, delaying flood water, and increasing recharge of groundwater appropriate to site potential.

2. Riparian/wetland vegetation with deep strong binding roots is sufficient to stabilize streambanks and shorelines. Invader and shallow rooted species are a minor component of the floodplain.

3. Age class and structural diversity of riparian/wetland vegetation is appropriate for the site.

4. Noxious weeds are not increasing.



STANDARD 3 (STREAM CHANNEL/FLOODPLAIN)

Stream channels and floodplains are properly functioning relative to the geomorphology (e.g., gradient, size, shape, roughness, confinement, and sinuosity) and climate to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Indicators may include, but are not limited to, the following:

1. Stream channels and floodplains dissipate energy of high water flows and transport sediment. Soils support appropriate riparian-wetland species, allowing water movement, sediment filtration, and water storage. Stream channels are not entrenching.

2. Stream width/depth ratio, gradient, sinuosity, and pool, riffle and run frequency are appropriate for the valley bottom type, geology, hydrology, and soils.

3. Streams have access to their floodplains and sediment deposition is evident.

4. There is little evidence of excessive soil compaction on the floodplain due to human activities.

5. Streambanks are within an appropriate range of stability according to site potential.

6. Noxious weeds are not increasing.

STANDARD 4 (NATIVE PLANT COMMUNITIES)

Healthy, productive, and diverse native animal habitat and populations of native plants are maintained or promoted as appropriate to soil type, climate, and landform to provide for proper nutrient cycling, hydrologic cycling, and energy flow.

Indicators may include, but are not limited to, the following:

1. Native plant communities (flora and microbiotic crusts) are maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant species.

2. The diversity of native species is maintained.

3. Plant vigor (total plant production, seed and seedstalk production, cover, etc.) is adequate to enable reproduction and recruitment of plants when favorable climatic events occur.

4. Noxious weeds are not increasing.

5. Adequate litter and standing dead plant material are present for site protection and for decomposition to replenish soil nutrients relative to site potential.

STANDARD 5 (SEEDINGS)

Rangelands seeded with mixtures, including predominately non-native plants, are functioning to maintain life form diversity, production, native animal habitat, nutrient cycling, energy flow, and the hydrologic cycle.

Indicators may include, but are not limited to, the following:

1. In established seedings, the diversity of perennial species is not diminishing over time.

2. Plant production, seed production, and cover are adequate to enable recruitment when favorable climatic events occur.

3. Noxious weeds are not increasing.

4. Adequate litter and standing dead plant material are present for site protection and for decomposition to replenish soil nutrients relative to site potential.

STANDARD 6 (EXOTIC PLANT COMMUNITIES, OTHER THAN SEEDINGS)

Exotic plant communities, other than seedings, will meet minimum requirements of soil stability and maintenance of existing native and seeded plants. These communities will be rehabilitated to perennial communities when feasible cost effective methods are developed.

Indicators may include, but are not limited to, the following:

1. Noxious weeds are not increasing.

2. The number of perennial species is not diminishing over time.

3. Plant vigor (production, seed and seedstalk production, cover, etc.) of remnant native or seeded (introduced) plants is maintained to enable reproduction and recruitment when favorable climatic or other environmental events occur.

4. Adequate litter and standing dead plant material is present for site protection and for decomposition to replenish soil nutrients relative to site potential.

STANDARD 7 (WATER QUALITY)

Surface and ground water on public lands comply with the Idaho Water Quality Standards.

Indicators may include, but are not limited to, the following:

1. Physical, chemical, and biologic parameters described in the Idaho Water Quality Standards.

STANDARD 8 (THREATENED AND ENDANGERED PLANTS AND ANIMALS)

Habitats are suitable to maintain viable populations of threatened and endangered, sensitive, and other special status species.

Indicators may include, but are not limited to, the following:

1. Parameters described in the Idaho Water Quality Standards.

2. Riparian/wetland vegetation with deep, strong, binding roots is sufficient to stabilize streambanks and shorelines. Invader and shallow rooted species are a minor component of the floodplain.

3. Age class and structural diversity of riparian/wetland vegetation are appropriate for the site.

4. Native plant communities (flora and microbiotic crusts) are maintained or improved to ensure the proper functioning of ecological processes and continued productivity and diversity of native plant species.

5. The diversity of native species is maintained.

6. The amount and distribution of ground cover, including litter, for identified ecological site(s) or soil-plant associations are appropriate for site stability.

7. Noxious weeds are not increasing.

Guidelines for Livestock Grazing Management

INTRODUCTION

Guidelines direct the selection of grazing management practices, and where appropriate, livestock management facilities to promote significant progress toward, or the attainment and maintenance of, the standards. Grazing management practices are livestock management techniques. They include the manipulation of season, duration (time), and intensity of use, as well as numbers, distribution, and kind of livestock. Livestock management facilities are structures such as fences, corrals, and water developments (ponds, springs, pipelines, troughs, etc.) used to facilitate the application of grazing management practices. Livestock grazing management practices and guidelines will be consistent with the Idaho Agricultural Pollution Abatement Plan.

Grazing management practices and facilities are implemented locally, usually on an allotment or watershed basis. Grazing management programs are based on a combination of appropriate grazing management practices and facilities developed through consultation, coordination, and cooperation with the Bureau of Land Management, permittees, other agencies, Indian tribes, and interested publics.

These guidelines were prepared under the assumption that regulations and policies regarding grazing on the public lands will be implemented and will be adhered to by the grazing permittees and agency personnel. Anything not covered in these guidelines will be addressed by existing laws, regulations, Indian treaties, and policies.

The BLM will identify and document within the local watershed all impacts that affect the ability to meet the standards. If a standard is not being met due to livestock grazing, then allotment management will be adjusted unless it can be demonstrated that significant progress toward the standard is being achieved. This applies to all subsequent guidelines.

GUIDELINES

1. Use grazing management practices and/or facilities to maintain or promote significant progress toward adequate amounts of ground cover (determined on an ecological site basis) to support infiltration, maintain soil moisture storage, and stabilize soils.

2. Locate livestock management facilities away from riparian areas wherever they conflict with achieving or maintaining riparian-wetland functions.

3. Use grazing management practices and/or facilities to maintain or promote soil conditions that support water infiltration, plant vigor, and permeability rates and minimize soil compaction appropriate to site potential.

4. Implement grazing management practices that provide periodic rest or deferment during critical growth stages to allow sufficient regrowth to achieve and maintain healthy, properly functioning conditions, including good plant vigor and adequate vegetative cover appropriate to site potential.

5. Maintain or promote grazing management practices that provide sufficient residual vegetation to improve, restore, or maintain healthy riparian-wetland functions and structure for energy dissipation, sediment capture, ground water recharge, streambank stability, and wildlife habitat appropriate to site potential.

6. The development of springs, seeps, or other projects affecting water and associated resources shall be designed to protect the ecological functions, wildlife habitat, and significant cultural and historical/archaeological/paleontological values associated with the water source.

7. Apply grazing management practices to maintain, promote, or progress toward appropriate stream channel and streambank morphology and functions. Adverse impacts due to livestock grazing will be addressed.

8. Apply grazing management practices that maintain or promote the interaction of the hydrologic cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate, and landform.

9. Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate, and landform.

10. Implement grazing management practices and/or facilities that provide for complying with the Idaho Water Quality Standards.

11. Use grazing management practices developed in recovery plans, conservation agreements, and Endangered Species Act, Section 7 consultations to maintain or improve habitat for federally listed threatened, endangered, and sensitive plants and animals.

12. Apply grazing management practices and/or facilities that maintain or promote the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities.

13. On areas seeded predominantly with non-native plants, use grazing management practices to maintain or promote the physical and biological conditions to achieve healthy rangelands.

14. Where native communities exist, the conversion to exotic communities after disturbance will be minimized. Native species are emphasized for rehabilitating disturbed rangelands. Evaluate whether native plants are adapted, available, and able to compete with weeds or seeded exotics.

15. Use non-native plant species for rehabilitation only in those situations where:

a. native species are not readily available in sufficient quantities;

b. native plant species cannot maintain or achieve the standards; or

c. non-native plant species provide for management and protection of native rangelands.

