United States Department of the Interior

Bureau of Land Management

PROPOSED
Cottonwood Resource Management Plan and Final Environmental Impact Statement

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Volume III - Appendices L-W

June 2008

BLM

Cottonwood Field Office

It is the mission of the Bureau of Land Management to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations.

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LIST OF ACRONYMS

Acronym or Abbreviation	Full Phrase
ACEC	Area of Critical Environmental Concern
AML	abandoned mine lands
ASQ	allowable sale quantity
AUM	animal unit month
BLM	United States Department of the Interior, Bureau of Land Management
BMP	best management practice
BP	before present
CEQ	Council on Environmental Quality
CFO	United States Department of the Interior, Bureau of Land Management, Coeur d'Alene District, Cottonwood Field Office
CFR	Code of Federal Regulations
CO	carbon monoxide
CSU	Controlled Surface Use
~~DBH~~	~~diameter at breast height~~
DFC	desired future condition
EIS	environmental impact statement
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act
FMP	Fire Management Plan
~~FMU~~FMA	fire management ~~unit~~area
Forest Service	United States Department of Agriculture, Forest Service
FRCC	fire regime condition class
GAP	Gap Analysis Program
GIS	geographic information system
HMM	Hazardous Materials Management
HMP	habitat management plan
HUC	hydrologic unit code
ICBEMP	Interior Columbia Basin Ecosystem Management Project
IDEQ	Idaho Department of Environmental Quality
INFISH	Inland Native Fish Strategy
MBF	thousand board feet
MMBF	million board feet
MFP	Management Framework Plan
National Marine Fisheries Service	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NEPA	National Environmental Policy Act
NRCS	United States Department of Agriculture, Natural Resources Conservation Service
NSO	No Surface Occupancy
NWSRS	National Wild and Scenic Rivers System

Acronym or Abbreviation	Full Phrase
OHV	off-highway vehicle
PACFISH	Interim Strategies for Managing Anadromous Fish-Producing Watersheds In Eastern Oregon and Washington, Idaho, and Portions of California
PFC	Proper Functioning Condition
planning area	CFO RMP planning area
PM_{10}	particulate matter with a diameter less than 10 micrometers
$PM_{2.5}$	particulate matter with a diameter less than 2.5 micrometers
PSQ	probable sale quantity
PVG	Potential Vegetation Group
RCA	Riparian Conservation Area
RHCA	Riparian Habitat Conservation Areas
RMP	resource management plan
RNA	Research Natural Area
ROD	record of decision
ROS	Recreation Opportunity Spectrum
SRMA	Special Recreation Management Area
TL	Timing Limitation
TMDL	total maximum daily load
US	United States
US EPA	Unites States Environmental Protection Agency
USFWS	United States Department of the Interior, Fish and Wildlife Service
VRM	Visual Resource Management
WMA	Wildlife Management Area
WSA	Wilderness Study Area
WSR Act	Wild and Scenic Rivers Act
WUI	wildland-urban interface

APPENDIX L

APPENDIX L—BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND BEST MANAGEMENT PRACTICES—ALTERNATIVES B, C, AND D

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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 1 5 2005

Tom Lonnie
Assistant Director, Minerals, Realty and Resource Protection

Date

DEC 1 5 200

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 M

APPENDIX M—LAND TENURE ADJUSTMENTS—ALTERNATIVES B, C, AND D

Table M-1
Management Blocks Ratings for Resource Values—Alternatives B, C, and D

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	4,231	5,259	24,884	16,424	6,858	2,713	4,556	9,549	4,876	9,665	11,719	12,995

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.

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APPENDIX N

APPENDIX N—RELEVANCE AND IMPORTANCE EVALUATIONS OF AREAS OF CRITICAL ENVIRONMENTAL CONCERN NOMINATIONS

SUMMARY

This reports documents the evaluation of 16 Areas of Critical Environmental Concern (ACEC) nominations reviewed as part of the Cottonwood Resource Management Plan (RMP). These areas will be considered further as alternatives are developed for the plan and preparation of the environmental impact statement (EIS). These areas include existing and new nominations for ACEC designation. To be considered further, areas must be located on public land administered by the Bureau of Land Management (BLM) and meet the relevance and importance criteria described in the *BLM Manual 1613 – Areas of Critical Environmental Concern* (BLM 1988).

This evaluation does not designate any of the areas as ACECs. Potential ACECs are proposed for designation if the analysis in the RMP/EIS shows that special management is required to protect the relevant and important values. Designation of proposed ACECs occurs when the Record of Decision is signed, and the RMP/EIS is approved.

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List of Maps (Appendix N-2):

1 Wapshilla Ridge ACEC/RNA
2 Captain John Creek ACEC/RNA
3 Lower and Middle Cottonwood Islands ACEC/RNA
4 Skookumchuck and Long Gulch ACEC/RNAs
5 Lucille Caves ACEC/RNA
6 Craig Mountain ACEC/RNA
7 Upper and Lower Lolo Creek ACEC
8 Lower Salmon River ACEC (Confluence to White Bird Creek)
9 Little Salmon River ACEC
10 Upper Salmon River ACEC (White Bird Creek to French Creek)
11 Partridge/Elkhorn ACEC
12 Elk City American Hill Lake, East Fork American River Historic Sites District ACECs

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INTRODUCTION

The Federal Land Policy and Management Act (FLPMA) states that the Bureau of Land Management (BLM) will give priority to the designation and protection of Areas of Critical Environmental Concern (ACECs) in the development and revision of Land Use Plans. Land Use Plans in the BLM are known as Resource Management Plans (RMPs), and the Cottonwood Field Office (CFO) is currently in the multi-year process of developing such a plan. This RMP will replace the Chief Joseph Management Framework Plan (MFP) that was approved in 1981 and predated BLM's current planning system. In 1981, the BLM did not identify specific areas for ACEC designation. In 1989, the BLM completed a Land Use Plan amendment which designated ten areas as ACECs or ACEC/Research Natural Areas (RNAs).

This report will evaluate existing ACECs and identify proposed changes to reflect changes in management and resource conditions and if such designation is still warranted and will also evaluate new proposed ACECs. This report summarizes the relevance and importance evaluation for 16 nominated ACECs (includes ten existing ACECs) located on land administered by the BLM's CFO. These evaluations have been completed in accordance with guidance provided in *BLM Manual 1613 – Areas of Critical Environmental Concern*. Five of the existing ACECs are proposed for modification because of changed conditions. A total of 16 existing and new nominations will be considered further in the RMP to determine whether they warrant designation as ACECs.

WHAT IS AN AREA OF CRITICAL ENVIRONMENTAL CONCERN?

BLM regulations (43 CFR 1610) define an ACEC as an area "within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards." Therefore, private lands and lands administered by other agencies are not included in the boundaries of the ACECs. The ACEC designation indicates to the public that the BLM recognizes that an area has significant values and has established special management measures to protect those values. In addition, ACEC designation also serves as a reminder that significant values(s) or resource(s) exist which must be accommodated when future management actions and land use proposals are considered near or within an ACEC. Designation may also support a funding priority.

ACECs differ from other special management designations such as Wilderness Study Areas in that designation by itself does not automatically prohibit or restrict other uses in the area. The one exception is that a mining plan of operation is required for any proposed mining activity within a designated ACEC. The ACEC designation is an administrative designation that is accomplished through the land use planning process. It is unique to the BLM in that no other agency uses this form of designation. The intent of Congress in mandating the designation of ACECs through FLPMA was to give priority to the designation and protection of areas containing unique and significant resource values.

This document will not evaluate specific RNAs, however, in 1989 several areas were designated ACEC/RNA. RNA designation must meet one or more of the following characteristics: (1) A typical representation of a common plant or animal association; (2) an unusual plant or animal association; (3) a threatened or endangered plant or animal species; (4) a typical representation of common geological, soil, or water features; or (5) outstanding or unusual geologic, soil, or water features.

THE AREA OF CRITICAL ENVIRONMENTAL CONCERN PROCESS

There are several steps in the identification and evaluation of ACECs. These steps include: (1) Evaluation of existing ACECs that need modification because of changed conditions which affect the relevance and importance criteria; (2) Nomination of new areas that may meet the relevance and importance criteria; (3) Evaluation of the nominated areas to determine if they meet the relevance and importance criteria; and (4) Consideration of the potential ACECs as alternative management scenarios are formulated and effects are analyzed in the Draft RMP/EIS (**Appendix N-1**). ~~When released, t~~The Draft RMP/EIS ~~will~~ contained recommendations on which potential ACECs ~~are~~ were proposed for designation, and public comment ~~will be~~was requested. Public comments ~~are~~ were reviewed and considered, and adjustments ~~are~~ were made as necessary in developing ~~before~~ the Proposed RMP/Final EIS ~~is released~~. Designation of ACECs will ~~then~~ occur in the Record of Decision approving the RMP. Each of these steps is briefly described below.

Identification/Nomination

ACECs can be nominated at anytime, but are only designated through the BLM's land use planning process. Nominations from the public are generally solicited as part of the scoping process during development of a RMP for a particular area. BLM requested that ACEC comments and nominations to be considered in the CFO planning process be submitted by November 15, 2004. However, ACEC nominations can continue to be submitted after this deadline and those received early enough in the process will also be reviewed. Nominations received after the end of the 90-day public comment period on the Draft EIS ~~will not be~~were not considered in this planning cycle.

Evaluation of Nominations for Relevance and Importance

Nominations are evaluated to determine whether they meet the relevance and importance criteria. The relevance and importance criteria are detailed in **Appendix N-1**. A nomination must meet one or more of both the relevance and importance criteria to be considered a potential ACEC. Potential ACECs are then considered further in the planning process.

Consideration of Potential Areas of Critical Environmental Concern

Potential ACECs are considered as the RMP alternatives are being developed. Each potential ACEC is proposed for designation in at least one of the RMP alternatives. The need for special management and the resulting effects from applying such management are assessed in the environmental analysis. After completing the analysis of the effects of each alternative, the preferred plan alternative identifies which potential ACECs are proposed for designation.

Comment on Proposed Areas of Critical Environmental Concern

A notice of any areas proposed for ACEC designation is published in the *Federal Register* along with a Notice of Availability of the Draft RMP/EIS in which public comments are requested. The public may comment on any aspect of the ACEC analysis at this point in the planning process. These comments are then considered in preparation of the Proposed RMP/Final EIS. After a 30-day protest period, a Record of Decision is prepared, and the plan is approved.

Designation

A potential ACEC is proposed for designation if the area requires special management. Special management is defined as management outside of standard or routine practices, and usually includes more detail than other prescriptions contained within the plan. Special management is usually needed when one of the following conditions is met:

- Current management or management activities proposed in the alternative are not sufficient to protect the relevant and important resource.
- The needed management action is considered unusual or outside of the normal range of management practices typically used.
- The change in management is difficult to implement without ACEC designation. If analysis determines that special management is required, the area is recommended for designation. Designation of ACECs occurs when the Record of Decision is signed approving the RMP.

BACKGROUND

Upon approval in 1981, the Chief Joseph MFP did not identify or evaluate areas for ACEC designation. A plan amendment was completed for the Chief Joseph MFP in 1989, and ten areas were designated as Research Natural Areas (RNAs) and/or Areas of Critical Environmental Concern (ACECs). The ten designated RNAs and/or ACECs are identified in **Table N-1**.

Table N-2
Designated ACEC/RNAs in CFO

Name	Acres	Designation
1 - Wapshilla Ridge	401	ACEC/RNA
2 - Lower and Middle Cottonwood Islands	43	ACEC/RNA
3 – Captain John Creek	1,321	ACEC/RNA
4 – Long Gulch	47	ACEC/RNA
5 - Lucile Caves	404	ACEC/RNA
6 – Skookumchuck	28	ACEC/RNA
7 – Craig Mountain	3,956	ACEC
8 – Elk City/American Hill Lake	30	ACEC
9 - Lower Lolo Creek	3,678	ACEC
10 – Lower Salmon River (Confluence to White Bird Creek)	15,702	ACEC
TOTAL ACRES	**25,600**	

The current RMP effort solicited nominations from the public as specified by BLM policy on areas that should receive consideration under the ACEC guidance. Scoping for the CFO RMP was initiated with publication of the Notice of Intent in the *Federal Register* on September 3, 2004. Subsequent mailings and public meetings occurred in the fall of 2004, and comments were solicited from the public on issues and planning criteria as well as nominations for consideration in the BLM's ACEC and Wild and Scenic River review process. As the planning process moved beyond the early stages of scoping toward alternative development, the public was notified that nominations received after the close of the 90 day public comment period on the Draft EIS would not be evaluated in the current RMP, but would have to be addressed in a later amendment. As part of the analysis of the management situation, BLM planning team members also submitted areas for consideration. ACEC planning team meetings were held in December 2004 and January 2005, where additional areas were submitted for consideration and evaluation.

IMPORTANCE AND RELEVANCE EVALUATIONS

The information below summarizes the importance and relevance evaluations which were conducted for each of the nominated areas. Areas evaluated are organized as follows: (1) existing ACECs moving forward, and (2) new ACEC nominations. Maps are included in **Appendix N-2** for the 16 nominations moving forward as potential ACECs for further consideration. These include:

- Wapshilla Ridge (existing ACEC/RNA);
- Captain John Creek (existing ACEC/RNA);
- Lower and Middle Cottonwood Islands (existing ACEC/RNA);
- Skookumchuck (existing ACEC/RNA – proposed reduction);
- Long Gulch (existing ACEC/RNA);
- Lucile Caves (existing ACEC/RNA - proposed reduction);
- Craig Mountain (existing ACEC - proposed additions);
- Upper Lolo Creek (new);
- Lower Lolo Creek (existing ACEC);
- Lower Salmon River – Confluence to White Bird Creek (existing ACEC – proposed additions);
- Little Salmon River (new);
- Upper Salmon River – White Bird Creek to French Creek (new);
- Partridge/Elkhorn (new);
- Elk City/American Hill Lake (existing ACEC);
- East Fork American River (new); and
- American River Historic Sites District (new).

Wapshilla Ridge

Description of the Area: This area was designated as an ACEC/RNA in 1989 and is located approximately 40 air-miles southeast of Lewiston, Idaho, and occurs within the Craig Mountain Wildlife Management Area. The area occurs on the ridge/divide between the Snake and Salmon Rivers. The vegetation in the area is primarily composed of excellent condition representative native canyon grassland plant communities, while northerly aspects are timbered with Douglas-fir and ponderosa pine.

This area includes 401 acres and is located in portions of Sections 14 and 15, T. 30 N., R. 4 W. (see **Appendix N-2**, **Map 1**).

Relevance Criteria: This area meets the relevance criteria as a natural process or system. The Wapshilla Ridge area supports the ecological processes associated with representative plant communities for the Tri-State Uplands Section of the Columbia Intermontane Geomorphic Province. A population of the Simpson's hedgehog cactus, a BLM Idaho Watch Species, occurs in the area.

Importance Criteria: The area meets the importance criteria for natural processes which are vulnerable to adverse changes, particularly non-native plant (noxious and other weeds) encroachment into native grasslands. The area has more than locally significant qualities because it has been previously identified as a RNA because it is a good representative area of a native canyon grassland (e.g., bluebunch wheatgrass and Idaho fescue habitat types) occurring on basalt parent material. Designation of the area filled a needed vegetative type (cell) for Idaho RNAs.