Include a diversity of appropriate grasses, forbs, and shrubs in rehabilitation efforts.

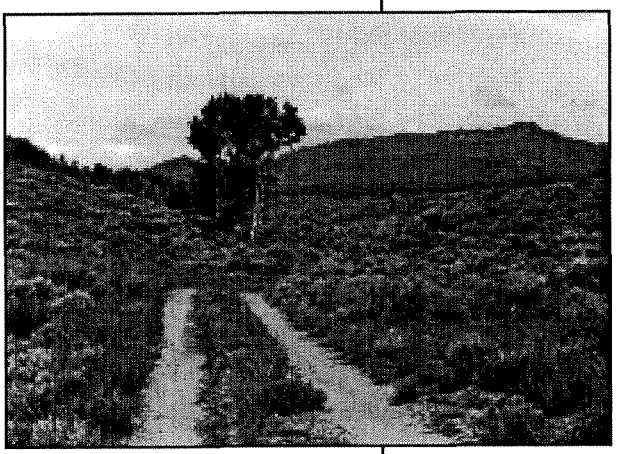
16. On burned areas, allow natural regeneration when it is determined that populations of native perennial shrubs, grasses, and forbs are sufficient to revegetate the site. Rest burned or rehabilitated areas to allow recovery or establishment of perennial plant species.

17. Carefully consider the effects of new management facilities (e.g., water developments, fences) on healthy and properly functioning rangelands prior to implementation.

18. Use grazing management practices, where feasible, for wildfire control and to reduce the spread of targeted undesirable plants (e.g., cheatgrass, medusa head, wildrye, and noxious weeds) while enhancing vigor and abundance of desirable native or seeded species.

19. Employ grazing management practices that promote natural forest regeneration and protect reforestation projects until the Idaho Forest Practices Act requirements for timber stand replacement are met.

20. Design management fences to minimize adverse impacts, such as habitat fragmentation, to maintain habitat integrity and connectivity for native plants and animals.



Glossary

ACCELERATED EROSION — Soil loss at a rate in excess of natural or geologic erosion as a result of human-caused disturbance.

AGE CLASS — A classification of woody plant species according to relative age, e.g., seedling, young, mature, or decadent.

ALLOTMENT MANAGEMENT PLAN — A documented program which applies to livestock grazing on public lands, prepared by consulting, cooperating, and coordinating with the permittee(s), lessee(s), or other interested publics.

ANIMAL HABITAT —T he place and environment where an animal lives including all biotic, climatic, and edaphic factors.

BEST MANAGEMENT PRACTICE (BMP) — A component practice or combination of component practices determined to be the most effective, practicable means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals. (Idaho Agricultural Pollution Abatement Plan, August 1993)

COMPONENT PRACTICES — Approved practices, used alone or in combination with other practices, are used to develop BMPs. (Idaho Agricultural Pollution Abatement Plan, August 1993)

CONNECTIVITY — The state of being functionally connected by movement of organisms, material, or energy. The opposite of habitat fragmentation.

CONSULTATION, COORDINATION, AND COOPERATION — A process prescribed by the Public Rangelands Improvement Act of involving the permittee(s), lessee(s), federally recognized Indian tribes, and interested publics in the development of allotment management plans and other management programs on public lands. The process also includes trust responsibilities to Federally recognized Indian tribes.

COLLABORATION —T o work jointly with others.

COVER — (See Ground Cover)

DEFERMENT — Nongrazing, either by delay or discontinuance of grazing, from the beginning of plant growth until the seed is set or the equivalent stage of vegetative reproduction.

DIVERSITY — (1) The absolute number of species in a community, species richness; and (2) a measure of the number of species and their relative abundance in a community; low diversity refers to few species or unequal abundances, high diversity to many species or equal abundances.

ECOLOGICAL SITES — A kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce distinctive kinds and amounts of vegetation and its response to management. Ecological site is synonymous with range site and ecological type.

ENERGY FLOW — The capture of sunlight energy by plants and the conversion through photosynthesis to biomass.

EXOTIC PLANT COMMUNITIES, OTHER THAN SEEDINGS — Assemblages of plants that are not indigenous to the area, such as cheatgrass, yellow star thistle, and medusa head rye.

FRAGMENTATION — The process of dividing habitats into smaller and smaller units until their utility as habitat is lost.

GRAZING MANAGEMENT PRACTICES — Techniques used to manage livestock and include season, duration (amount of the time grazing occurs), intensity of use, numbers of livestock, kind of livestock, and distribution (e.g., salting, herding, and water development).

GRAZING PLAN OR PROGRAM — A combination of grazing management and/or facilities used to ensure an expectation of meeting or making significant progress toward meeting the Standards for Rangeland Health.

GROUND COVER — The percentage of material, other than bare ground, covering the land surface. It may include live and standing dead vegetation, microbiotic crust, litter, cobble, gravel, stones, and bedrock. Ground cover, plus bare ground, totals 100 percent.

HUMAN ACTIVITIES — Any activity that is initiated or controlled by people, such as recreation, timber harvest, livestock grazing, road and other construction, and mining.

HYDROLOGIC CYCLE — The circulation of water in the atmosphere, on the surface of the earth, in the soil, and in the underlying rocks.

INDIAN TREATY — A contract in writing between the United States Government and Indian tribes formally signed by duly authorized representatives and ratified by the United States Senate.

INDICATOR — Components or attributes of a rangeland ecosystem that can be observed and/or measured that provides evidence of the function, productivity, health and/or condition of the ecosystem.

INFILTRATION — A soil, as influenced by soil texture, aspect, slope, and vegetation cover.

LANDFORM — A naturally formed element of the landscape that controls or influences hydrologic, physical, and ecological processes.

LANDSCAPE — Landform of a region in aggregate.

LAND USE PLAN — Land use plan means a resource management plan or management framework plan, developed under the provisions of 43 CFR 1600. These plans are developed through public participation in accordance with the provisions of the Federal Land Policy and Management Act of 1976 and establish management direction for resource uses of public lands. (43 CFR 4100)

LIFE FORM — Characteristic form or appearance of a plant species at maturity, e.g., tree, shrub, forb, grass, etc.

LITTER — Dead plant or animal material on the soil surface.

LIVESTOCK MANAGEMENT FACILITIES — Physical facilities, such as fences, water developments, and corrals that are used to handle and control livestock.

MICROBIOTIC CRUST — Community of non-vascular primary producers that occur as a "crust" on the surface of soils and made up of a mixture of algae, lichens, mosses, and cyanobacteria (bluegreen algae).

MONITORING — The orderly collection, analysis, and interpretation of resource data and information to evaluate progress toward meeting Standards for Rangeland Health and/or management objectives.

MULTIPLE USE — The definition of multiple use is defined in the Federal Policy and Management Act of 1976 as follows:

"The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resource or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform with changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historic values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of the uses that will give the greatest economic return or the greatest output."

NATIVE SPECIES — Plants or animals indigenous to the area.

NON-NATIVE SPECIES — Plants or animals that are not indigenous to the area.

NOXIOUS WEEDS — Exotic plants that are listed by the State of Idaho and subject to Idaho weed control laws.

NUTRIENT CYCLE — The cyclical process by which plants and animals use chemical compounds and elements in the soil, water, and atmosphere to produce plants and animals and the decomposition of plants and animals to return chemical compounds and elements to the soil, water, and air for future use.

PRODUCTIVITY — The ability of a site to produce vegetation.

PROPER FUNCTIONING CONDITION (RIPARIAN) —
"Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid floodplain development; improve floodwater retention and ground-water recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity."

USDI. 1993, Revised 1995. Riparian Area Management, Process for Assessing Proper Functioning Condition, Technical Report 1737-9, p. 4. Bureau of Land Management, BLM/SC/ST-93/003+1737+REV95, Service Center, CO. 51 pp.

USDI. 1994. Riparian Area Management, Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas. Technical report 1737-11. Bureau of Land Management, BLM/SC/ST-94/008+1737, Service Center, CO. 37 pp.

RANGELAND — A kind of land on which the native vegetation is predominately grasses, grass- like plants, forbs, or shrubs. Rangelands include natural grasslands, savannas, shrublands, most deserts, alpine communities, riparian areas, and wet meadows.

RANGELAND CONDITION — The present status of a unit in terms of specific values or potential.

RANGELAND HEALTH — The degree to which the integrity of the soil and ecological processes of rangeland ecosystems is maintained.

National Research Council. 1994. Rangeland Health: New Methods to Classify, Inventory and Monitor Rangelands.

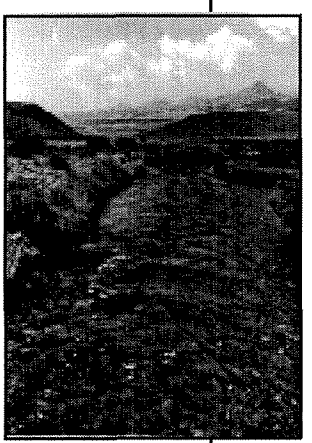
RESIDUAL VEGETATION — Amount, cover, and species composition of the vegetation on a site after it has been grazed for a period of time.

REST — Nongrazing for a specified period of time, generally a full growing season up to a full year.

RIPARIAN AREAS — A form of wetland transition between permanently saturated wetlands and uplands. The areas exhibit vegetation or physical characteristics that reflect permanent surface or subsurface water influence. Typical riparian areas include such areas as lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers, streams, glacial potholes, and shores of lakes and reservoirs with stable water levels. Riparian areas do not include ephemeral (permanently above the water table and flows only during or immediately after a rainstorm or snowmelt) streams that do not exhibit the presence of vegetation dependent upon free water in the soil. (Bureau of Land Management Technical Reference TR 1737-9 and 11)

SENSITIVE PLANTS AND ANIMALS — Plants and animals listed by the Bureau of Land Management State Directors.

SIGNIFICANT PROGRESS — Measurable and/or observable (i.e., photography, use of approved qualitative procedures) changes in the indicators that demonstrate improved rangeland health.



SPATIAL SCALE — The relative size of an area under consideration. For example, a small scale is a site, a mid-scale is a watershed, and a large scale is a basin.

SPECIAL STATUS SPECIES — Plant and animal species that are federally listed as threatened or endangered, proposed threatened or endangered, candidate species, State listed as threatened or endangered, or listed by a Bureau of Land Management State Director as sensitive.

SUSTAINED PRODUCTIVITY OF THE RANGE — Maintaining the production capability of the rangeland for long periods of time (100 years +).

TREND — The direction of change in ecological status or resource value rating observed over time.

USE — Human activities (e.g., mining, forestry, livestock grazing, vegetation manipulation, road construction and maintenance, other construction and maintenance activities, wild horses, recreation, habitat manipulation, and management facility construction and maintenance).

WATERSHED — An area that collects and discharges runoff to a given point. It is often used synonymously with drainage basin or catchment.

WETLAND — Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Typical wetlands include marshes, shallow swamps, sloughs, lake shores, bogs, wet meadows, and riparian areas. (Bureau of Land Management Technical Reference TR 1737-9 and 11)

APPENDIX L—MINERAL LEASING SURFACE USE STIPULATIONS

MINERAL LEASING SURFACE USE STIPULATIONS

Apply only to mineral leasing.

Definitions:

No Surface Occupancy (NSO) = Closed to placement of surface facilities or any surface disturbing activity

Controlled Surface Use (CSU) = Activity is only subject to restraints specified in the stipulation description

Timing Limitation (TL) = Activity is subject to restraints during the time period specified in the stipulation description (i.e., seasonal).

Exception = One-time exemption

Modification = Change to the language or provisions

Waiver = Permanent exemption

Stipulation	Protected Resource	Acres	Description
NSO-1	ACEC, WSA, Wild and Scenic Rivers	29,669	*Stipulation:* Surface occupancy is prohibited within all ACECs to protect natural processes and historic, cultural, scenic, fisheries, and wildlife resources; or to protect the public from natural hazards; and within WSAs to protect wilderness characteristics; and within 0.25-mile of river segments identified as suitable for inclusion in the NWSRS to protect Outstandingly Remarkable Values. *Exception:* The authorized officer may grant an exception if an environmental analysis of a proposed action reveals that these values would not be impacted, or that impacts could be adequately mitigated to protect the resource values identified for the designation. *Modification:* The boundaries of the stipulated area may be modified if the ACEC or suitable river corridor boundaries are modified. *Waiver:* The stipulation may be waived if the ACEC designation is lifted, or a WSA is released by Congress for multiple uses.
NSO-2	Fisheries, Special Status Fish, Aquatic Species, Riparian and Wetland Vegetation	16,303	*Stipulation*: Surface occupancy is prohibited within: • 300 feet of fish-bearing streams • 150 feet of permanently flowing non-fish bearing streams • 150 feet of ponds, lakes, reservoirs, and wetlands greater than one acre • 100 feet of intermittent streams, landslide prone areas, and wetlands less than one acre Surface occupancy is prohibited when implementation of the proposed action would result in a "may affect" determination for listed species and/or "may impact" determination for BLM sensitive species. *Exception*: The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species and/or for proposed or designated critical habitat. The authorized officer

Stipulation	Protected Resource	Acres	Description
			may also grant an exception if a Biological Evaluation or environmental assessment concludes a determination of "no effect" or "may impact individuals or habitat, but will not likely lead to a trend toward federal listing or cause a loss of viability of the population or species" for BLM sensitive species. The appropriate coordination and consultation will take place with USFWS. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. RCAs may change based on site specific Watershed Analysis, and appropriate inventory, monitoring and scientific research. If needed, re-initiation of consultation will also take place with National Marine Fisheries Service and USFWS. *Waiver*: None.
NSO-3	Wildlife, Special Status Species and Habitats	TBD*	*Stipulation*: Surface occupancy is prohibited when implementation of the proposed action would result in a "may affect" determination for listed species and/or "may impact" determination for BLM sensitive species. These areas are determined at the project level for site specific areas. Surface occupancy is prohibited within one mile of critical habitat niches for listed species (i.e., nest site, den site). *Exception*: The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, the determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species and for proposed or designated critical habitat. The authorized officer may also grant an exception if a Biological Evaluation or environmental assessment concludes a determination of "may impact individuals or habitat, but will not likely lead to a trend toward federal listing or cause a loss of viability of the population or species" for BLM sensitive species. The appropriate coordination and consultation will take place with USFWS. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. As needed, supporting rationale would include updated inventory, monitoring, and scientific research. If warranted, re-initiation of consultation will also take place with USFWS. *Waiver*: None.

Stipulation	Protected Resource	Acres	Description
			may also grant an exception if a Biological Evaluation or environmental assessment concludes a determination of "no effect" or "may impact individuals or habitat, but will not likely lead to a trend toward federal listing or cause a loss of viability of the population or species" for BLM sensitive species. The appropriate coordination and consultation will take place with USFWS. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. RCAs may change based on site specific Watershed Analysis, and appropriate inventory, monitoring and scientific research. If needed, re-initiation of consultation will also take place with National Marine Fisheries Service and USFWS. *Waiver*: None.
NSO-3	Wildlife, Special Status Species and Habitats	TBD*	*Stipulation*: Surface occupancy is prohibited when implementation of the proposed action would result in a "may affect" determination for listed species and/or "may impact" determination for BLM sensitive species. These areas are determined at the project level for site specific areas. Surface occupancy is prohibited within one mile of critical habitat niches for listed species (i.e., nest site, den site). *Exception*: The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, the determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species and for proposed or designated critical habitat. The authorized officer may also grant an exception if a Biological Evaluation or environmental assessment concludes a determination of "may impact individuals or habitat, but will not likely lead to a trend toward federal listing or cause a loss of viability of the population or species" for BLM sensitive species. The appropriate coordination and consultation will take place with USFWS. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. As needed, supporting rationale would include updated inventory, monitoring, and scientific research. If warranted, re-initiation of consultation will also take place with USFWS. *Waiver*: None.