Findings: This existing ACEC/RNA meets the relevance and importance criteria for a natural process and will be carried forward for additional analysis and consideration in the draft RMP/EIS.

Lower and Middle Cottonwood Islands

Description of the Area: This area was designated as an ACEC/RNA in 1989 and is located approximately 19 air-miles northeast of Lewiston, Idaho. Lower Cottonwood Island (River Mile 19.2) and Middle Cottonwood Island (River Mile 19.5) are located in the Clearwater River. The area is currently managed under a cooperative BLM and Idaho Department of Fish and Game Habitat Management Plan and Sikes Act Agreement (BLM and Idaho Department of Fish and Game 1981). When designated, these islands had excellent condition plant communities of ponderosa pine/bluebunch wheatgrass and coyote willow and had high values for research reference areas. Very little information is available on plant communities that occupy islands and shorelines of Columbia River tributaries, considering how much of this habitat has been altered by dams and reservoirs. The islands provide valuable nesting habitat for waterfowl (geese and ducks). The federally listed bald eagle utilizes the Clearwater River corridor during the winter, and larger trees are utilized for roosting. The Clearwater River contains high value fisheries resources for federally listed fall chinook salmon, steelhead trout, bull trout, and BLM sensitive fish.

The area includes 43 acres and is located in Section 33 (two unsurveyed islands), T. 37 N., R. 3 W. (see **Appendix N-2**, **Map 3**).

Relevance Criteria: The area meets the relevance criteria for a natural process or system. These Clearwater River islands contain valuable natural processes, which includes riverine, riparian, and remnant Palouse grassland plant community types.

Importance Criteria: The area meets the importance criteria, because the natural processes are vulnerable to changes, with non-native (noxious and other weeds) plant infestations being the highest threat.

Findings: This existing ACEC/RNA meets the relevance and importance criteria for natural processes and will be carried forward for additional analysis and consideration in the draft RMP/EIS.

Captain John Creek

Description of the Area: This area was designated as an ACEC/RNA in 1989 and is located approximately 16 air-miles southeast of Lewiston, Idaho, and occurs within the Craig Mountain Wildlife Management Area. The area is currently managed under a cooperative BLM and Idaho Department of Fish and Game Habitat Management Plan and Sikes Act Agreement. When designated, the area contained near pristine representative plant communities and supports the ecological processes for the Tri-State Uplands Section of the Columbia Intermontane Geomorphic Province. Plant communities represented include Douglas-fir, bluebunch wheatgrass, Idaho fescue, and riparian habitats. The area occurs within the Captain John Creek drainage and provides habitat for the federally listed spring/summer chinook salmon and steelhead trout. The steep and rugged topography has restricted past land uses (e.g., timber harvest, roading), and this area is currently not leased for livestock grazing. The area provides important habitat for a variety of BLM sensitive wildlife and plants. In addition, the area is utilized by a variety of non-game species, upland game, and big game species (i.e., bighorn sheep, elk, mule deer, mountain lion, and black bear).

The area includes 1,321 acres and is located in Sections 3, 4, 5, and 8, T. 32 N., R. 4 W. and Sections 33 and 34, T. 33 N., R. 3 W. (see **Appendix N-2**, **Map 2**).

Relevance Criteria: The area meets the relevance criteria, because it provides habitat for federally listed steelhead trout and spring/summer chinook salmon, BLM sensitive wildlife, fish, amphibians, and reptiles, important wildlife habitat areas, natural processes, and BLM sensitive plants.

Importance Criteria: The area meets the importance criteria, because its fisheries, wildlife, and natural processes are vulnerable to adverse changes. Non-native (noxious and other weeds) plant infestations have encroached on native grasslands in the area.

Findings: This existing ACEC/RNA meets the relevance and importance criteria for a natural process and will be carried forward for additional analysis and consideration in the draft RMP/EIS.

Long Gulch

Description of the Area: This area was designated as an ACEC/RNA in 1989 and is located approximately 13 air-miles south of White Bird, Idaho. MacFarlane's four-o'clock, a federally listed plant occurs in the area. The BLM is currently managing the area in accord with a Habitat

Management Plan developed in 1981 and MacFarlane's four-o'clock recovery plan guidance (USFWS 2000, USFWS 1985). The BLM constructed a fence around the site in 1981 and cancelled livestock grazing. The area has established long term trend and condition monitoring. The BLM has initiated noxious and other weed control projects in the area.

The area includes 47 acres and is located in Section 1, T. 26 N., R. 1 E. (see **Appendix N-2**, **Map 4**).

Relevance Criteria: The area meets the relevance criteria, because it provides habitat for a population of the federally listed MacFarlane's four-o'clock which is endemic to the canyon grasslands found in the Lower Salmon River, Snake River, and Imnaha River canyons.

Importance Criteria: The area meets the importance criteria, because it has regional significance for providing habitat for a federally listed plant which is vulnerable to adverse impacts. The population of MacFarlane's four-o'clock occurring in this area is threatened by adverse changes, particularly encroachment of non-native (noxious and other weeds) plant species (e.g., yellow starthistle, Dalmatian toadflax, and rush skeletonweed) into native grassland habitats.

Findings: This existing ACEC/RNA meets the relevance and importance criteria for the federally listed MacFarlane's four-o'clock and natural processes and will be carried forward for additional analysis and consideration in the draft RMP/EIS.

Lucile Caves

Description of the Area: This area was designated as an ACEC/RNA in 1989 and totals 438 acres and is located approximately nine air-miles north of Riggins, Idaho. The area provides floristic and geologic components that are unique on a regional basis. The area has a transplant population of the federally listed plant MacFarlane's four-o'clock. The area also contains several Idaho BLM sensitive plant species and Idaho BLM sensitive land snails. Lucile Caves provides a unique example of a wet limestone cave environment along with associated vegetation and vegetative communities of the Lower Salmon River drainage. The area is currently managed under a cooperative BLM and Idaho Department of Fish and Game Habitat Management Plan and Sikes Act Agreement that was developed in 1985 and in accord with MacFarlane's four-o'clock Recovery Plans (USFWS 2000, USFWS 1985). ACEC/RNA designation of this area is necessary for the protection, maintenance, and enhancement of the area, as well as to provide an education, research, and reference area. During June 1987, 15 acres of the most sensitive areas (e.g., spring, cave area) was fenced to exclude livestock grazing. The majority of the area is still leased for livestock grazing.

It is proposed to reduce the size of the ACEC/RNA from 404 acres to 136 acres, because additional studies, surveys, and monitoring have determined that portions of the area currently do not fully meet the relevance and importance criteria for the original designation. The new proposed area includes 136 acres located in Sections 2 and 11, T. 25 N., R. 1 E. (see **Appendix N-2**, **Map 5**).

Relevance Criteria: The area meets the relevance criteria, because it provides habitat for a population of the federally listed MacFarlane's four-o'clock which is endemic to the canyon grasslands found in the Lower Salmon River, Snake River, and Imnaha River canyons. The area also

meets the relevance criteria because of the natural processes (e.g., riparian, canyon upland plant communities) and occurrences of Idaho BLM sensitive wildlife, land snails, and plants. The geology, limestone cave, and large limestone spring are unique for the area.

Importance Criteria: The area meets the importance criteria, because it has regional and state wide significance for providing habitat for a federally listed plant, BLM sensitive wildlife, plants, and snails, and natural processes. The area is vulnerable to adverse changes, which may occur from human use of a fragile environment (e.g. limestone cave) and non-native (noxious and other weeds) plant encroachment into the area.

Findings: It is proposed to reduce the size of the existing ACEC/RNA from 404 acres to 136 acres. The supporting rationale for the reduction was that updated inventory and analysis has determined that portions of the area did not fully meet the relevance and importance criteria identified for the original designation. Portions (i.e., 136 acres) of this existing ACEC/RNA meets the relevance and importance criteria for a federally listed plant, BLM sensitive wildlife, snails, plants, geology, and natural processes and will be carried forward for additional analysis and consideration in the draft RMP/EIS.

Skookumchuck

Description of the Area: This area was designated as an ACEC/RNA in 1989 and totals 28 acres and is located approximately 3.5 air-miles south of White Bird, Idaho. MacFarlane's four-o'clock, a federally listed plant occurs in the area. The area is located between US Highway 95 and the old US Highway 95 which parallels the Salmon River. The BLM is currently managing the area in accord with a Habitat Management Plan developed in 1983 and under the MacFarlane's four-o'clock recovery plan guidance (USFWS 2000, USFWS 1985). Steep slopes and being located between two highways has restricted cattle grazing in the area. The listed plant population is in close proximity to US Highway 95, and the BLM has coordinated with the Idaho Transportation Department to control undesired vegetation along this short stretch (0.25-mile) of highway. A risk had been identified in regards to accidental herbicide drift reaching the population. The BLM is responsible for conducting weed control along the highway right-of-way in this area and has done weed control to reduce infestations into the MacFarlane four-o'clock population.

It is proposed to reduce the size of the ACEC/RNA from 28 acres to 18 acres, because updated mapping and acreage computation has determined that the correct acreage should be 18 acres. The new proposed area includes 18 acres located in Section 3, T. 27 N., R. 1 E., and Section 34, T. 28 N., R. 1 E. (see **Appendix N-2**, **Map 4**).

Relevance Criteria: The area meets the relevance criteria, because it provides habitat for a population of the federally listed MacFarlane's four-o'clock which is endemic to the canyon grasslands found in the Lower Salmon River, Snake River, and Imnaha River canyons.

Importance Criteria: The area meets the importance criteria, because it has regional significance for providing habitat for a federally listed plant which is vulnerable to adverse impacts. The population of MacFarlane's four-o'clock occurring in this area is at threat to adverse changes,

particularly from encroachment of non-native (noxious and other weeds) plant species (e.g., yellow starthistle and Dalmatian toadflax) into native grassland habitats.

Findings: This existing ACEC/RNA with the updated corrected acreage of 18 acres, meets the relevance and importance criteria for the federally listed MacFarlane's four-o'clock and natural process and will be carried forward for additional analysis and consideration in the draft RMP/EIS.

Craig Mountains

Description of the Area: This area was designated as an ACEC in 1989 and is located approximately 12 air-miles south of Lewiston, Idaho, and occurs within the Craig Mountain Wildlife Management Area. This area contains important wildlife, fisheries, ecological, recreational, scenic, cultural, and historical resources. Idaho Department of Fish and Game has acquired a large amount of lands in the Craig Mountain Wildlife Management Area since the original ACEC designation. The Wildlife Management Area now encompasses a large amount of additional intermingled and acquired BLM lands. The Craig Mountain Wildlife Management Area is the largest Idaho Department of Fish and Game Wildlife Management Area in Idaho. At the time of ACEC designation, the largest area managed by The Nature Conservancy in the state of Idaho also occurred in this area. The BLM has since acquired the majority of The Nature Conservancy lands in the area. With the recent Idaho Department of Fish and Game and BLM acquisitions in the area, a Memorandum of Understanding for the Craig Mountain Cooperative Management Area was developed in 1997 between BLM, Idaho Department of Fish and Game, The Nature Conservance, and Idaho Department of Lands. This Memorandum of Understanding provides a framework for coordination and cooperation between the agencies.

The existing ACEC includes 3,956 acres and is located in the following areas:

T. 31 N., R. 4 W., Sections 5, 6, 8, and 17
T. 32 N., R. 4 W., Sections 6, 7, 17, 18, 19, 20, and 31
T. 33 N., R. 4 W., Sections 20, 29, and 34
T. 31 N., R. 5 W., Sections 1, 3, and 12
T. 32 N., R. 5 W., Sections 11, 13, 14, 15, 22, 23, 24, 25, 26, 29, and 34
T. 33 N., R., 5 W., Section 15

It is proposed to expand this ACEC to include all BLM lands occurring in the Craig Mountain Wildlife Management Area. BLM lands occurring within the Craig Mountain Wildlife Management Area that are contiguous to the Salmon River are in the existing Salmon River ACEC. In addition to the above lands, it is also proposed to include an additional 19,428 acres of BLM lands to the ACEC, which are located in the following areas (BLM lands within Craig Mountain Wildlife Management Area): T. 30, 31, and 32 N., R. 3 W.; T. 29, 30, 31, and 32 N., R. 4 W.; and T. 31 N., R. 5 W. (see **Appendix N-2**, **Map 6**).

Relevance Criteria: The area meets the relevance criteria for cultural; scenic; threatened and endangered species; Idaho BLM sensitive wildlife, amphibians, reptiles, fish, and plants; important fisheries and wildlife resources; natural processes (ecological resources); and geology. The area provides aquatic habitat for five federally listed fish and the federally listed bald eagle. The area

contains the largest plant populations of the federally listed Spalding's catchfly ~~silene~~ in the state of Idaho. The area contains portions of the Lewis and Clark National Historic Trail.

Importance Criteria: The area meets the importance criteria and has national significance for scenic qualities and cultural resources. The area has regional and statewide significance for wildlife, fisheries, and botanical resources, including federally listed and BLM sensitive species. The cultural resources are irreplaceable and scenic qualities are exemplary. The fisheries, wildlife, and plant communities are vulnerable to adverse changes. Non-native (noxious and other weeds) plant species are encroaching on native plant communities and can adversely impact wildlife habitats.

Findings: This existing ACEC meets the relevance and importance criteria because of its high value scenic, cultural, fisheries and wildlife resources. Since the designation of this ACEC in 1989, Idaho Department of Fish and Game has expanded the Wildlife Management Area significantly to include additional intermingled BLM lands. It has been determined that these lands also have similar resource values which were identified for the original designation and support relevance and importance criteria for ACEC designation. The existing ACEC totals 3,956 acres and it is proposed to increase the area to 23,342 acres. This existing ACEC (3,956 acres) will be carried forward along with the proposed additions (19,386 acres) for additional analysis and consideration in the draft RMP/EIS.

Elk City Landfill and American Hill Lake

Description of the Area: The Elk City landfill and American Hill area was designated as an ACEC in 1989. Portions of the site have been degraded by past mining activity and use of the area as a landfill. Concerns have been identified in regards to leaching of hazardous materials and subsequent water quality impacts to American Hill Lake and American River. The criteria identified for designation was public safety and welfare. The BLM has completed restoration on the land fill site and subsequent monitoring has identified no water quality problems, and management has reduced the potential threat. However, there is still buried hazardous material located at the site. There is now a natural hazard of leaching from those materials. If the cap (soils covering site) erodes or if significant water drains to the site, the materials could become exposed or leaching could increase to where it may become hazardous.

The area includes approximately 30 acres and includes portions of Section 35, T. 29 N., R. 8 E. (see **Appendix N-2**, **Map 12**).

Relevance Criteria: The area meets the relevance criteria because of the natural hazard and buried hazardous (deleterious) materials located at the site.

Importance Criteria: The area meets the importance criteria because the site has qualities which warrant highlighting because of concerns for public safety and welfare. The presence of buried hazardous materials which could leach exists at the site.