Stipulation	Protected Resource	Acres	Description
NSO-4	Special Status Plant Species and rare plant communities	TBD*	*Stipulation*: Surface occupancy is prohibited when implementation of the proposed action would result in a "may affect" determination for listed species and/or "may impact" determination for BLM sensitive species. These areas are determined at the project level for site specific areas. Surface occupancy is prohibited within the population perimeter of listed and BLM sensitive plant populations. *Exception*: The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, the determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species and for proposed or designated critical habitat. The authorized officer may also grant an exception if a Biological Evaluation or environmental assessment concludes a determination of "may impact individuals or habitat, but will not likely lead to a trend toward federal listing or cause a loss of viability of the population or species" for BLM sensitive species. The appropriate coordination and consultation will take place with USFWS. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. As needed, supporting rationale would include updated inventory, monitoring, and scientific research. If warranted, re-initiation of consultation will also take place with USFWS. *Waiver*: None.
NSO-5	Raptor Nests	TBD*	*Stipulation*: Surface occupancy is prohibited within a quarter mile of identified nests. These areas are determined at the project level for site specific areas. *Exception*: The authorized officer may grant an exception if concurrence is obtained from USFWS (through applicable provisions of the Endangered Species Act, Eagle Protection Act, or Migratory Bird Treaty Act), to interrupt active nesting attempts and/or cause short or long term adverse modification of suitable nest site characteristics. An exception may also be granted by the authorized officer if environmental analysis of a proposed action reveals that it would not impair the function or utility of the nest site for current or subsequent nest activities or occupancy. *Modification*: As needed, the area of application may be modified based on preparation of

Stipulation	Protected Resource	Acres	Description
NSO-4	Special Status Plant Species and rare plant communities	TBD*	*Stipulation*: Surface occupancy is prohibited when implementation of the proposed action would result in a "may affect" determination for listed species and/or "may impact" determination for BLM sensitive species. These areas are determined at the project level for site specific areas. Surface occupancy is prohibited within the population perimeter of listed and BLM sensitive plant populations. *Exception*: The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, the determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species and for proposed or designated critical habitat. The authorized officer may also grant an exception if a Biological Evaluation or environmental assessment concludes a determination of "may impact individuals or habitat, but will not likely lead to a trend toward federal listing or cause a loss of viability of the population or species" for BLM sensitive species. The appropriate coordination and consultation will take place with USFWS. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. As needed, supporting rationale would include updated inventory, monitoring, and scientific research. If warranted, re-initiation of consultation will also take place with USFWS. *Waiver*: None.
NSO-5	Raptor Nests	TBD*	*Stipulation*: Surface occupancy is prohibited within a quarter mile of identified nests. These areas are determined at the project level for site specific areas. *Exception*: The authorized officer may grant an exception if concurrence is obtained from USFWS (through applicable provisions of the Endangered Species Act, Eagle Protection Act, or Migratory Bird Treaty Act), to interrupt active nesting attempts and/or cause short or long term adverse modification of suitable nest site characteristics. An exception may also be granted by the authorized officer if environmental analysis of a proposed action reveals that it would not impair the function or utility of the nest site for current or subsequent nest activities or occupancy. *Modification*: As needed, the area of application may be modified based on preparation of

Stipulation	Protected Resource	Acres	Description
			appropriate Biological Assessment, Biological Evaluation, and environmental assessment. As needed, supporting rationale would include updated inventory, monitoring, and scientific research. If warranted, re-initiation of consultation will also take place with USFWS. The area of application of the NSO may be modified pending determination that a portion of the NSO area is not essential to nest site functions or utility; or that the nature or conduct of the activity, as proposed or conditioned, would not impair the function or utility of the nest site for current or subsequent nest activities or occupancy. The stipulation may also be modified if the proponent, BLM, and where necessary, other affected interests, negotiate compensation that satisfactorily offsets anticipated impacts on raptor breeding activities and/or habitats. Modifications could also occur if sufficient information is provided that supports the contention that the action would not contribute to the suppression of breeding population densities or the population's production or recruitment regime from a Geographic Reference Area perspective. If a species status is downgraded, or delisted, the NSO buffer area may be modified to an appropriate level. *Waiver*: A waiver may be granted if the site conditions change or the nest site has not been occupied for a minimum of two years.
NSO-6	Cultural Resources	TBD*	*Stipulation*: Surface occupancy is prohibited within areas of cultural or spiritual value to Native American Tribes. These areas are determined at the project level for site specific areas. *Exception*: The authorized officer may grant an exception if environmental analysis and tribal consultation on a proposed action reveals that these values would not be impacted, or that impacts could be adequately mitigated. *Modification*: Through tribal consultation, the boundaries of these areas may be changed. *Waiver*: This stipulation may be waived with written approval from the concerned Native American Tribal Council.
NSO-7	Public—from Hazardous Materials	20	*Stipulation:* No surface occupancy will be allowed in areas where hazardous materials are known to exist. *Exception:* The authorized officer may grant an exception if environmental analysis of a proposed

Stipulation	Protected Resource	Acres	Description
			action reveals that it would not further expose the public or the environment to hazardous materials. *Modification:* The area of application for this stipulation may change based on discovery or removal of hazardous materials. *Waiver:* This stipulation will be waived if all hazardous materials are removed from the area.
NSO-8	Developed Recreation Sites, Administrative Sites	537	*Stipulation:* No surface occupancy will be allowed within the vicinity of developed recreation sites or sites used for agency administrative purposes. *Exception:* The authorized officer may grant an exception if environmental analysis of a proposed action reveals that it would not adversely impact the use of the site. *Modification:* The area of application for this stipulation may change based on future site development. *Waiver:* This stipulation will be waived if the site is no longer used for recreational or administrative purposes.
NSO-9	VRM Class I	31	*Stipulation:* No surface occupancy will be allowed within areas designated VRM Class I. *Exception:* The authorized officer may grant an exception if an environmental analysis of a proposed action reveals that these values would not be impacted, or that impacts could be adequately mitigated to protect the resource values identified for the designation. *Modification:* None *Waiver:* This stipulation may be waived if the authorized officer determines that there is no longer VRM Class I within the area of application.
CSU-1	VRM Class II	38,938	*Stipulation:* All surface-disturbing activities, semi-permanent and permanent facilities in VRM class II areas may require special design including location, painting, and camouflage to blend with the natural surroundings and meet the visual quality objectives of the area.

Stipulation	Protected Resource	Acres	Description
			Exception: None. *Modification:* None. *Waiver:* This stipulation may be waived if the authorized officer determines that there is no longer VRM Class II within the area of application.
CSU-3	SRMAs, Wild and Scenic River (Scenic, Recreational designation) SRMA with plans only and streams with designation 0.25-mile buffer.	23,404	*Stipulation:* No surface-disturbing activities semi-permanent and permanent facilities will be authorized which may adversely impact the use of these areas for recreation purposes. *Exception:* The authorized officer may grant an exception if environmental analysis indicates that a proposed action would not adversely impact recreational use. *Modification:* None. *Waiver:* None.
TL-1	Deer and Elk Winter Range	TBD*	*Stipulation:* No construction or development activities will be allowed within important deer or elk winter range between December 15 and March 31. These areas will be determined at the project level for site specific areas. *Exception:* The authorized officer may grant an exception if environmental analysis indicates that a proposed action would not adversely impact use of this habitat. *Modification:* Area of application for this stipulation may change based on monitoring and scientific research. *Waiver:* None
TL-2	Deer and Elk Fawning and Calving Areas	TBD*	*Stipulation:* No construction or development activities will be allowed within key deer or elk fawning or calving areas between May 15 and June 15. These areas will be determined at the project level for site specific areas.

Stipulation	Protected Resource	Acres	Description
			Exception: The authorized officer may grant an exception if environmental analysis indicates that a proposed action would not adversely impact fawning or calving. *Modification:* Area of application for this stipulation may change based on monitoring and scientific research. *Waiver:* None
TL-3	Bald Eagle Winter Feeding Area	TBD*	*Stipulation:* No ground-disturbing activity is allowed within winter feeding areas between November 1 and March 1. These areas will be determined at the project level for site specific areas. *Exception:* The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, the determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species. An exception may be granted by the authorized officer if concurrence is obtained from USFWS (through applicable provisions of the Endangered Species Act, Eagle Protection Act, or Migratory Bird Treaty Act), to interrupt feeding activities and/or cause short or long term adverse modification of suitable roost site characteristics. The Field Manger may also grant an exception if an environmental analysis (Biological Assessment and environmental assessment.) indicates that the nature or conduct of the action, as proposed or conditioned, would not impair the function or utility of the site for current or subsequent feeding activities. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment and environmental assessment. If warranted, re-initiation of consultation will also take place with USFWS. *Waiver*: The stipulation may be waived if the area is not used for winter range in the future. This applies to areas adjacent to mainstem rivers and other large water bodies.
Total NSO		**46,561**	**Total NSO**
Total CSU		**62,342**	**Total CSU**

Stipulation	Protected Resource	Acres	Description
Total TL		**TBD***	

*TBD = To be determined upon project-specific application of the stipulation.

APPENDIX M—BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND BEST MANAGEMENT PRACTICES (BMPs)

RECORD OF DECISION

Implementation of a Wind Energy Development Program and Associated Land Use Plan Amendments

DECEMBER 2005

U.S. Department of the Interior
Bureau of Land Management
Washington, D.C.

DEC 15 2005

Tom Lonnie
Assistant Director, Minerals, Realty and Resource Protection

Date

DEC 15 200

Ed Shepard
Assistant Director, Renewable Resources and Planning

Date

ATTACHMENT A

BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND BEST MANAGEMENT PRACTICES (BMPS)

The BLM's Wind Energy Development Program will establish a number of policies and BMPs, provided below, regarding the development of wind energy resources on BLM-administered public lands. The policies and BMPs will be applicable to all wind energy development projects on BLM-administered public lands. The policies address the administration of wind energy development activities, and the BMPs identify required mitigation measures that would need to be incorporated into project-specific Plans of Development (PODs) and right-of-way (ROW) authorization stipulations. Additional mitigation measures will be applied to individual projects, in the form of stipulations in the ROW authorization as appropriate, to address site-specific and species-specific issues.

These policies and BMPs were formulated through preparation of the Final Wind Energy PEIS (BLM 2005). The PEIS included detailed, comprehensive analysis of the potential impacts of wind energy development and relevant mitigation measures; reviews of existing, relevant mitigation guidance; and reviews of comments received during scoping and public review of the Draft PEIS.

A.1 Policies

- The BLM will not issue ROW authorizations for wind energy development on lands on which wind energy development is incompatible with specific resource values. Lands that will be excluded from wind energy site monitoring and testing and development include designated areas that are part of the National Landscape Conservation System (NLCS) (e.g., Wilderness Areas, Wilderness Study Areas, National Monuments, NCAs,[1] Wild and Scenic Rivers, and National Historic and Scenic Trails) and Areas of Critical Environmental Concern (ACECs).[2] Additional areas of land may be excluded from wind energy development on the basis of findings of resource impacts that cannot be mitigated and/or conflict with existing and planned multiple-use activities or land use plans.

- To the extent possible, wind energy projects shall be developed in a manner that will not prevent other land uses, including minerals extraction, livestock grazing, recreational use, and other ROW uses.

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[1] Wind energy development is permitted in one NCA, the California Desert Conservation Area (CDCA), in accordance with the provisions of the *California Desert Conservation Area Plan 1980, as Amended* (BLM 1999).

[2] Although the MPDS developed for this PEIS (Section 2.2.1 and Appendix B) did not exclude all of these lands at the screening level, they will be excluded from wind energy development.

- Entities seeking to develop a wind energy project on BLM-administered lands shall consult with appropriate federal, state, and local agencies regarding specific projects as early in the planning process as appropriate to ensure that all potential construction, operation, and decommissioning issues and concerns are identified and adequately addressed.

- The BLM will initiate government-to-government consultation with Indian Tribal governments whose interests might be directly and substantially affected by activities on BLM-administered lands as early in the planning process as appropriate to ensure that construction, operation, and decommissioning issues and concerns are identified and adequately addressed.

- Entities seeking to develop a wind energy project on BLM-administered lands, in conjunction with BLM Washington Office (WO) and Field Office (FO) staff, shall consult with the U.S. Department of Defense (DoD) regarding the location of wind power projects and turbine siting as early in the planning process as appropriate. This consultation shall occur concurrently at both the installation/field level and the Pentagon/BLM WO level. An interagency protocol agreement is being developed to establish a consultation process and to identify the scope of issues for consultation. Lands withdrawn for military purposes are under the administrative jurisdiction of the DoD or a military service and are not available for issuance of wind energy authorizations by the BLM.

- The BLM will consult with the U.S. Fish and Wildlife Service (USFWS) as required by Section 7 of the Endangered Species Act of 1973 (ESA). The specific consultation requirements will be determined on a project-by-project basis.

- The BLM will consult with the State Historic Preservation Office (SHPO) as required by Section 106 of the National Historic Preservation Act of 1966 (NHPA). The specific consultation requirements will be determined on a project-by-project basis. If programmatic Section 106 consultations have been conducted and are adequate to cover a proposed project, additional consultation may not be needed.

- Existing land use plans will be amended, as appropriate, to (1) adopt provisions of the BLM's Wind Energy Development Program, (2) identify land considered to be available for wind energy development, and (3) identify land that will not be available for wind energy development.

- The level of environmental analysis to be required under NEPA for individual wind power projects will be determined at the FO level. For many projects, it may be determined that a tiered environmental assessment (EA) is appropriate in lieu of an EIS. To the extent that the PEIS addresses anticipated issues and

concerns associated with an individual project, including potential cumulative impacts, the BLM will tier off of the decisions embedded in the PEIS and limit the scope of additional project-specific NEPA analyses. The site-specific NEPA analyses will include analyses of project site configuration and micrositing considerations, monitoring program requirements, and appropriate mitigation measures. In particular, the mitigation measures discussed in Chapter 5 of the PEIS may be consulted in determining site-specific requirements. Public involvement will be incorporated into all wind energy development projects to ensure that all concerns and issues are identified and adequately addressed. In general, the scope of the NEPA analyses will be limited to the proposed action on BLM-administered public lands; however, if access to proposed development on adjacent non-BLM-administered lands is entirely dependent on obtaining ROW access across BLM-administered public lands and there are no alternatives to that access, the NEPA analysis for the proposed ROW may need to assess the environmental effects from that proposed development. The BLM's analyses of ROW access projects may tier off of the PEIS to the extent that the proposed project falls within the scope of the PEIS analyses.

- Site-specific environmental analyses will tier from the PEIS and identify and assess any cumulative impacts that are beyond the scope of the cumulative impacts addressed in the PEIS.

- The Categorical Exclusion (CX) applicable to the issuance of short-term ROWs or land use authorizations may be applicable to some site monitoring and testing activities. The relevant CX, established for the BLM in the DOI Departmental Manual 516, Chapter 11, Sec. 11.5, E(19) (DOI 2004), encompasses "issuance of short-term (3 years or less) rights-of-way or land use authorizations for such uses as storage sites, apiary sites, and construction sites where the proposal includes rehabilitation to restore the land to its natural or original condition."

- The BLM will require financial bonds for all wind energy development projects on BLM-administered public lands to ensure compliance with the terms and conditions of the rights-of-way authorization and the requirements of applicable regulatory requirements, including reclamation costs. The amount of the required bond will be determined during the rights-of-way authorization process on the basis of site-specific and project-specific factors. The BLM may also require financial bonds for site monitoring and testing authorizations.

- Entities seeking to develop a wind energy project on BLM-administered public lands shall develop a project-specific Plan of Development (POD) that incorporates all BMPs and, as appropriate, the requirements of other existing and relevant BLM mitigation guidance, including the BLM's interim off-site mitigation guidance (BLM 2005a). Additional mitigation measures will be

incorporated into the POD and into the ROW authorization as project stipulations, as needed, to address site-specific and species-specific issues. The POD will include a site plan showing the locations of turbines, roads, power lines, other infrastructure, and other areas of short- and long-term disturbance.