Findings: This existing ACEC meets the relevance and importance criteria because of the presence of buried hazardous materials and the potential threat to public safety and welfare. The threat to public safety and welfare would occur from potential hazardous material leaching and subsequent

water quality impacts to American Hill Lake and American River. The area currently meets the relevance and importance criteria for which it was originally designated as an ACEC and will be carried forward for additional analysis and consideration in the draft RMP/EIS.

Lower Lolo Creek

Description of the Area: This area was designated as an ACEC in 1989 and is located in the Lower Lolo Creek drainage. Lolo Creek flows into the Clearwater River at river mile 54.1. The Lower Lolo Creek drainage has high quality scenic, fisheries, and wildlife resources. Within the Lower Clearwater River subbasin, the Lolo Creek drainage has the highest priority for fisheries and providing suitable habitat for federally listed fish. The lower canyon reach of Lolo Creek is largely undeveloped and contains steep and rugged topography. Vegetation communities are dominated by early to late seral timbered stands.

This area includes 3,678 acres and includes all public lands contiguous to Lolo Creek occurring in the lower canyon (mouth to stream mile 7.8). These lands occur in Sections 13 and 24, T. 35 N., R. 2 E.; and Sections 18, 19, 20, 21, 22, 23, 26, 27, 28, 30, and 35, T. 35 N., R. 3 E. (see **Appendix N-2**, **Map 7**).

Relevance Criteria: This area meets the relevance criteria for having segments of two National Historic Trails; scenic qualities; fisheries and wildlife resources; federally listed steelhead trout and bull trout; BLM sensitive wildlife, fish, amphibians, and reptiles; and natural processes (plant communities, riparian, and aquatic).

Importance Criteria: The area has national significance, because it contains segments of the Nez Perce (Nee-Me-Poo) National Historic Trail and the Lewis and Clark National Trail. The area has regional and statewide significance for its scenic quality, wildlife and fisheries resources, and natural processes. Fisheries and wildlife resources and natural processes are vulnerable to adverse changes, particularly land uses that would degrade habitat quality. Non-native (noxious and other weeds) plant infestations are also a threat in areas.

Findings: This existing ACEC meets the relevance and importance criteria because of its high value scenic qualities; cultural, fisheries, and wildlife resources; and natural processes. The BLM has also acquired a conservation easement on private lands near the mouth of Lolo Creek which connects with the large tract of public lands in the lower canyon. Since the designation of this ACEC in 1989, the BLM has acquired additional lands within the drainage. Public lands upstream from the existing ACEC area have been determined to contain and/or support relevance and importance criteria for ACEC designation. The existing ACEC totals 3,678 acres. This existing ACEC will be carried forward for additional analysis and consideration in the draft RMP/EIS.

Upper Lolo Creek

Description of the Area: Within the Lower Clearwater River subbasin, the Lolo Creek drainage has the highest priority for fisheries and providing suitable habitat for federally listed fish. The upper breaklands have moderate to steep slopes. Vegetation communities are dominated by early to late seral timbered stands.

The proposed Upper Lolo Creek ACEC would include 1,625 acres of public lands contiguous to Lolo Creek up to the Forest Service boundary (stream mile 24.9), and these lands are located in the following areas: Section 1, T. 34 N., R. 3 E.; Sections 6, 7, 8, and 15, T. 34 N., R. 4 E.; and Sections 17, 18, 20, 21, 22, 23, and 24, T. 34 N., R. 5 E. (see **Appendix N-2**, **Map 7**).

Relevance Criteria: This area meets the relevance criteria for having segments of two National Historic Trails; scenic qualities; fisheries and wildlife resources; federally listed steelhead trout and bull trout; BLM sensitive wildlife, fish, amphibians, and reptiles; and natural processes (plant communities, riparian, and aquatic).

Importance Criteria: The area has national significance, because it contains segments of the Nez Perce (Nee-Me-Poo) National Historic Trail and the Lewis and Clark National Trail. The area has regional and statewide significance for its scenic quality, wildlife and fisheries resources, and natural processes. Fisheries and wildlife resources and natural processes are vulnerable to adverse changes, particularly land uses that would degrade habitat quality. Non-native (noxious and other weeds) plant infestations are also a threat in areas.

Findings: This proposed ACEC meets the relevance and importance criteria because of its high value scenic qualities; cultural, fisheries, and wildlife resources; and natural processes and will be carried forward as a potential ACEC for additional analysis and consideration in the draft RMP/EIS.

Lower Salmon River (Confluence to White Bird Creek)

Description of the Area: This area was designated as an ACEC in 1989 and includes public lands that are contiguous to the Salmon River from the confluence with the Snake River to White Bird Creek. The ACEC includes all public lands along the river corridor.

The Lower Salmon River corridor has high resource values for scenic, recreation, cultural, fisheries, wildlife, and ecological resources. The area provides important habitat for a large variety of wildlife species. The scenic qualities and cultural resources have national significance. The Lower Salmon River ACEC area encompasses primarily canyon grasslands and over-steepened canyon slopes; with moderately sloped terraces, toeslopes, and benches. The Salmon River is the longest free-flowing river in the lower 48 states (425 miles), and therefore provides an example of a riverine ecosystem unchanged by dams or impoundments.

This area includes 15,702 acres and includes all lands contiguous to the Salmon River from the mouth (river mile 0.0) to White Bird Creek (river mile 53.6), and includes BLM lands in the following areas: T. 28, 29, and 30 N., R. 1 E.; T. 30 and 31 N., R. 1 W.; T. 30 and 31 N., R. 2 W.; T. 29, 30, and 31 N., R. 3 W.; and T. 29 N., R. 4 W. It is also proposed to include an additional 497 acres of public lands contiguous to the Salmon River which have been acquired after the original designation in 1989, and these lands are located in the following areas: Sections 9 and 10, T. 28 N., R. 1 E.; Section 26, T. 30 N., R. 1 W.; and Sections 23, 24, and 25, T. 31 N., R. 3 W. (see **Appendix N-2**, **Map 8**).

Relevance Criteria: The area meets the relevance criteria for cultural resources; scenic qualities; threatened and endangered species; BLM sensitive wildlife, amphibians, reptiles, plants, and fish;

critical and important fisheries and wildlife habitats; natural processes (ecological resources); and geology. The area is occupied by federally listed species and includes sockeye salmon, fall chinook salmon, spring/summer chinook salmon, steelhead trout, bull trout, bald eagle, and Spalding's catchfly~~silene~~. The area contains portions of the Nez Perce (Nee-Me-Poo) and the Lewis and Clark National Historic Trails.

Importance Criteria: The area meets the importance criteria and has national significance for scenic qualities and cultural resources. The area has regional and statewide significance for wildlife, fisheries, and botanical resources, including federally listed and BLM sensitive species. The cultural resources are irreplaceable and scenic qualities are exemplary. The cultural resources are listed on the National Register of Historic Places. The fisheries, wildlife, and plant communities are vulnerable to adverse changes. Non-native (noxious and other weeds) plant species are encroaching on native plant communities and can impact wildlife habitats.

Findings: This existing ACEC meets the relevance and importance criteria because of its high value scenic qualities; and cultural, fisheries, botanical, and wildlife resources. The BLM has also acquired extensive, permanent conservation easements on private lands within the ACEC to protect critical scenic qualities and cultural resources. Since the designation of this ACEC in 1989, the BLM has acquired additional lands (613 acres) along the river corridor, and these lands are proposed to be included with the existing ACEC. These areas also have been determined to meet the relevance and importance criteria for ACEC designation. This existing ACEC totals 15,702 acres, and it is proposed to increase the area to 16,199 acres. This existing ACEC will be carried forward along with the proposed additions for additional analysis and consideration in the draft RMP/EIS.

Partridge/Elkhorn

Description of the Area: This site occurs within the Partridge and Elkhorn Creek drainages, which are tributaries of the Salmon River. Partridge Creek flows into the Salmon River at river mile 99.2 and Elkhorn Creek flows into the Salmon River at river mile 101.1. Mid- to late-seral timbered stands within the area contain large ponderosa pine trees which provide potential for old growth stands. Several of the stands currently meet criteria for old growth. Over 90% of the area is in pristine conditions. The area is approximately nine air-miles east of Riggins, Idaho.

The area includes approximately 576 acres and these lands are located in portions of Sections 29, 30, 31, and 32, T. 24 N., R. 3 E. (see **Appendix N-2**, **Map 11**).

Relevance Criteria: This nomination meets the relevance criteria for a natural process or system. The scientific assessment done for ICBEMP indicates that vegetation has changed significantly from historic conditions (Wisdom et al. 2000). Some forest types and structures have declined, while others have increased. Significant changes compared to historic include loss of "open" stands of mature and old growth ponderosa pine forests. This area provides habitat for several BLM sensitive wildlife species that are associated with mature and old growth ponderosa pine stands which are found in portions of the area.

Importance Criteria: This area meets the importance criteria for a natural process or systems and provides habitat for BLM sensitive wildlife. "Open" stands of mature and old growth ponderosa

pine have declined because of timber harvest and lack of natural fire. Because of dense understory vegetation, commonly called "ladder fuels", many of these stands may be at risk for stand replacement fires if understory fuels burn excessively and contribute to crown fires in these stands.

Findings: This nomination meets the relevance and importance criteria for a natural process or system and provides habitat for BLM sensitive wildlife species and will be carried forward as a potential ACEC for additional analysis and consideration in the draft RMP/EIS. Portions of the area may also warrant consideration for potential designation as an RNA.

Little Salmon River

Description of the Area: This site occurs within face drainages of the Little Salmon River and is located on the east side of the canyon, upriver from the mouth of Hazard Creek. Mid- to late-seral timbered stands within the area contain large ponderosa pine trees which provide potential for old growth stands. Several of the stands meet criteria for old growth. Portions of the area have been selectively logged in the past. The area is approximately 17 air-miles south of Riggins, Idaho.

The area includes approximately 590 acres and these lands are located in portions of Sections 11, 12, 13, 14, 24, and 25, T. 21 N., R. 1 E. (see **Appendix N-2**, **Map 9**).

Relevance Criteria: This nomination meets the relevance criteria for a natural process or system. The scientific assessment done for ICBEMP indicates that vegetation has changed significantly from historic conditions (Wisdom et al. 2000). Some forest types and structures have declined, while others have increased. Significant changes compared to historic include loss of "open" stands of mature and old growth ponderosa pine forests. This area provides habitat for several BLM sensitive wildlife species that are associated with mature ponderosa pine stands which are found in portions of the area.

Importance Criteria: This area meets the importance criteria for a natural process or systems and provides habitat for BLM sensitive wildlife. "Open" stands of mature and old growth ponderosa pine have declined because of timber harvest and lack of natural fire. Because of dense understory vegetation, commonly called "ladder fuels", many of these stands may be at risk for stand replacement fires if understory fuels burn excessively and contribute to crown fires in these stands.

Findings: This nomination meets the relevance and importance criteria for a natural process or system and provides habitat for BLM sensitive wildlife species and will be carried forward as a potential ACEC for additional analysis and consideration in the draft RMP/EIS. Portions of the area may also warrant consideration for potential designation as an RNA.

Upper Salmon River (White Bird Creek to French Creek)

Description of the Area: This area includes public lands that are contiguous to the Salmon River from White Bird Creek to French Creek. This includes all public lands along the river corridor, which are generally 0.25- to 0.50-mile from the river.

The Lower Salmon River corridor has high resource values for scenic qualities, and recreation, cultural, fisheries, wildlife, and ecological values. The area provides important habitats for a large

variety of wildlife species. The scenic and cultural resources have national significance. The Lower Salmon River ACEC area encompasses primarily canyon grasslands and over-steepened canyon slopes, with moderately sloped terraces, toeslopes, and benches. The Salmon River is the longest free-flowing river in the lower 48 states (425 miles), and therefore provides an example of riverine ecosystem unchanged by dams or impoundments. Highway 95 parallels the Salmon River between the communities of White Bird and Riggins. Several other small communities occur in the area, and include Slate Creek and Lucile. Residences also occur on private lands in the area.

This area includes 5,759 acres and includes all lands contiguous to the Salmon River or generally within 0.25- to 0.50-mile from the Salmon River from the White Bird Creek (river mile 53.6) to French Creek (river mile 104.8). The proposed Upper Salmon River ACEC includes BLM lands in the following areas: T. 24, 25, 26, 27 and 28 N., R. 1 E.; and T. 24 N., R. 1, 2, and 3 E. (see **Appendix N-2**, **Map 10**).

Relevance Criteria: The area meets the relevance criteria for cultural resources; scenic qualities; threatened and endangered species; BLM sensitive wildlife, amphibians, reptiles, plants, and fish; important fisheries and wildlife habitats; natural processes (ecological resources); and geology. The area contains portions of the Nez Perce (Nee-Me-Poo) National Historic Trail. The area is occupied by federally listed species and includes sockeye salmon, fall chinook salmon, spring/summer chinook salmon, steelhead trout, bull trout, bald eagle, and MacFarlane's four-o'clock.

Importance Criteria: The area meets the importance criteria and has national significance for scenic qualities and cultural resources. The area has regional and statewide significance for wildlife, fisheries, and botanical resources, including federally listed and BLM sensitive species. The cultural resources are irreplaceable and scenic qualities are exemplary. The fisheries, wildlife, and plant communities are vulnerable to adverse changes. Non-native (noxious and other weeds) plant species are encroaching on native plant communities and can impact wildlife habitats accordingly.

Findings: This nomination meets the relevance and importance criteria because of its high value scenic, cultural, fisheries, botanical, and wildlife resources and will be carried forward as a potential ACEC for additional analysis and consideration in the draft RMP/EIS.

East Fork American River

Description of the Area: This site occurs within the East Fork American River drainage, which is a tributary to American River. The East Fork American River flows into American River at river mile 10.6. The drainage provides habitat for federally listed wildlife and fish; and BLM sensitive wildlife, amphibians, reptiles, and plants. The area contains high quality examples of riparian and aquatic habitats and important wildlife habitat areas. The area is timbered and contains mid- to late-seral conifer stands. Some of the riparian area stands contain very large Engelmann spruce trees. The area occurs in the upper South Fork of the Clearwater River subbasin and is approximately three air-miles north of Elk City, Idaho.

The area contains approximately 570 acres and these lands are located in portions of Sections 1, 2, 11, and 12, T. 29 N., R. 8 E. (see **Appendix N-2**, **Map 12**).

Relevance Criteria: The area meets the relevance criteria for fish and wildlife resources and natural processes. The area provides habitat for the federally listed gray wolf and Canada lynx. The federally listed steelhead trout and bull trout occur in the East Fork American River. The stream also provide good quality aquatic habitat for spring/summer chinook salmon and westslope cutthroat trout, which are BLM sensitive species. The area provides suitable habitats for a variety of BLM sensitive wildlife, amphibians, reptiles, fish, and plants. The mature and old growth stands associated with the drainage bottom, riparian habitats, and stream, provide an excellent relic area for riparian and aquatic processes in the American River drainage, particularly when many of the larger drainages in the area have been impacted by a variety of land uses such as mining, roading, timber harvest, and development.

Importance Criteria: The area meets the importance criteria because of federally listed species, BLM sensitive species, and natural processes. These areas are vulnerable to adverse changes which may degrade the natural processes and habitats, and include roading, timber harvest, and mining. The area has more than locally significant qualities for the upper South Fork of the Clearwater River subbasin and this drainage provides good quality fish habitat and excellent water quality. Within the American River drainage, this stream provides good cold water refugia for fish and the riparian areas and stream channel have not been impacted by dredge mining.

Findings: This nomination meets the relevance and importance criteria because it contains habitat for and has populations of federally listed species, BLM sensitive species, and provides for high quality riparian, aquatic, and important wildlife habitats. The area will be carried forward as a potential ACEC for additional analysis and consideration in the draft RMP/EIS.

American River Historic Sites District

Description of Area: The American River Historic Sites District is located in the Elk City township (T. 29 N., R. 8 E.), which occurs in the upper South Fork Clearwater River subbasin. The Elk City township is an inholding within the Nez Perce National Forest, and is surrounded by Forest Service lands. The area is predominantly moderately sloping basin lands and terraces with slopes of 0 – 40%. Over steepened slopes occur primarily along major streams and rivers. The predominant habitat types in the area are a mosaic of the grand fir series, which are in various seral stages. Dominant overstory vegetation may include grand fir, lodgepole pine, and Douglas-fir. The larger rivers included in area are the South Fork Clearwater River, American River, and Red River.

The general area has a long and complex history of mining and mining claim activity. In May, 1861, gold was discovered in the area and by that fall, the town of Elk City was laid out boasting a population of 2,000. The Elk City mining district became distinguished by the extent of its ditch construction.

The area provides habitat for federally listed wildlife and fish; and BLM sensitive wildlife, amphibians, reptiles, and plants. Because of a variety of land uses, the area is generally rated as providing poor to fair condition examples of riparian, aquatic, and wildlife habitat areas. The area is timbered and contains early-, mid-, and late- seral conifer stands. The area is approximately 30 air-miles east of Grangeville, Idaho.

The area contains ~~6,356~~6,330 acres of BLM lands which are located in portions of the Elk City township (T. 29 N., R. 8 E.). These lands are located in portions of Sections 13, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35, T. 29 N., R. 8 E. (see **Appendix N-2**, **Map 12**).

Relevance Criteria: This nomination meets the relevance criteria for cultural, fish and wildlife resources, and natural processes. Known cultural resources for this area represent virtually every known type of historic hydraulic and lode mining and are located in a small geographic area. Examples of sites include reservoirs, ditches, flumes, hydraulic mine cutbanks, dredge tailings, adits, shafts, as well as abandoned mill sites. The area provides habitat for populations of the federally listed steelhead trout, bull trout, gray wolf, and bald eagle. The area also provides habitats for a variety of BLM sensitive wildlife, amphibians, reptiles, fish, and plants. The area also meets relevance criteria for natural hazards, because the township occurs within a Wildland Urban Interface (WUI) area. Some stands of vegetation, dead and dying timber, fuel loading and potential for wildfires provides a hazard to residences and the community of Elk City.

Importance Criteria: The area has regional significant qualities for cultural resources. Various land uses may potentially result in irreplaceable impacts to cultural resources. The area is also vulnerable to adverse changes which may result in impacts to habitats for special status species and potential degradation of the natural processes. However, because the habitats for fisheries and wildlife have been adversely impacted to varying levels by a variety of land uses, the area does not fully meet the importance value for these resources. The area does occur within a WUI which does have potential for wildfires and provides a hazard to the community of Elk City. However, many residences and communities may be prone to wildfire hazards, and such has local significance primarily.

Findings: This nomination meets the relevance and importance criteria because of high value cultural resources. This nomination will be carried forward as a potential ACEC for additional analysis and consideration in the draft RMP/EIS.

SUMMARY AND CONCLUSIONS

A total of 16 existing and new areas were nominated for ACEC status and were recommended for consideration and to be evaluated as part of the CFO planning process. These included areas previously designated in the 1989 Land Use Plan amendment; existing ACECs proposed for modification and new areas nominated by the BLM review team; and nominations received from the public as part of scoping. As a result of work completed by the BLM review team, 16 nominations meet both the relevance and importance criteria. These proposals will move forward for additional consideration in the alternatives for the RMP and will be analyzed further. These 16 potential ACECs are listed in **Table N-2**. After completing the analysis of the effects of each alternative and reviewing public comments, the preferred plan alternative will identify which potential ACECs are proposed for designation.

Table N-3
Potential Areas of Critical Environmental Concern

Area Name	Values of Concern	Acres
Wapshilla Ridge (Existing ACEC/RNA – 1989)	Natural processes, designated RNA for canyon grasslands and BLM Idaho Watch List plant (Idaho RNA cell for basalts).	401 Existing
Lower and Middle Cottonwood Islands (Existing ACEC/RNA – 1989)	Natural processes, designated RNA, riparian, Palouse ~~p~~Prairie remnant, Clearwater River islands	43 Existing
Captain John Creek (Existing ACEC/RNA 1989)	Natural processes, designated RNA for canyon grasslands, Douglas fir, and riparian (Idaho cell). Captain John Creek provides habitat for listed steelhead and spring/summer chinook salmon, and Idaho BLM sensitive wildlife, amphibians, reptiles, and plants.	1,321 Existing
Long Gulch (Existing ACEC/RNA 1989)	Natural processes, designated RNA for federally listed MacFarlane's four-o'clock.	47 Existing
Lucile Caves (Existing ACEC/RNA 1989 – proposed for reduction in size)	Natural processes, designated RNA, federally listed MacFarlane's four-o'clock, Idaho BLM sensitive plants, wildlife and snails; limestone cave and spring; geology	404 Existing 136 New
Skookumchuck (Existing ACEC/RNA – 1989)	Natural processes, designated RNA for federally listed MacFarlane's four-o'clock.	28 Existing 18 New
Craig Mountain (Existing ACEC 1989 – proposed for expansion in size)	Designated ACEC, scenic, cultural, federally listed fish, bald eagle, and Spalding's catchfly~~silene~~; Idaho BLM sensitive wildlife, amphibians, reptiles, and plants	3,956 Existing 23,342 New
Elk City/American Hill Lake (Existing ACEC 1989)	Natural hazards, designated ACEC because of concerns for safety and public welfare	30 Existing
Lower Lolo Creek (Existing ACEC 1989)	Designated ACEC, cultural, scenic, federally listed fish; Idaho BLM sensitive wildlife, amphibians, reptiles, and plants; National historic trail	3,678 Existing
Upper Lolo Creek	Cultural, scenic, federally listed fish; Idaho BLM sensitive wildlife, amphibians, reptiles, and plants; National historic trail	1,625 New
Lower Salmon River (Confluence to White Bird Creek) (Existing ACEC 1989 – proposed for expansion in size)	Designated ACEC, cultural, scenic, federally listed fish, bald eagle, and Spalding's catchfly~~silene~~; Idaho BLM sensitive wildlife, amphibians, reptiles, and plants; geology, natural processes	15,702 Existing 16,199 New
Partridge/Elkhorn	Natural processes, old growth ponderosa pine, Idaho BLM sensitive wildlife	576 New
Little Salmon	Natural processes, old growth ponderosa pine, Idaho BLM sensitive wildlife	590 New

Table N-3
Potential Areas of Critical Environmental Concern *(continued)*

Area Name	Values of Concern	Acres
Upper Salmon River (White Bird Creek to French Creek)	Cultural, scenic, federally listed fish, bald eagle, and MacFarlane's four-o'clock; Idaho BLM sensitive wildlife, amphibians, reptiles, and plants; geology, natural processes	5,759 New
East Fork of American River	Listed fish, Idaho BLM sensitive wildlife, amphibians, reptiles, fish, and plants; natural processes; riparian and wetlands; and old growth Engelmann spruce.	570 New
American River Historic Sites District	Cultural resources, historic mining	6,356 New

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APPENDIX N-1: RELEVANCE AND IMPORTANCE CRITERIA

Identification of Criteria

To be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet the criteria of relevance and importance as defined in 43 CFR 1610.7-2 (*BLM Manual 1613 – Areas of Critical Environmental Concern*). Normally, the relevance and importance of an existing ACEC are revaluated only when new information or changed circumstances or the results of monitoring establish the need.

Relevance

An area meets the "relevance" criteria if it contains one or more of the following:

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archaeological resources and religious or cultural resources important to Native Americans).
2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).
3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features).
4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

Importance

The value, resource, system, process, or hazard described above must have substantial significance and values in order to satisfy the "importance" criteria. This generally means that the value, resource, system, process, or hazard is characterized by one or more of the following:

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.
2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA.
4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare.
5. Poses a significant threat to human life and safety or to property.

APPENDIX N-2: MAPS OF EXISTING AND NOMINATED ACECS

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MAP 1

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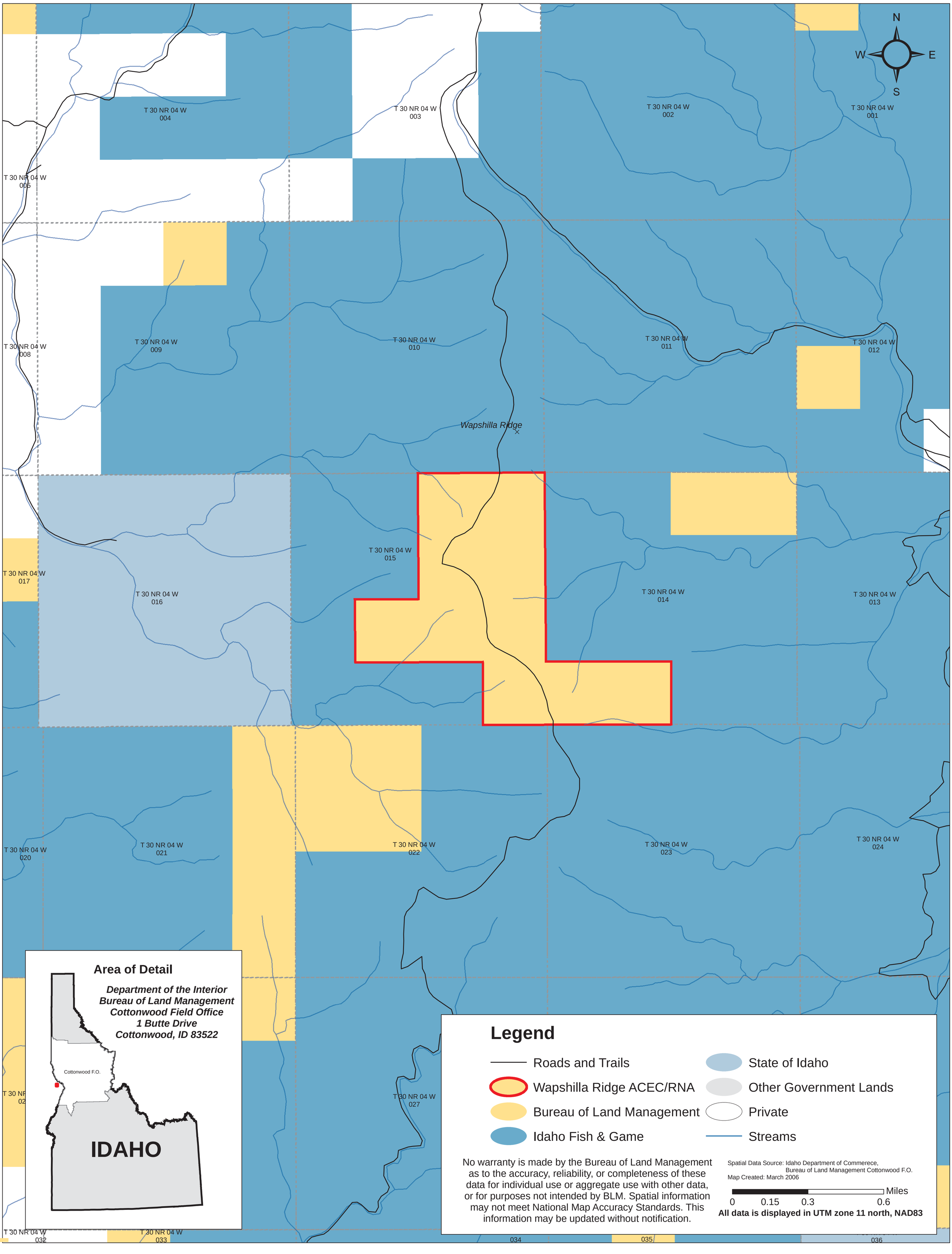
Draft Resource Management Plan & Environmental Impact Statement

Wapshilla Ridge ACEC/RNA



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MAP 2

Bureau of Land Management Cottonwood Field Office
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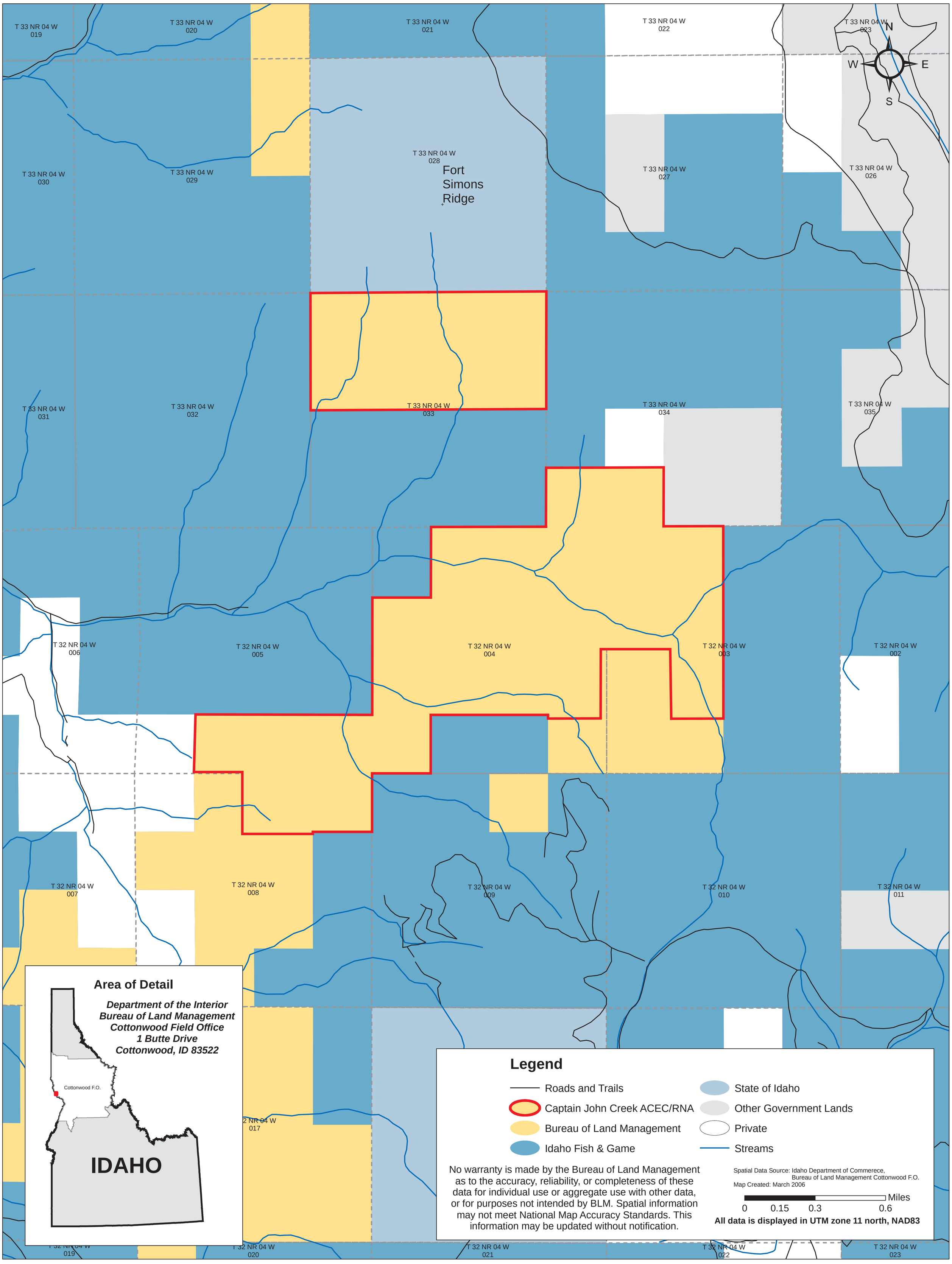
Captian John Creek ACEC/RNA