- The BLM will incorporate management goals and objectives specific to habitat conservation for species of concern (e.g., sage-grouse), as appropriate, into the POD for proposed wind energy projects.

- The BLM will consider the visual resource values of the public lands involved in proposed wind energy development projects, consistent with BLM Visual Resource Management (VRM) policies and guidance. The BLM will work with the ROW applicant to incorporate visual design considerations into the planning and design of the project to minimize potential visual impacts of the proposal and to meet the VRM objectives of the area.

- Operators of wind power facilities on BLM-administered public lands shall consult with the BLM and other appropriate federal, state, and local agencies regarding any planned upgrades or changes to the wind facility design or operation. Proposed changes of this nature may require additional environmental analysis and/or revision of the POD.

- The BLM's Wind Energy Development Program will incorporate adaptive management strategies to ensure that potential adverse impacts of wind energy development are avoided (if possible), minimized, or mitigated to acceptable levels. The programmatic policies and BMPs will be updated and revised as new data regarding the impacts of wind power projects become available. At the project-level, operators will be required to develop monitoring programs to evaluate the environmental conditions at the site through all phases of development, to establish metrics against which monitoring observations can be measured, to identify potential mitigation measures, and to establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and project-specific stipulations.

A.2 Best Management Practices (BMPs)

The BMPs will be adopted as required elements of project-specific PODs and/or as ROW authorization stipulations. They are categorized by development activity: site monitoring and testing, development of the POD, construction, operation, and decommissioning. The BMPs for development of the POD identify required elements of the POD needed to address potential impacts associated with subsequent phases of development.

A.2.1 Site Monitoring and Testing

- The area disturbed by installation of meteorological towers (i.e., footprint) shall be kept to a minimum.

- Existing roads shall be used to the maximum extent feasible. If new roads are necessary, they shall be designed and constructed to the appropriate standard.

- Meteorological towers shall not be located in sensitive habitats or in areas where ecological resources known to be sensitive to human activities (e.g., prairie grouse) are present. Installation of towers shall be scheduled to avoid disruption of wildlife reproductive activities or other important behaviors.

- Meteorological towers installed for site monitoring and testing shall be inspected periodically for structural integrity.

A.2.2 Plan of Development Preparation

General

- The BLM and operators shall contact appropriate agencies, property owners, and other stakeholders early in the planning process to identify potentially sensitive land uses and issues, rules that govern wind energy development locally, and land use concerns specific to the region.

- Available information describing the environmental and sociocultural conditions in the vicinity of the proposed project shall be collected and reviewed as needed to predict potential impacts of the project.

- The Federal Aviation Administration (FAA)-required notice of proposed construction shall be made as early as possible to identify any air safety measures that would be required.

- To plan for efficient use of the land, necessary infrastructure requirements shall be consolidated wherever possible, and current transmission and market access shall be evaluated carefully.

- The project shall be planned to utilize existing roads and utility corridors to the maximum extent feasible, and to minimize the number and length/size of new roads, lay-down areas, and borrow areas.

- A monitoring program shall be developed to ensure that environmental conditions are monitored during the construction, operation, and

decommissioning phases. The monitoring program requirements, including adaptive management strategies, shall be established at the project level to ensure that potential adverse impacts of wind energy development are mitigated. The monitoring program shall identify the monitoring requirements for each environmental resource present at the site, establish metrics against which monitoring observations can be measured, identify potential mitigation measures, and establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and BMPs.

- "Good housekeeping" procedures shall be developed to ensure that during operation the site will be kept clean of debris, garbage, fugitive trash or waste, and graffiti; to prohibit scrap heaps and dumps; and to minimize storage yards.

Wildlife and Other Ecological Resources

- Operators shall review existing information on species and habitats in the vicinity of the project area to identify potential concerns.

- Operators shall conduct surveys for federal and/or state-protected species and other species of concern (including special status plant and animal species) within the project area and design the project to avoid (if possible), minimize, or mitigate impacts to these resources.

- Operators shall identify important, sensitive, or unique habitats in the vicinity of the project and design the project to avoid (if possible), minimize, or mitigate impacts to these habitats (e.g., locate the turbines, roads, and ancillary facilities in the least environmentally sensitive areas; i.e., away from riparian habitats, streams, wetlands, drainages, or critical wildlife habitats).

- The BLM will prohibit the disturbance of any population of federal listed plant species.

- Operators shall evaluate avian and bat use of the project area and design the project to minimize or mitigate the potential for bird and bat strikes (e.g., development shall not occur in riparian habitats and wetlands). Scientifically rigorous avian and bat use surveys shall be conducted; the amount and extent of ecological baseline data required shall be determined on a project basis.

- Turbines shall be configured to avoid landscape features known to attract raptors, if site studies show that placing turbines there would pose a significant risk to raptors.

- Operators shall determine the presence of bat colonies and avoid placing turbines near known bat hibernation, breeding, and maternity/nursery colonies; in known migration corridors; or in known flight paths between colonies and feeding areas.

- Operators shall determine the presence of active raptor nests (i.e., raptor nests used during the breeding season). Measures to reduce raptor use at a project site (e.g., minimize road cuts, maintain either no vegetation or nonattractive plant species around the turbines) shall be considered.

- A habitat restoration plan shall be developed to avoid (if possible), minimize, or mitigate negative impacts on vulnerable wildlife while maintaining or enhancing habitat values for other species. The plan shall identify revegetation, soil stabilization, and erosion reduction measures that shall be implemented to ensure that all temporary use areas are restored. The plan shall require that restoration occur as soon as possible after completion of activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.

- Procedures shall be developed to mitigate potential impacts to special status species. Such measures could include avoidance, relocation of project facilities or lay-down areas, and/or relocation of biota.

- Facilities shall be designed to discourage their use as perching or nesting substrates by birds. For example, power lines and poles shall be configured to minimize raptor electrocutions and discourage raptor and raven nesting and perching.

Visual Resources

- The public shall be involved and informed about the visual site design elements of the proposed wind energy facilities. Possible approaches include conducting public forums for disseminating information, offering organized tours of operating wind developments, and using computer simulation and visualization techniques in public presentations.

- Turbine arrays and turbine design shall be integrated with the surrounding landscape. Design elements to be addressed include visual uniformity, use of tubular towers, proportion and color of turbines, nonreflective paints, and prohibition of commercial messages on turbines.

- Other site design elements shall be integrated with the surrounding landscape. Elements to address include minimizing the profile of the ancillary structures, burial of cables, prohibition of commercial symbols, and lighting. Regarding

lighting, efforts shall be made to minimize the need for and amount of lighting on ancillary structures.

Roads

- An access road siting and management plan shall be prepared incorporating existing BLM standards regarding road design, construction, and maintenance such as those described in the BLM 9113 Manual (BLM 1985) and the *Surface Operating Standards for Oil and Gas Exploration and Development* (RMRCC 1989) (i.e., the Gold Book).

Ground Transportation

- A transportation plan shall be developed, particularly for the transport of turbine components, main assembly cranes, and other large pieces of equipment. The plan shall consider specific object sizes, weights, origin, destination, and unique handling requirements and shall evaluate alternative transportation approaches. In addition, the process to be used to comply with unique state requirements and to obtain all necessary permits shall be clearly identified.

- A traffic management plan shall be prepared for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan shall incorporate measures such as informational signs, flaggers when equipment may result in blocked throughways, and traffic cones to identify any necessary changes in temporary lane configuration.

Noise

- Proponents of a wind energy development project shall take measurements to assess the existing background noise levels at a given site and compare them with the anticipated noise levels associated with the proposed project.

Noxious Weeds and Pesticides

- Operators shall develop a plan for control of noxious weeds and invasive species, which could occur as a result of new surface disturbance activities at the site. The plan shall address monitoring, education of personnel on weed identification, the manner in which weeds spread, and methods for treating infestations. The use of certified weed-free mulching shall be required. If trucks and construction equipment are arriving from locations with known

invasive vegetation problems, a controlled inspection and cleaning area shall be established to visually inspect construction equipment arriving at the project area and to remove and collect seeds that may be adhering to tires and other equipment surfaces.