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MAP 3

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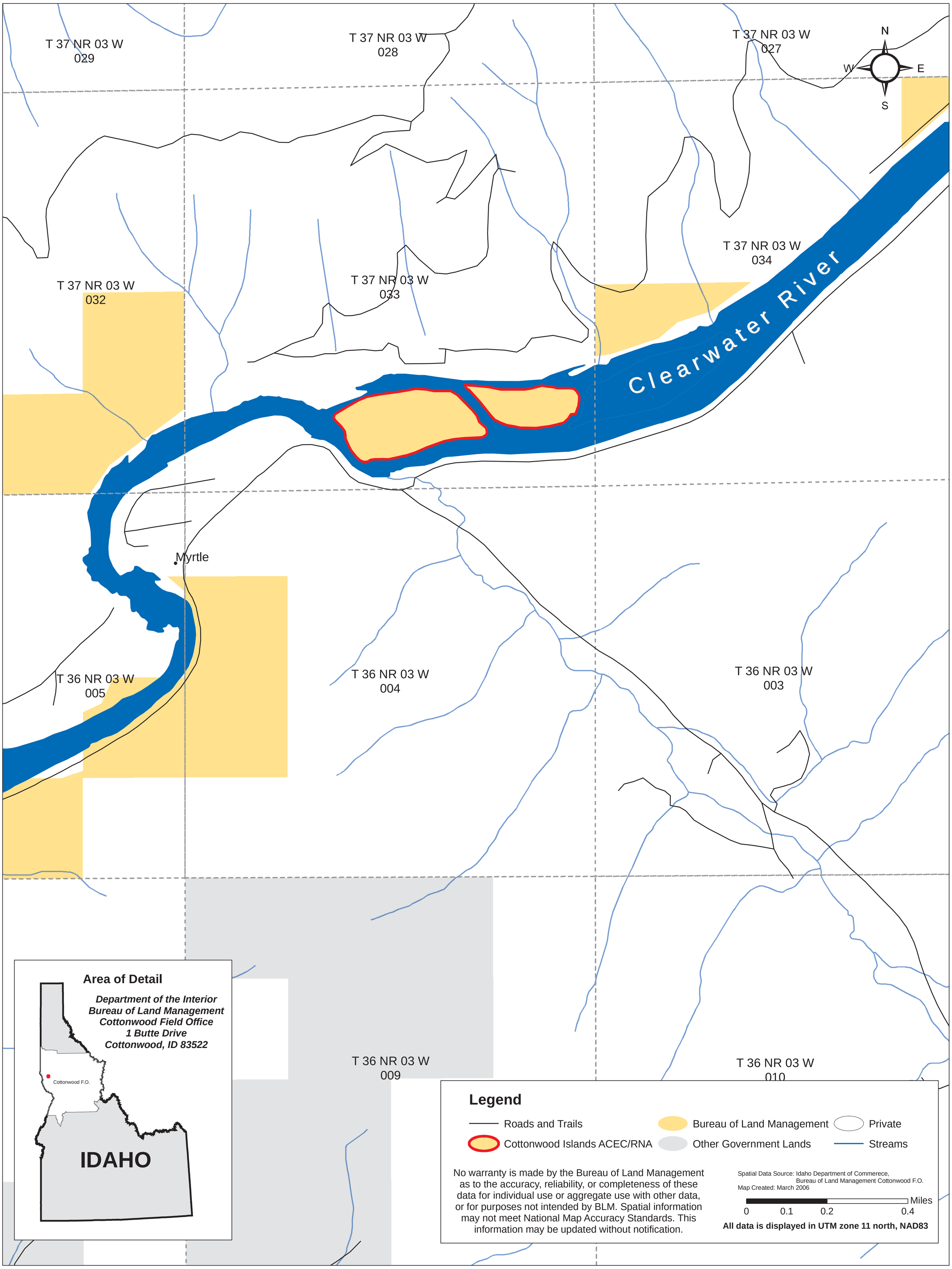
Lower & Middle Cottonwood Islands ACEC/RNA



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MAP 4

Bureau of Land Management Cottonwood Field Office
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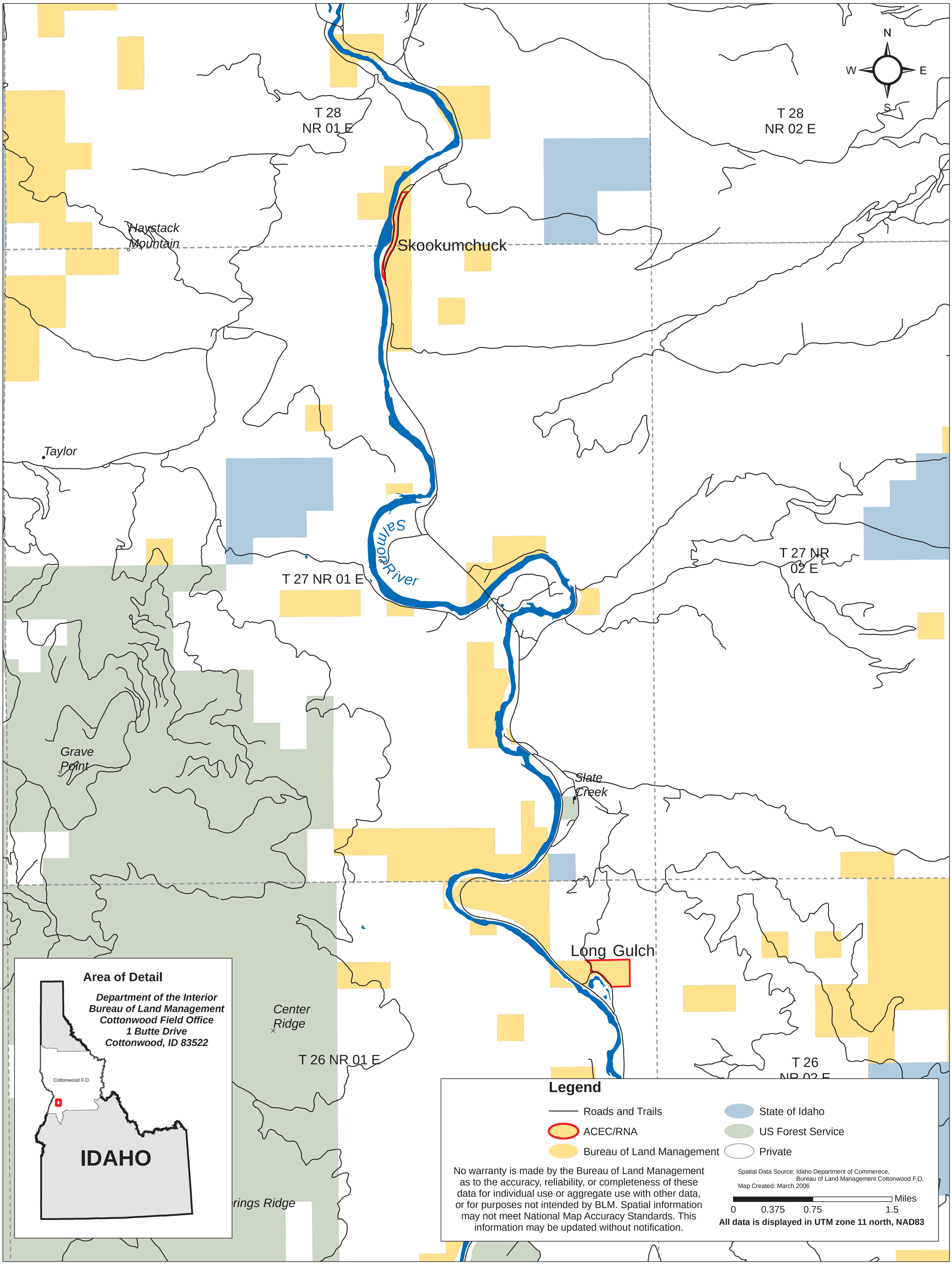
Skookumchuck & Long Gulch ACEC/RNA's



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MAP 5

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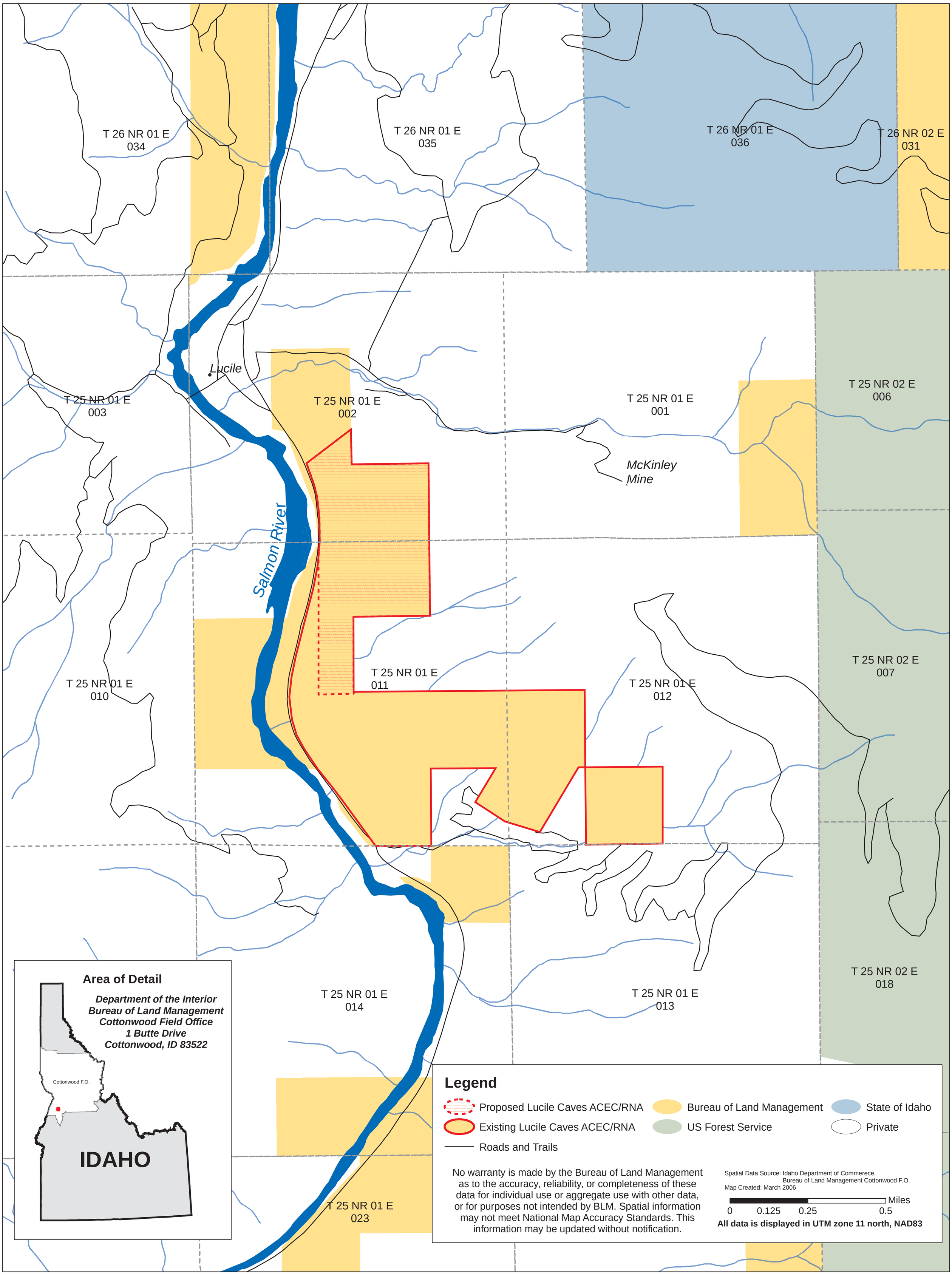
Lucile Caves ACEC/RNA



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MAP 6

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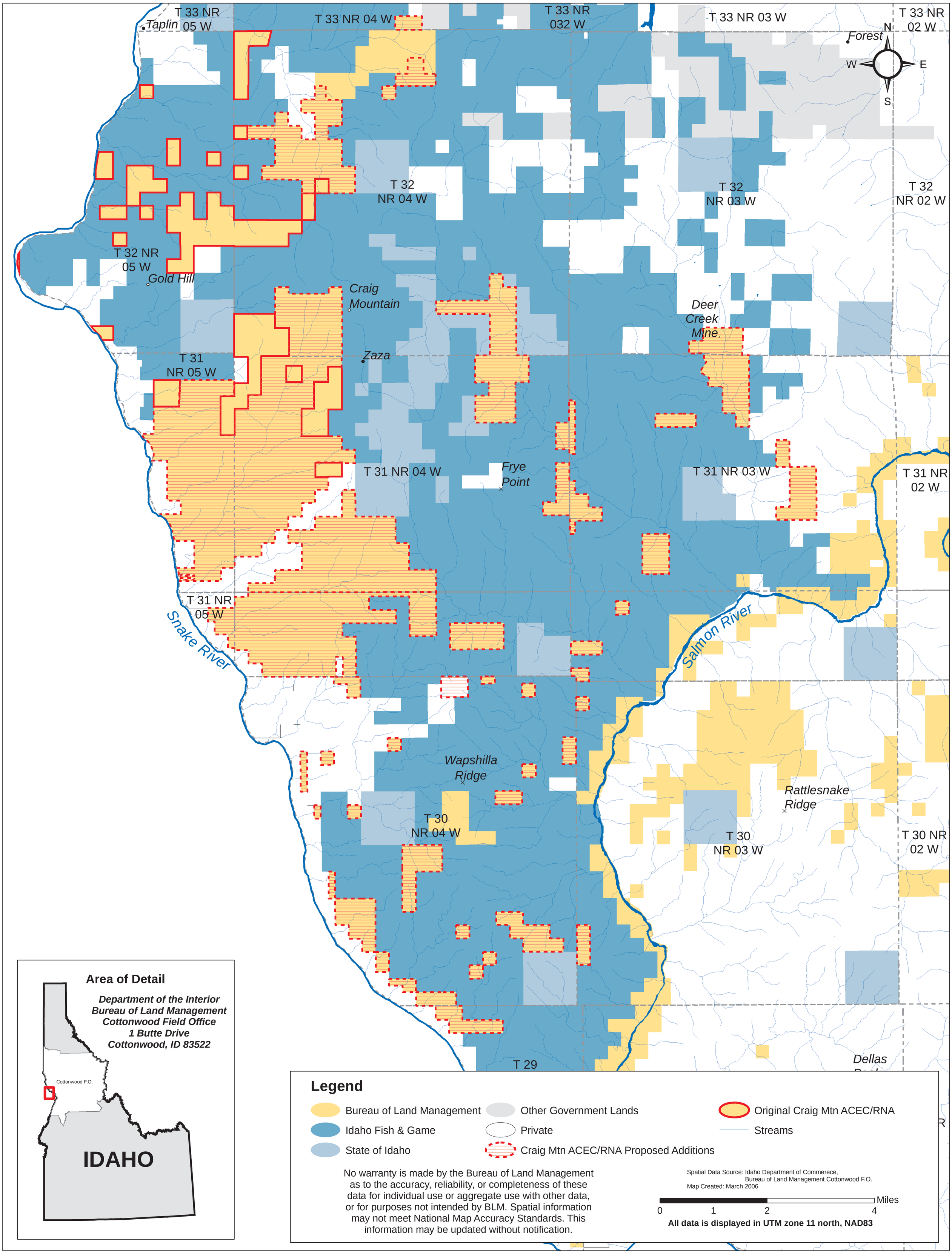
Craig Mountain ACEC/RNA