- If pesticides are used on the site, an integrated pest management plan shall be developed to ensure that applications would be conducted within the framework of BLM and DOI policies and entail only the use of EPA-registered pesticides. Pesticide use shall be limited to nonpersistent, immobile pesticides and shall only be applied in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.

Cultural/Historic Resources

- The BLM will consult with Indian Tribal governments early in the planning process to identify issues regarding the proposed wind energy development, including issues related to the presence of cultural properties, access rights, disruption to traditional cultural practices, and impacts to visual resources important to the Tribe(s).

- The presence of archaeological sites and historic properties in the area of potential effect shall be determined on the basis of a records search of recorded sites and properties in the area and/or, depending on the extent and reliability of existing information, an archaeological survey. Archaeological sites and historic properties present in the area of potential effect shall be reviewed to determine whether they meet the criteria of eligibility for listing on the *National Register of Historic Places* (NRHP).

- When any rights-of-way application includes remnants of a National Historic Trail, is located within the viewshed of a National Historic Trail's designated centerline, or includes or is within the viewshed of a trail eligible for listing on the NRHP, the operator shall evaluate the potential visual impacts to the trail associated with the proposed project and identify appropriate mitigation measures for inclusion as stipulations in the POD.

- If cultural resources are present at the site, or if areas with a high potential to contain cultural material have been identified, a cultural resources management plan (CRMP) shall be developed. This plan shall address mitigation activities to be taken for cultural resources found at the site. Avoidance of the area is always the preferred mitigation option. Other mitigation options include archaeological survey and excavation (as warranted) and monitoring. If an area exhibits a high potential, but no artifacts were observed during an archaeological survey, monitoring by a qualified archaeologist could be required during all excavation and

earthmoving in the high-potential area. A report shall be prepared documenting these activities. The CRMP also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of artifacts and destruction of property on public land.

Paleontological Resources

- Operators shall determine whether paleontological resources exist in a project area on the basis of the sedimentary context of the area, a records search for past paleontological finds in the area, and/or, depending on the extent of existing information, a paleontological survey.

- If paleontological resources are present at the site, or if areas with a high potential to contain paleontological material have been identified, a paleontological resources management plan shall be developed. This plan shall include a mitigation plan for collection of the fossils; mitigation could include avoidance, removal of fossils, or monitoring. If an area exhibits a high potential but no fossils were observed during survey, monitoring by a qualified paleontologist could be required during all excavation and earthmoving in the sensitive area. A report shall be prepared documenting these activities. The paleontological resources management plan also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of fossils on public land.

Hazardous Materials and Waste Management

- Operators shall develop a hazardous materials management plan addressing storage, use, transportation, and disposal of each hazardous material anticipated to be used at the site. The plan shall identify all hazardous materials that would be used, stored, or transported at the site. It shall establish inspection procedures, storage requirements, storage quantity limits, inventory control, nonhazardous product substitutes, and disposition of excess materials. The plan shall also identify requirements for notices to federal and local emergency response authorities and include emergency response plans.

- Operators shall develop a waste management plan identifying the waste streams that are expected to be generated at the site and addressing hazardous waste determination procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste

minimization procedures. This plan shall address all solid and liquid wastes that may be generated at the site.

- Operators shall develop a spill prevention and response plan identifying where hazardous materials and wastes are stored on site, spill prevention measures to be implemented, training requirements, appropriate spill response actions for each material or waste, the locations of spill response kits on site, a procedure for ensuring that the spill response kits are adequately stocked at all times, and procedures for making timely notifications to authorities.

Storm Water

- Operators shall develop a storm water management plan for the site to ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion.

Human Health and Safety

- A safety assessment shall be conducted to describe potential safety issues and the means that would be taken to mitigate them, including issues such as site access, construction, safe work practices, security, heavy equipment transportation, traffic management, emergency procedures, and fire control.

- A health and safety program shall be developed to protect both workers and the general public during construction, operation, and decommissioning of a wind energy project. Regarding occupational health and safety, the program shall identify all applicable federal and state occupational safety standards; establish safe work practices for each task (e.g., requirements for personal protective equipment and safety harnesses; Occupational Safety and Health Administration [OSHA] standard practices for safe use of explosives and blasting agents; and measures for reducing occupational electric and magnetic fields [EMF] exposures); establish fire safety evacuation procedures; and define safety performance standards (e.g., electrical system standards and lightning protection standards). The program shall include a training program to identify hazard training requirements for workers for each task and establish procedures for providing required training to all workers. Documentation of training and a mechanism for reporting serious accidents to appropriate agencies shall be established.

- Regarding public health and safety, the health and safety program shall establish a safety zone or setback for wind turbine generators from residences and occupied buildings, roads, rights-of-ways, and other public access areas that is sufficient to prevent accidents resulting from the operation of wind turbine generators. It shall identify requirements for temporary fencing

around staging areas, storage yards, and excavations during construction or decommissioning activities. It shall also identify measures to be taken during the operation phase to limit public access to hazardous facilities (e.g., permanent fencing would be installed only around electrical substations, and turbine tower access doors would be locked).

- Operators shall consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) shall be identified and addressed in the traffic management plan.

- If operation of the wind turbines is expected to cause significant adverse impacts to nearby residences and occupied buildings from shadow flicker, low-frequency sound, or EMF, site-specific recommendations for addressing these concerns shall be incorporated into the project design (e.g., establishing a sufficient setback from turbines).

- The project shall be planned to minimize electromagnetic interference (EMI) (e.g., impacts to radar, microwave, television, and radio transmissions) and comply with Federal Communications Commission [FCC] regulations. Signal strength studies shall be conducted when proposed locations have the potential to impact transmissions. Potential interference with public safety communication systems (e.g., radio traffic related to emergency activities) shall be avoided.

- The project shall be planned to comply with FAA regulations, including lighting regulations, and to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips.

- Operators shall develop a fire management strategy to implement measures to minimize the potential for a human-caused fire.

A.2.3 Construction

General

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the construction phase, as appropriate.

- The area disturbed by construction and operation of a wind energy development project (i.e., footprint) shall be kept to a minimum.

- The number and size/length of roads, temporary fences, lay-down areas, and borrow areas shall be minimized.

- Topsoil from all excavations and construction activities shall be salvaged and reapplied during reclamation.

- All areas of disturbed soil shall be reclaimed using weed-free native grasses, forbs, and shrubs. Reclamation activities shall be undertaken as early as possible on disturbed areas.

- All electrical collector lines shall be buried in a manner that minimizes additional surface disturbance (e.g., along roads or other paths of surface disturbance). Overhead lines may be used in cases where burial of lines would result in further habitat disturbance.

- Operators shall identify unstable slopes and local factors that can induce slope instability (such as groundwater conditions, precipitation, earthquake activities, slope angles, and the dip angles of geologic strata). Operators also shall avoid creating excessive slopes during excavation and blasting operations. Special construction techniques shall be used where applicable in areas of steep slopes, erodible soil, and stream channel crossings.

- Erosion controls that comply with county, state, and federal standards shall be applied. Practices such as jute netting, silt fences, and check dams shall be applied near disturbed areas.

Wildlife

- Guy wires on permanent meteorological towers shall be avoided, however, may be necessary on temporary meteorological towers installed during site monitoring and testing.

- In accordance with the habitat restoration plan, restoration shall be undertaken as soon as possible after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.

- All construction employees shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, pets shall not be permitted on site during construction.

Visual Resources

- Operators shall reduce visual impacts during construction by minimizing areas of surface disturbance, controlling erosion, using dust suppression techniques, and restoring exposed soils as closely as possible to their original contour and vegetation.

Roads

- Existing roads shall be used, but only if in safe and environmentally sound locations. If new roads are necessary, they shall be designed and constructed to the appropriate standard and be no higher than necessary to accommodate their intended functions (e.g., traffic volume and weight of vehicles). Excessive grades on roads, road embankments, ditches, and drainages shall be avoided, especially in areas with erodible soils. Special construction techniques shall be used, where applicable. Abandoned roads and roads that are no longer needed shall be recontoured and revegetated.