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MAP 7

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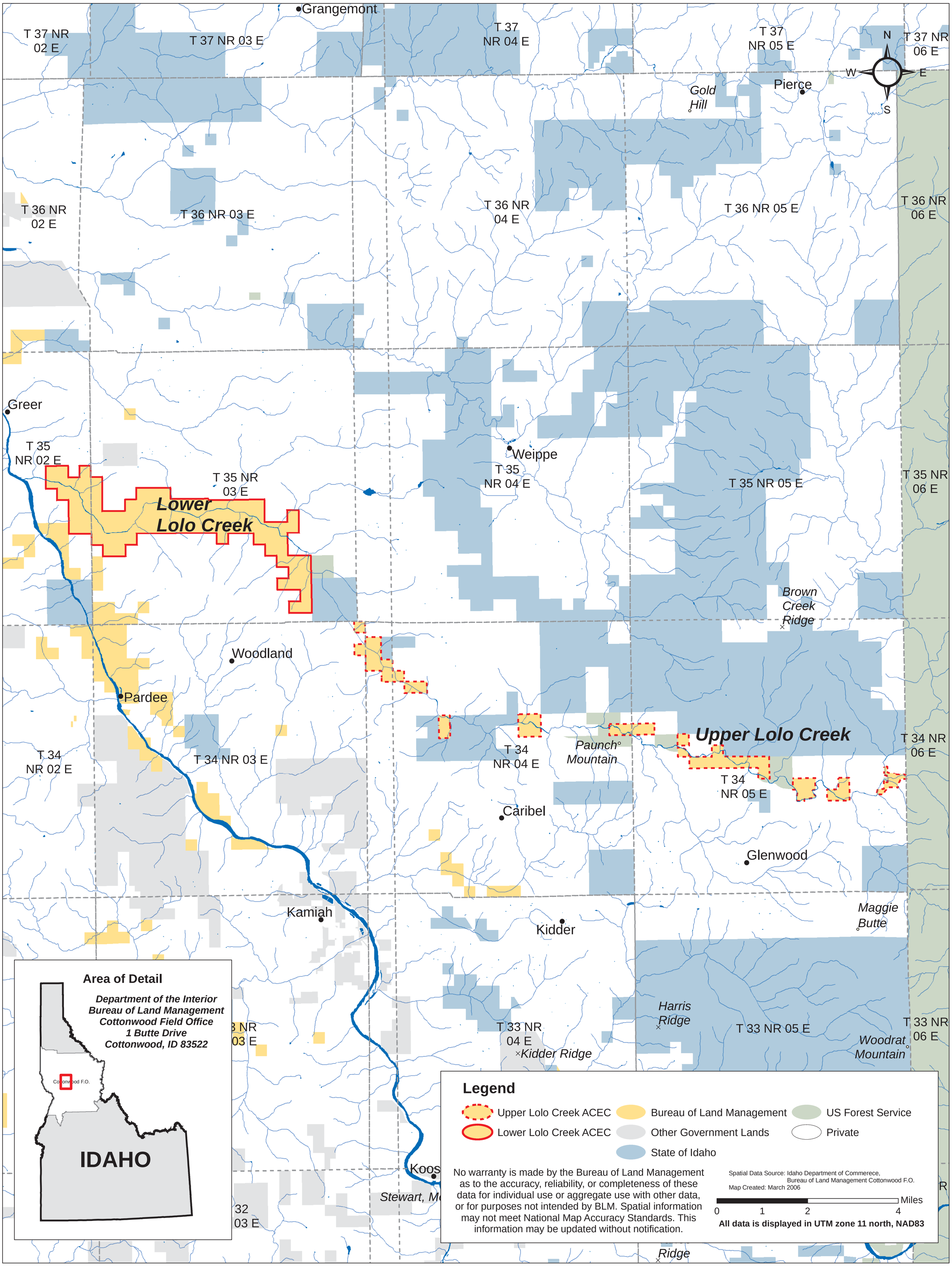
Upper & Lower Lolo Creek ACEC



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MAP 8

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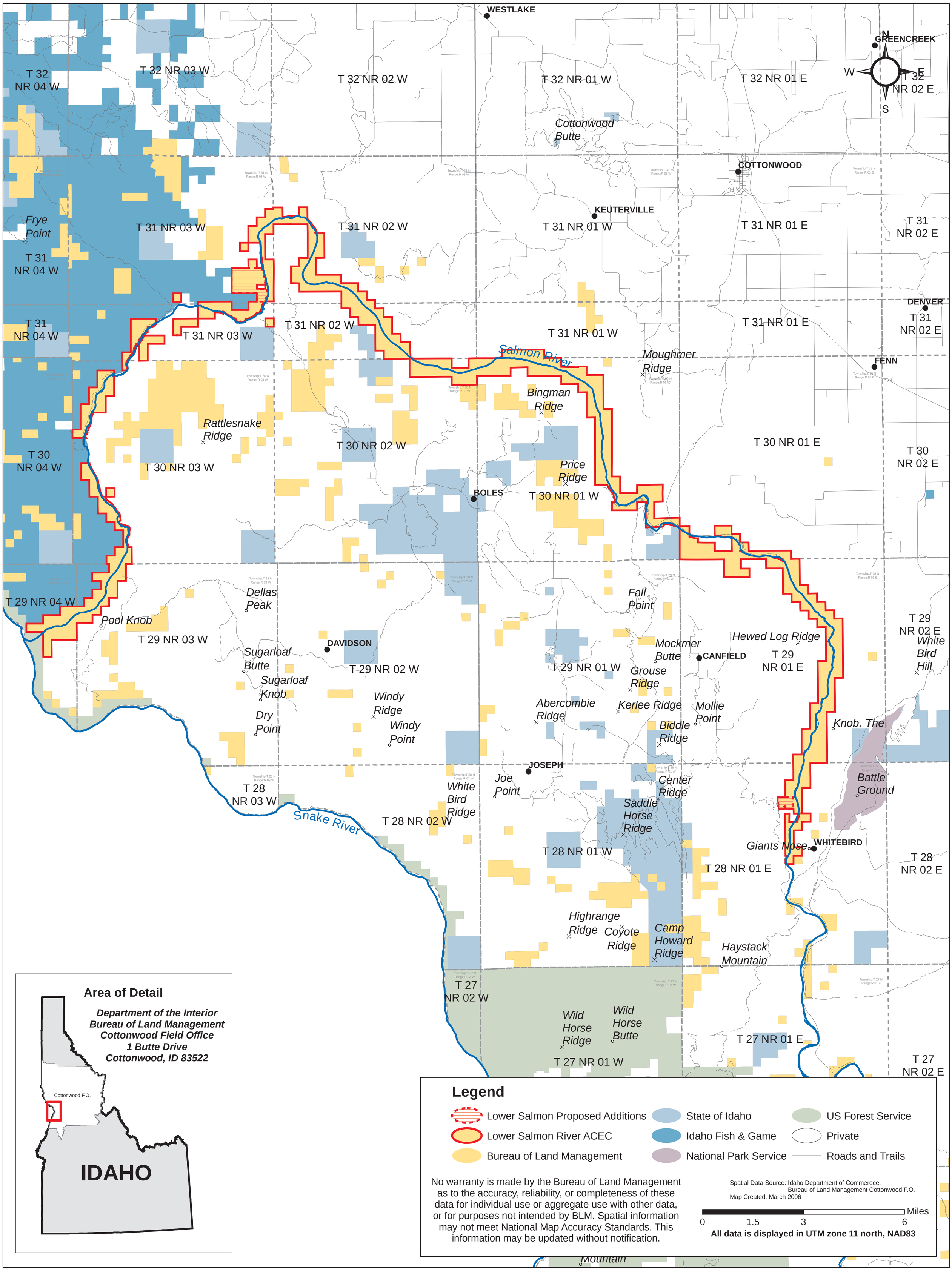
Lower Salmon River ACEC
(Confluence to White Bird Creek)



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MAP 9

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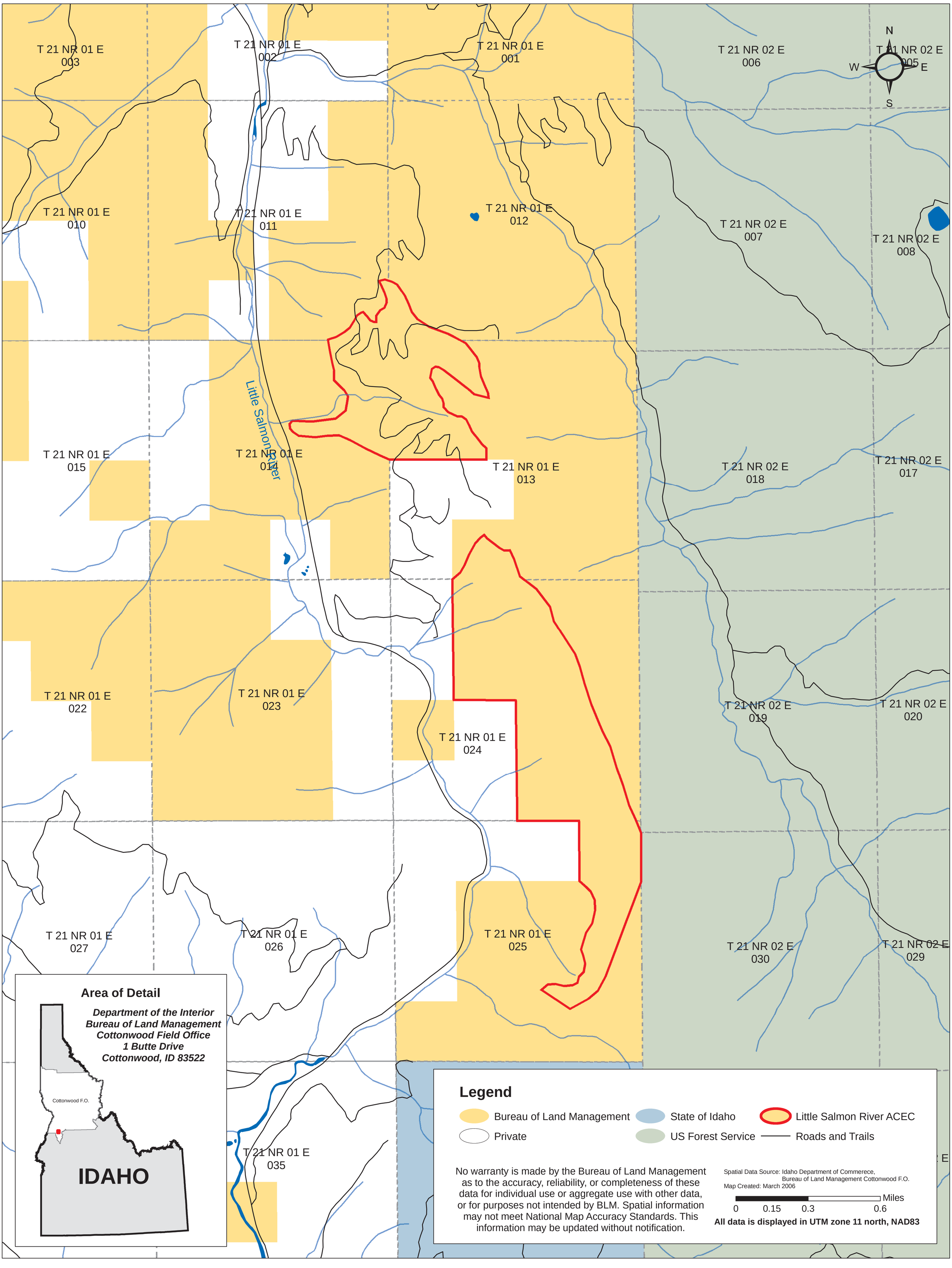
Little Salmon River ACEC



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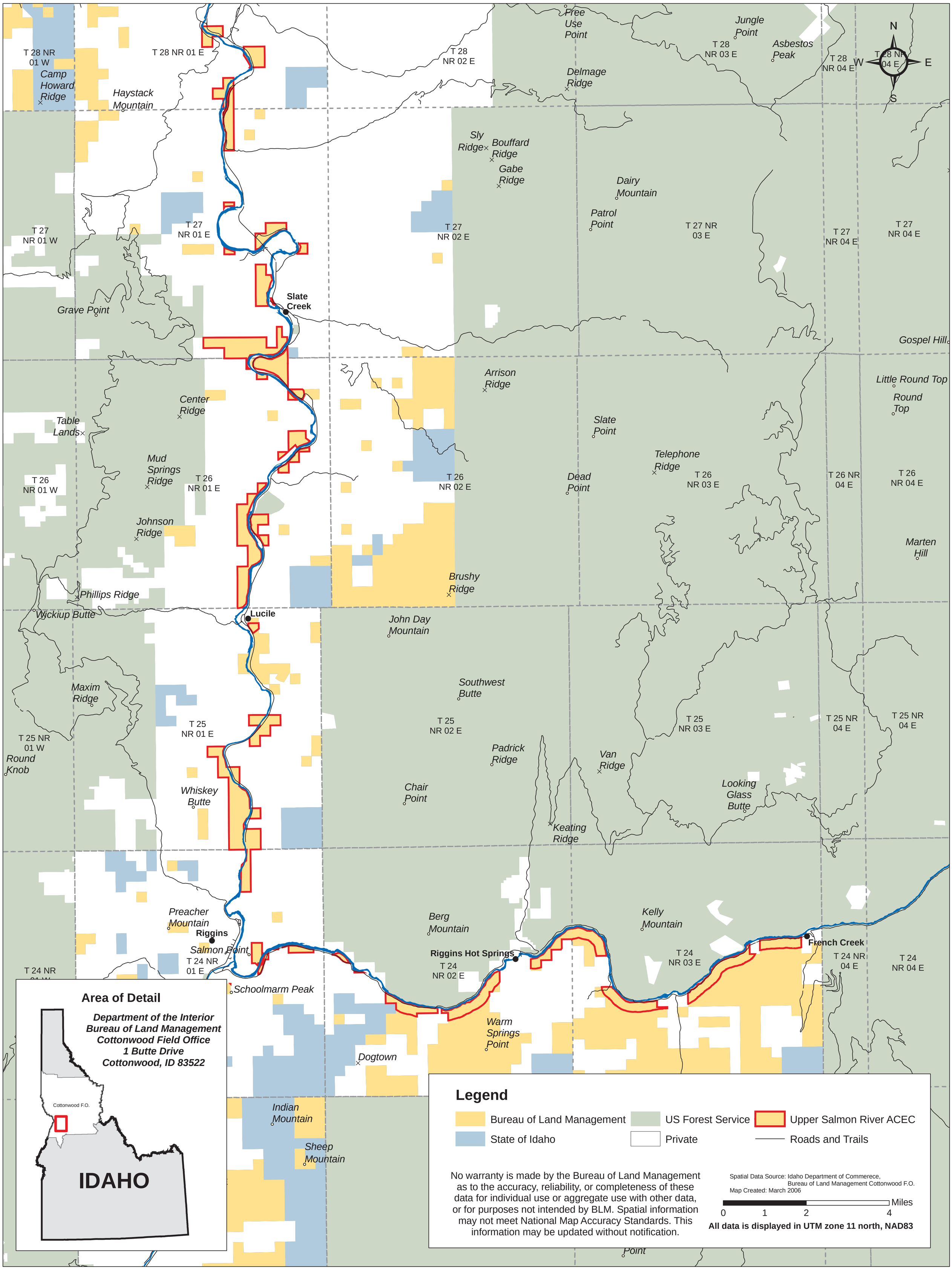
MAP 10

Upper Salmon River ACEC
(White Bird Creek To French Creek)



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MAP 11

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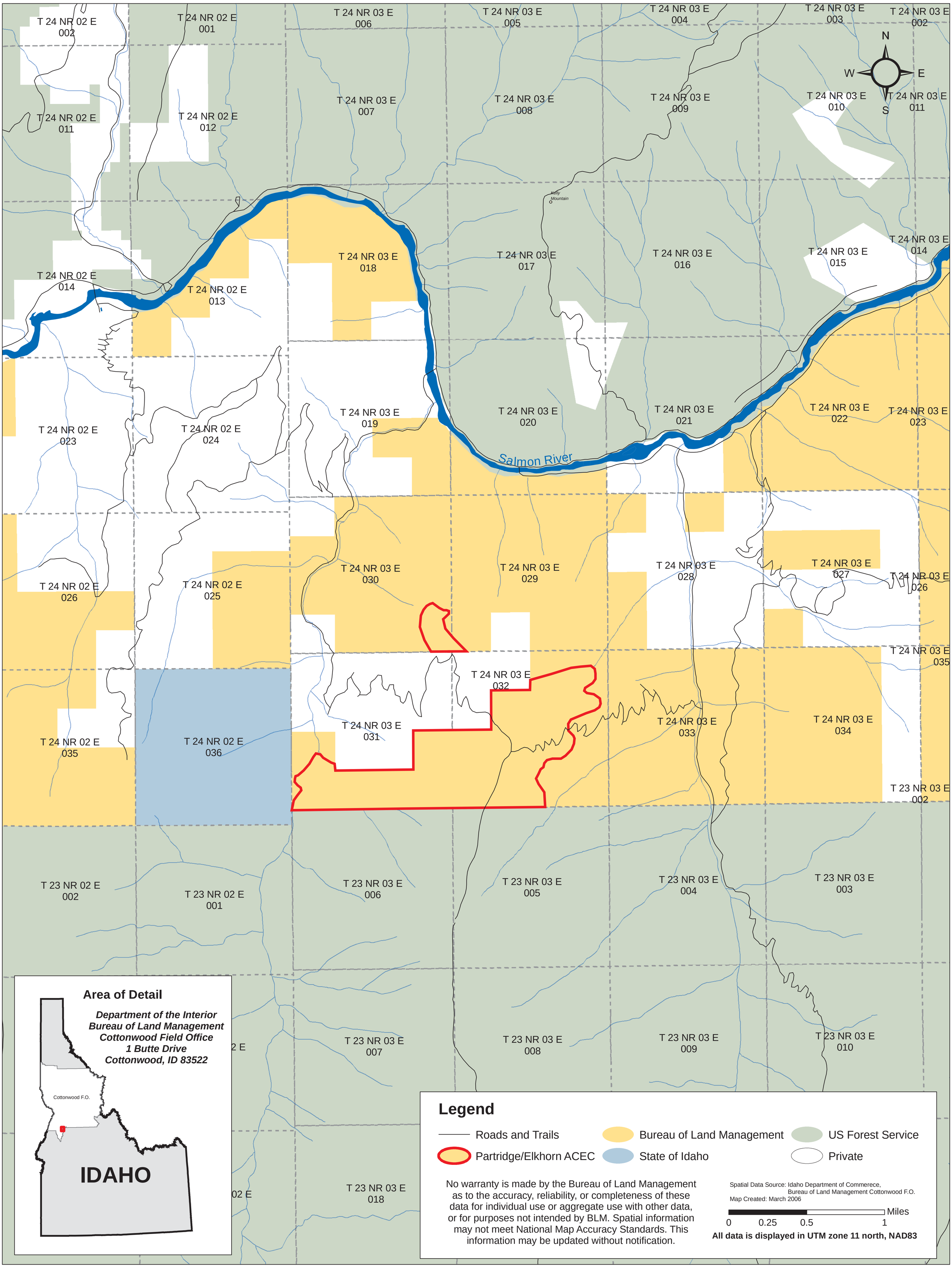
Partridge/Elkhorn ACEC



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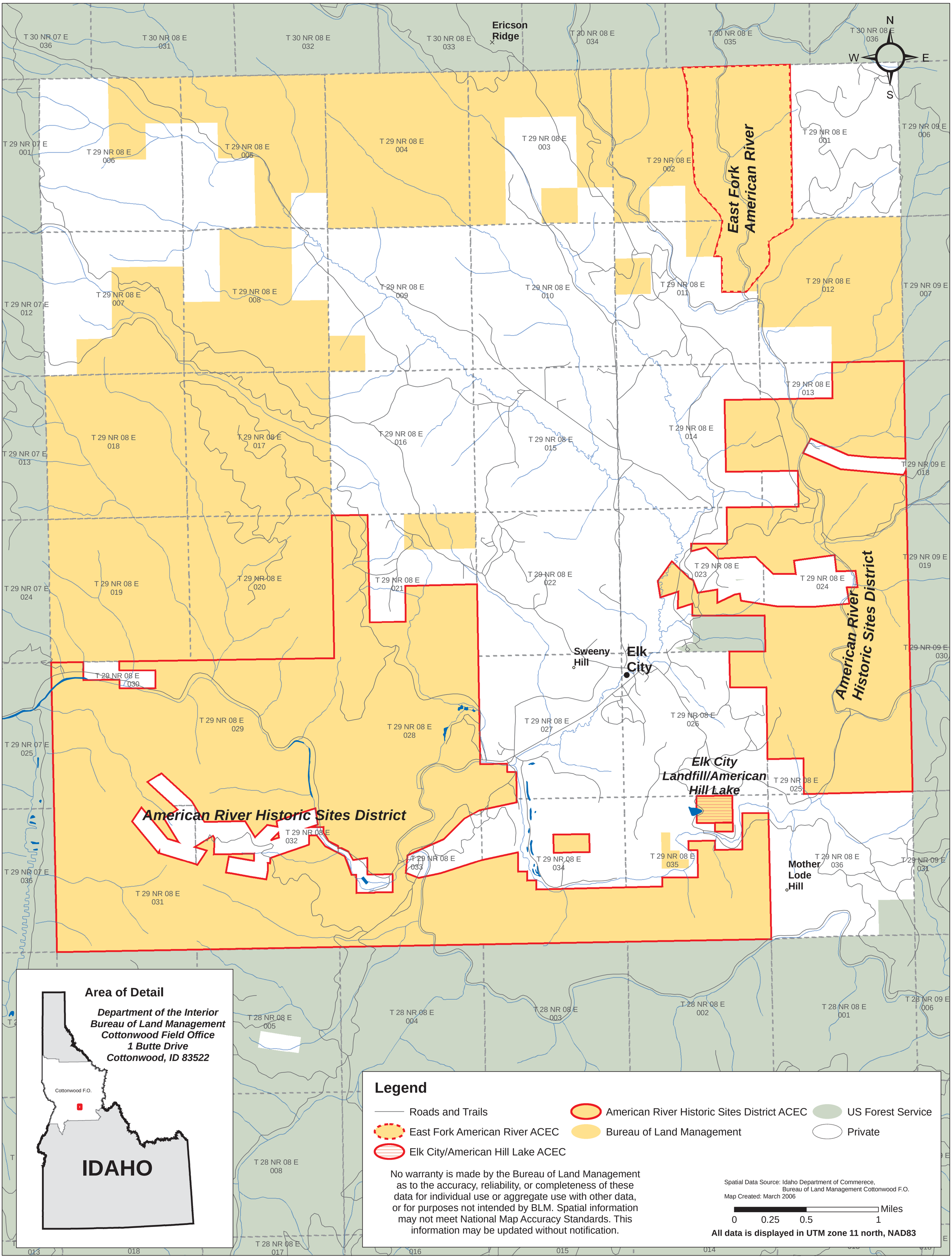
Bureau of Land Management Cottonwood Field Office

MAP 12

Draft Resource Management Plan & Environmental Impact Statement

Elk City American Hill Lake, East Fork American River, American River Historic Sites District ACEC's



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APPENDIX O

APPENDIX O—WATERSHED AND STREAM WATER QUALITY CONDITIONS

Much of the following discussion of existing watershed and stream water quality conditions in the watersheds containing BLM land is derived from completed watershed assessments and total maximum daily loads for water quality limited segments in those watersheds. Many of the total maximum daily loads have not yet been completed.

Snake River Basin. The Hells Canyon Dam, near the southwest corner of the CFO, is the uppermost point on the Snake River accessible to anadromous fish (salmon, steelhead). A small portion of the watershed of the Snake River within the CFO is above Hells Canyon Dam (the Brownlee Reservoir reach), but there are no BLM lands in this area.

Downstream of Hells Canyon Dam is characterized by steep-sided canyons, with a narrow rapidly flowing river with stretches of white water. Above the confluence with the Salmon River, the flow in the river is controlled mainly by releases from the Hells Canyon reservoir complex. There are scattered blocks of BLM land on the slopes of the Idaho bank of the river, totaling a little less than 4,000 acres (6.25 square miles). Adjacent to the river on the opposite bank, in Oregon, most of the land belongs to the Hells Canyon National Recreation Area. The average annual precipitation in the Hells Canyon area is about 12.5 inches, based on measurements at Lewiston (IDEQ and Oregon Department of Environmental Quality 2004). The reservoirs trap sediment and nutrients and keep the stream temperature cool because the water is released from deep in the reservoir.

The Imnaha River in Oregon is the main tributary in the segment above the confluence with the Salmon River. It contributes less than three percent to the flow in the Snake River. A Total Maximum Daily Load for temperature in the Imnaha River was completed by Oregon Department of Environmental Quality in 2001 (IDEQ and Oregon Department of Environmental Quality 2004). Because this reach of the Snake River is shared between Oregon and Idaho, each state has separately listed pollutants that affect the designated beneficial uses of the river, which include salmonid habitat, primary contact recreation, and domestic water supply, among others. The State of Oregon lists the Hells Canyon segment due to mercury and temperature, while the State of Idaho lists it only based on temperature. The mercury listing is based on human fish consumption. Although the mercury data are considered inadequate, mercury is believed to originate from upstream sources and has been identified as a contaminant in upstream fish (IDEQ and Oregon Department of Environmental Quality 2004). The mercury is believed to result from legacy mining activity both on tributaries to the Snake River and in the mainstem. A Total Maximum Daily Load for mercury is expected to be issued in 2006 (IDEQ and Oregon Department of Environmental Quality 2004).

Temperature is listed due to violation of the standards of both states intended to support of salmonid habitat. There is some uncertainty as to the adequacy of the temperature data as a basis for a Total Maximum Daily Load because the measurements are instantaneous values rather than averaged over time. Measured summer temperatures have ranged up to 22 degrees Celsius (72 degrees Fahrenheit), which exceeds the 13 degree maximum weekly temperature target identified in the Total Maximum Daily Load (IDEQ and Oregon Department of Environmental Quality 2004).

Elevated concentrations of dissolved gases (air), due to incorporation of air during releases from the Hells Canyon Dam, are believed to occur when spills exceed 2,000 to 3,000 cubic feet per second. Elevated dissolved gases can reduce anadromous fish survival, but this criterion is not a listed value.

The watershed below Hells Canyon Dam is included within the Imnaha-Snake River Recovery Unit of the USFWS' Bull Trout Draft Recovery Plan (USFWS 2005b). Bull trout spawn only in the upper portions of tributary streams. Only fall chinook and mountain whitefish spawn in the mainstem (October 23 to April 15) (IDEQ and Oregon Department of Environmental Quality 2004). Among the threats to bull trout identified in the recovery plan for this unit are irrigation withdrawals affecting water flow and poorly managed livestock grazing affecting stream habitat conditions. The Total Maximum Daily Load for the Snake River discusses these conditions, but concludes that agricultural irrigation is limited within the watershed as most of the land is dry farmed. There are only minor agricultural return flows. Also, livestock densities are relatively low (IDEQ and Oregon Department of Environmental Quality 2004). Within the Hells Canyon reach, three tributaries on the Idaho bank are listed for sediment as a pollutant: Divide Creek, Wolf Creek, and Getta Creek. Total Maximum Daily Loads for these streams were scheduled to be prepared by 2007, according to the settlement agreement between US EPA, IDEQ, and the Idaho Conservation League and the Lands Council.

The Snake River mainstem below the confluence with the Salmon River is not listed in the current IDEQ Section 303(d) list (IDEQ 2002). However, it is listed for temperature in the State of Washington's 1998 303(d) list, based on "3 excursions beyond the criterion…between 7/1/87 and 7/1/91" (Washington Department of Ecology 2000). CFO land holdings in the watershed of this reach (on the Idaho bank) include over 17,000 acres (nearly 27 square miles). Together, about 15 percent of the lands managed by the CFO are in the watershed of the Lower Snake River between Hells Canyon Dam and the Washington State boundary.

Salmon River Basin. More than half of the BLM lands in the CFO are in the Salmon River Basin, primarily in the Middle (Chamberlain Creek reach), Lower, and Little Salmon watersheds. Total Maximum Daily Loads for the Little Salmon and Lower Salmon Rivers are scheduled to be completed in 2007 (Settlement Agreement 2002).