- Access roads and on-site roads shall be surfaced with aggregate materials, wherever appropriate.

- Access roads shall be located to follow natural contours and minimize side hill cuts.

- Roads shall be located away from drainage bottoms and avoid wetlands, if practicable.

- Roads shall be designed so that changes to surface water runoff are avoided and erosion is not initiated.

- Access roads shall be located to minimize stream crossings. All structures crossing streams shall be located and constructed so that they do not decrease channel stability or increase water velocity. Operators shall obtain all applicable federal and state permits.

- Existing drainage systems shall not be altered, especially in sensitive areas such as erodible soils or steep slopes. Potential soil erosion shall be controlled at culvert outlets with appropriate structures. Catch basins, roadway ditches, and culverts shall be cleaned and maintained regularly.

Ground Transportation

- Project personnel and contractors shall be instructed and required to adhere to speed limits commensurate with road types, traffic volumes, vehicle types,

and site-specific conditions, to ensure safe and efficient traffic flow and to reduce wildlife collisions and disturbance and airborne dust.

- Traffic shall be restricted to the roads developed for the project. Use of other unimproved roads shall be restricted to emergency situations.

- Signs shall be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information. To minimize impacts on local commuters, consideration shall be given to limiting construction vehicles traveling on public roadways during the morning and late afternoon commute time.

Air Emissions

- Dust abatement techniques shall be used on unpaved, unvegetated surfaces to minimize airborne dust.

- Speed limits (e.g., 25 mph [40 km/h]) shall be posted and enforced to reduce airborne fugitive dust.

- Construction materials and stockpiled soils shall be covered if they are a source of fugitive dust.

- Dust abatement techniques shall be used before and during surface clearing, excavation, or blasting activities.

Excavation and Blasting Activities

- Operators shall gain a clear understanding of the local hydrogeology. Areas of groundwater discharge and recharge and their potential relationships with surface water bodies shall be identified.

- Operators shall avoid creating hydrologic conduits between two aquifers during foundation excavation and other activities.

- Foundations and trenches shall be backfilled with originally excavated material as much as possible. Excess excavation materials shall be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities.

- Borrow material shall be obtained only from authorized and permitted sites. Existing sites shall be used in preference to new sites.

- Explosives shall be used only within specified times and at specified distances from sensitive wildlife or streams and lakes, as established by the BLM or other federal and state agencies.

Noise

- Noisy construction activities (including blasting) shall be limited to the least noise-sensitive times of day (i.e., daytime only between 7 a.m. and 10 p.m.) and weekdays.

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. All construction equipment used shall be adequately muffled and maintained.

- All stationary construction equipment (i.e., compressors and generators) shall be located as far as practicable from nearby residences.

- If blasting or other noisy activities are required during the construction period, nearby residents shall be notified in advance.

Cultural and Paleontological Resources

- Unexpected discovery of cultural or paleontological resources during construction shall be brought to the attention of the responsible BLM authorized officer immediately. Work shall be halted in the vicinity of the find to avoid further disturbance to the resources while they are being evaluated and appropriate mitigation measures are being developed.

Hazardous Materials and Waste Management

- Secondary containment shall be provided for all on-site hazardous materials and waste storage, including fuel. In particular, fuel storage (for construction vehicles and equipment) shall be a temporary activity occurring only for as long as is needed to support construction activities.

- Wastes shall be properly containerized and removed periodically for disposal at appropriate off-site permitted disposal facilities.

- In the event of an accidental release to the environment, the operator shall document the event, including a root cause analysis, appropriate corrective actions taken, and a characterization of the resulting environmental or health and safety impacts. Documentation of the event shall be provided to the BLM authorized officer and other federal and state agencies, as required.

- Any wastewater generated in association with temporary, portable sanitary facilities shall be periodically removed by a licensed hauler and introduced into an existing municipal sewage treatment facility. Temporary, portable sanitary facilities provided for construction crews shall be adequate to support expected on-site personnel and shall be removed at completion of construction activities.

Public Health and Safety

- Temporary fencing shall be installed around staging areas, storage yards, and excavations during construction to limit public access.

A.2.4 Operation

General

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the operational phase, as appropriate. These control and mitigation measures shall be reviewed and revised, as needed, to address changing conditions or requirements at the site, throughout the operational phase. This adaptive management approach would help ensure that impacts from operations are kept to a minimum.

- Inoperative turbines shall be repaired, replaced, or removed in a timely manner. Requirements to do so shall be incorporated into the due diligence provisions of the rights-of-way authorization. Operators will be required to demonstrate due diligence in the repair, replacement, or removal of turbines; failure to do so could result in termination of the rights-of-way authorization.

Wildlife

- Employees, contractors, and site visitors shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, any pets shall be controlled to avoid harassment and disturbance of wildlife.

- Observations of potential wildlife problems, including wildlife mortality, shall be reported to the BLM authorized officer immediately.

Ground Transportation

- Ongoing ground transportation planning shall be conducted to evaluate road use, minimize traffic volume, and ensure that roads are maintained adequately to minimize associated impacts.

Monitoring Program

- Site monitoring protocols defined in the POD shall be implemented. These will incorporate monitoring program observations and additional mitigation measures into standard operating procedures and BMPs to minimize future environmental impacts.

- Results of monitoring program efforts shall be provided to the BLM authorized officer.

Public Health and Safety

- Permanent fencing shall be installed and maintained around electrical substations, and turbine tower access doors shall be locked to limit public access.

- In the event an installed wind energy development project results in EMI, the operator shall work with the owner of the impacted communications system to resolve the problem. Additional warning information may also need to be conveyed to aircraft with onboard radar systems so that echoes from wind turbines can be quickly recognized.

A.2.5 Decommissioning

General

- Prior to the termination of the rights-of-way authorization, a decommissioning plan shall be developed and approved by the BLM. The decommissioning plan shall include a site reclamation plan and monitoring program.

- All management plans, BMPs, and stipulations developed for the construction phase shall be applied to similar activities during the decommissioning phase.

- All turbines and ancillary structures shall be removed from the site.

- Topsoil from all decommissioning activities shall be salvaged and reapplied during final reclamation.

- All areas of disturbed soil shall be reclaimed using weed-free native shrubs, grasses, and forbs.

- The vegetation cover, composition, and diversity shall be restored to values commensurate with the ecological setting.

APPENDIX N—LAND TENURE ADJUSTMENTS

Table N-1
Management Blocks Ratings for Resource Values

RESOURCE	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
Forestry	n/a	H	M	n/a	n/a	H	H	M	H	H	H	L
Range	L	H	L	H	H	H	M	M	M	M	M	M
Wildlife	M	H	H	H	M	M	M	H	H	H	M	M
Fisheries	M	H	M	M	M	M	M	M	M	M	M	M
Watershed	M	H	M	M	M	M	M	M	M	H	H	M
Recreation	H	H	H	H	H	M	M	M	M	M	M	M
Cultural	H	M	H	H	H	H	L	L	L	M	H	M
Minerals	L	L	L	L	M	L	L	L	L	L	H	H
Special Status Plants	M	M	H	H	H	L	L	L	L	L	L	L
Special Status Animals	M	L	M	M	M	L	M	L	L	M	M	M
Special Status Fish	H	H	M	H	H	M	H	H	L	H	H	H
Overall Priority for Acquisitions	L-M	H	M-H	H	M-H	M	M	L-M	L	M	M	L
Acres of BLM Land	4,032	5,340	25,133	14,145	6,697	2,713	4,556	9,551	4,876	9,665	11,720	12,999

Management Blocks
#1—Clearwater River
#2—Lolo Creek
#3—Craig Mountain Wildlife Management Area
#4—Lower Salmon River, Hammer Creek to Snake River
#5—Lower Salmon River, French Creek to Hammer Creek
#6—Camp Howard Ridge
#7—John Day Creek
#8—Warm Springs
#9—Denny Creek
#10—Bally Mountain
#11—Elk City
#12—Marshall Mountain

L = Low Value
M = Medium Value
H = High Value

There are approximately 113,728 acres of public land located within Management Blocks.
There are approximately 30,098 acres of public land located outside of Management Blocks.