The BLM lands within the Middle Salmon-Chamberlain Creek subbasin occupy a tract five miles long and four miles wide that includes the Marshall Mining District. This tract is within the Nez Perce National Forest, about one mile south of the Salmon River. The tract is drained by several creeks that are tributary to the Salmon River, including Carey Creek, Long Tom Creek, Bear Creek, and Maxwell Creek. These are first or second order streams, in narrow V-shaped channels with steep gradients. A small portion of the southwest corner of the tract, containing Marshall Lake, drains south to Lake Creek, which is in the watershed of the Secesch River. The area is about ten miles northwest of the town of Warren, a historical mining area. Based on data from Warren, which is about ten miles to the southeast of Marshall Mountain, the mean annual precipitation in this area is about 27 inches, and the annual snowfall is about 177 inches. Although there have been concerns about sediment loadings in the Salmon River, primarily from inflows of sediment from the South Fork Salmon River, neither the Middle Salmon-Chamberlain Creek reach, nor any of the streams that traverse the Marshall Mountain Mining District are currently listed as Section 303(d) impaired water bodies (IDEQ 2002).

Clearwater River Basin. More than one-fourth of the BLM-managed land in the CFO is in the Clearwater Basin. Most of that land is in the South Fork and Lower Clearwater subbasins. Total Maximum Daily Loads for water quality limited streams in the South Fork have been completed, but those for the Lower Clearwater River are under development.

Most of the BLM land in the South Fork Clearwater is concentrated in a 36-square-mile tract around Elk City, within the Nez Perce National Forest, but there are scattered parcels along some of the tributary streams to the South Fork Clearwater. Elk City is near the headwaters of the South Fork, where a number of tributaries converge, including the Red River, American River, Big Elk Creek, and Little Elk Creek. The elevation at Elk City is about 6,382 feet and precipitation averages about 30 inches per year, but exceeds 50 inches on the ridge tops to the north. About 40 percent of this precipitation is snow. The highest stream flows on the South Fork near Elk City typically occur from snow melt in late April to June. Rain-on-snow also accounts for some high flows from November through March. Tributary streams draining the Camas Prairie, at the downstream end of the South Fork, typically experience the highest flows during winter, due to rain-on-snow events (IDEQ and US EPA 2003).

In addition to the South Fork Clearwater River itself, several of the tributaries of the South Fork, including Buffalo Gulch, Big Elk Creek, and Little Elk Creek, which are in the watershed of the American River and drain BLM land in the Elk City area, are 303(d) listed waters, for which Total Maximum Daily Loads have been identified. Cottonwood Creek, Threemile Creek, and Butcher Creek, which drain BLM lands on the Camas Prairie, are also 303(d) listed waters. Water quality considerations are discussed below.

The Elk City area, including the watershed of the American River, has been highly affected by human activity, including historic dredge mining, grazing, timber harvesting, and road encroachment. There are about 200 miles of roads in the watershed. According to the Forest Service, about half of the watershed has low human development, including portions of Big and Little Elk Creeks, which are part of the municipal watershed of Elk City. However, much of the watershed is not properly functioning (IDEQ and US EPA 2003).

Buffalo Gulch has been affected by dredge mining, roads, logging, and grazing. The stream is also habitat for salmonids. The stream banks are unstable, and the stream receives high levels of sediments, is affected by high summer water temperatures, and lacks good quality pools.

Both Big Elk Creek and Little Elk Creek also provide habitat for salmonids and other fish species. Bull trout may use the streams, both of which have been affected by grazing, roads, and logging and by unstable banks, lack of pools, high summer water temperatures, and sediment deposition.

The South Fork Clearwater River is water quality limited from the confluence with the Red River to the confluence with the Middle Fork Clearwater at Kooskia. It has been affected by historic mining on tributaries and on the mainstem, by clearcut timber harvesting that occurred from 1960 to 1990, and by road building. Highway 14 parallels the river and has encroached on riparian areas, floodplain, and the river channel along some reaches.

The Camas Prairie tributary streams drain silt-loam glacial outwash soils that overlie basalt lava flows. The streams support salmonid species, but the watersheds have been heavily affected by agricultural activity, which has resulted in erosion, channel destabilization, and sediment deposition. Feedlots and grazing have affected some stream reaches. Cottonwood Creek drains an area of about 125,000 acres, from an elevation of 5,730 feet at Cottonwood Butte to about 1,332 feet at the Clearwater River. The watershed is used primarily for agriculture. About three-quarters of the land is used for dryland farming. Another 20 percent is rangeland or pasture, and the remainder is forest. The primary sources of pollutants are agriculture, livestock grazing, feed lots and dairies, timber harvesting, urban runoff, and sewage. The Cottonwood wastewater treatment plant is permitted to discharge to Cottonwood Creek from November through March. BLM lands account for less than 1 percent of the lands in the watershed. Nearly all of the remaining land is privately owned (IDEQ et al. 2000). The watershed of Threemile Creek drains about 25,000 acres, about half a percent of which the BLM manages, and the rest is privately owned. It is affected by dryland farming and livestock grazing, by nonpoint urban runoff from Grangeville, and by sewage effluent. Similarly, Butcher Creek drains approximately 11,000 acres, of which less than 0.001 percent is managed by BLM, two percent by the State of Idaho, and the rest is privately owned. It is affected primarily by cattle grazing, recent increases in housing construction, and logging (IDEQ and US EPA 2003).

APPENDIX P

APPENDIX P—CURRENT GRAZING ALLOTMENTS (ALTERNATIVE A)

Table P-1
Grazing Allotments on CFO-Administered Lands

Allotment Number	Allotment Name	BLM Acres	Kind of Livestock	Season of Use	AUMs Livestock
36100	Lower Little Canyon	588	Cattle	4/15-6/1	16
36101	Dryden Site	247	Cattle~~C~~	5/15-7/1	8
				9/1-11/1	10
36102	Sevenmile	40	Cattle~~C~~	4/15-12/1	2
36103	Hammer Creek	88	Cattle~~C~~	5/1-5/30	4
				11/1-11/30	4
36104	Russel Site	41	Cattle~~C~~	5/15-10/15	5
36105	Shuck Creek	1883	Cattle~~C~~	4/15-10/15	93
				10/16-1/1	37
36106	Lower Sotin Creek	79	Cattle~~C~~	5/1-5/31	4
				11/1-11/30	4
36107	West Greer	475	Cattle~~C~~	5/15-11/15	30
36109	Big Canyon Mouth	46	Cattle~~C~~	4/15-11/1	3
36110	Bear Gulch	1261	Cattle~~C~~	7/1-9/15	79
36112	Wet Gulch	420	Cattle~~C~~	4/15-6/15	9
				11/1-1/15	11
36113	Long Gulch Road	97	Cattle~~C~~	5/1-10/31	5
			Horse~~H~~	5/1-10/31	4
36115	Elmen	27	Cattle~~C~~	4/15-6/15	1
36116	Deep Creek	242	Cattle~~C~~	4/1-5/30	4
				11/1-12/31	4
36117	Louse Creek	156	Cattle~~C~~	6/1-10/15	6
36118	Oxbow	1049	Cattle~~C~~	3/1-6~~-~~/15	32
				11/1-2/28	34
36119	Maloney Creek	225	Cattle~~C~~	3/1-6/15	3
				11/1-2/28	4
36120	Gold Hill	75	Cattle~~C~~	4/1-6/15	16
36122	Fivemile Creek	201	Cattle~~C~~	4/15-12/1	10
36123	Mahoney Creek	700	Cattle~~C~~	4/15-9/15	10
			Horse~~H~~	4/15-9/15	5
36124	Pardee	241	Cattle~~C~~	4/15-6/15	4
				10/15-11/15	3
36125	Blacktail Butte	64	Cattle~~C~~	4/1-7/15	3
				10/1-11/30	2
36127	Braun	42	Cattle~~C~~	4/1-7/1	2
36128	Cottonwood Creek I	35	Cattle~~C~~	4/1-6/15	2
				9/15-12/1	3
36129	Wildcat Creek	1309	Cattle~~C~~	4/1-6/21	344
36132	Howard Gulch	177	Cattle~~C~~	4/1-6/1	11
				11/1-1/15	13

Table P-1
Grazing Allotments on CFO-Administered Lands *(continued)*

Allotment Number	Allotment Name	BLM Acres	Kind of Livestock	Season of Use	AUMs Livestock
36133	Nichols Canyon	80	Cattle~~C~~	4/15-6/30	5
36134	Spring Camp	647	Cattle~~C~~	3/1-2/28	49
36135	Round Springs Creek	672	Cattle~~C~~	4/1-10/15	22
36137	Wolf Creek	776	Cattle~~C~~	3/1-2/28	112
36138	Butcher Bar	361	Cattle~~C~~	3/1-4/15	31
				12/20-1/20	21
36139	Isaksen	139	Cattle~~C~~	4/1-7/1	5
				10/15-12/1	2
36141	Tramway	201	Cattle~~C~~	4/15-7/1	5
				10/01-12/15	5
36142	Yanks Creek	43	Cattle~~C~~	6/1-10/1	5
36143	Incendiary Creek	239	Cattle~~C~~	6/1-7/1	10
36144	Basin	991	Cattle~~C~~	4/1-6/1	51
				10/15-12/15	54
36145	First Creek	240	Cattle~~C~~	6/1-11/1	9
36146	Buffalo Gulch	2654	Cattle~~C~~	7/1-10/1	92
36148	Tom Taha Creek	154	Cattle~~C~~	5/1-7/1	8
36150	Coyote Gulch	66	Cattle~~C~~	4/1-7/1	2
				10/15-12/1	1
36151	Lacy Meadows	818	Cattle~~C~~	6/1-10/31	32
36152	Little Canyon	453	Cattle~~C~~	5/1-9/15	55
36154	Upper Slippery Creek	81	Cattle~~C~~	6/1-11/1	5
36155	Big Canyon Barn	742	Cattle~~C~~	5/1-10/1	38
36156	American Bar	336	Cattle~~C~~	4/1-6/15	9
				11/1-1/31	11
36157	Paul	167	Cattle~~C~~	6/15-10/15	12
36158	Big Creek	441	Cattle~~C~~	5/1-12/1	32
36160	Cottonwood Creek	333	Cattle~~C~~	4/1-6/15	9
				10/15-1/1	7
36161	White House Bar	620	Cattle~~C~~	4/1-5/31	16
				11/1-12/31	15
36163	Upper Sixmile Creek	531	Cattle~~C~~	5/1-10/1	22
36165	Swale Creek	302	Cattle~~C~~	6/15-9/31	8
36167	Mcintire	651	Cattle~~C~~	7/1-10/1	14
36168	Maple Canyon	450	Cattle~~C~~	4/1-6/1	11
				11/1-1/1	12
36169	Adams Grade	44	Horse~~H~~	5/15-10/15	5
36171	Big Cave	209	Cattle~~C~~	5/1-10/15	11
36173	American River	487	Cattle~~C~~	7/20-10/1	15
36174	Horse Canyon Creek	83	Cattle~~C~~	5/1-11/1	15
36175	Peck	83	Cattle~~C~~	5/1-6/30	2
36177	Telcher Creek	465	Cattle~~C~~	4/1-6/1	12
36180	Middle Potlatch Creek	43	Cattle~~C~~	5/1-10/1	2

Table P-1
Grazing Allotments on CFO-Administered Lands *(continued)*

Allotment Number	Allotment Name	BLM Acres	Kind of Livestock	Season of Use	AUMs Livestock
36182	Skookumchuck Creek	286	Cattle	4/1-6/1	10
				10/11-1/1	4
36183	Wolcott Creek	137	Cattle	4/15-5/15	5
				11/15-2/15	6
			Horse~~H~~	4/15-5/15	1
				11/15-2/15	3
36184	Rhett Creek	998	Cattle~~C~~	4/15-5/15	8
				5/16-11/15	45
				11/16-2/15	26
36186	Russell Bar	75	Cattle~~C~~	4/1-6/1	4
				11/20-1/10	2
36187	Rock Creek II	492	Cattle~~C~~	5/7-7/5	12
				10/1-11/15	13
36189	Lawyer Canyon Ranch	39	Cattle~~C~~	5/1-10/1	5
36190	Butcher Creek	18	Cattle~~C~~	5/15-11/1	1
36191	China Creek	267	Cattle~~C~~	4/1-6/1	11
				12/1-2/15	12
36193	Shawley	45	Cattle~~C~~	8/1-10/15	4
36195	Rattlesnake Ridge	8,616	Cattle~~C~~	3/1-6/15	172
				6/16-10/31	192
				11/1-2/28	233
36196	Simler	446	Cattle~~C~~	5/15-6/15	22
				10/1-11/15	22
36197	Adams	240	Cattle~~C~~	5/1-11/1	18
36198	Scully Creek	1,429	Cattle~~C~~	4/15-11/1	84
36200	Sheep Creek I	222	Cattle~~C~~	4/1-6/15	19
				11/1-12/1	8
36201	South Tom Taha Creek	160	Cattle~~C~~	4/15-11/1	6
36203	Divide Creek	3,345	Cattle~~C~~	3/1-2/28	166
36204	Cottonwood Flats	69	Cattle~~C~~	6/1-10/15	8
36205	Threemile Creek	38	Cattle~~C~~	5/1-7/15	2
				10/1-10/31	1
36207	Little Potlatch Creek	39	Cattle~~C~~	4/15-6/15	3
36208	Rice Creek Bridge	90	Cattle~~C~~	4/1-5/1	1
				10/1-1/1	4
36209	Post Hole Creek	140	Cattle~~C~~	4/15-10/1	11
36210	Wheeler Canyon	68	Cattle~~C~~	5/1-11/1	7
36211	Sixmile Canyon	598	Cattle~~C~~	4/1-5/15	10
36212	Little Elk Creek	285	Cattle~~C~~	6/15-11/1	18
36213	Jameson Draw	38	Cattle~~C~~	4/20-6/20	1
				10/1-11/30	1
36214	Schmidt Creek	1,027	Cattle~~C~~	4/15-5/15	25
				9/15-11/1	28
36215	Kippen	298	Cattle	5/1-9/1	15

Table P-1
Grazing Allotments on CFO-Administered Lands *(continued)*

Allotment Number	Allotment Name	BLM Acres	Kind of Livestock	Season of Use	AUMs Livestock
36216	Harpers Bend	213	Cattle~~C~~	4/15-11/1	10
36220	Big Canyon	462	Cattle~~C~~	4/15-11/1	11
36221	Chesley	181	Cattle~~C~~	5/1-9/1	3
36222	Lapwai Creek	284	Cattle~~C~~	4/15-6/1	2
				10/1-11/1	3
36223	Pickle Canyon	39	Cattle~~C~~	5/1-10/1	2
36225	Gilbert Grade	320	Cattle~~C~~	4/15-12/1	7
36226	Joe Creek	40	Horse~~H~~	3/1-6/15	2
				11/1-12/15	2
36227	North Sixmile Creek	45	Cattle~~C~~	5/1-11/30	4
36228	Slippery Creek	36	Horse~~CH~~	10/1-11/15~~4/1-6/1~~	3~~2~~
36229	Mccormack Ridge	400	Cattle~~C~~	4/15-12/1	18
36231	Bracket Gulch	56	Cattle~~C~~	4/1-6/15	3
				10/15-1/1	3
36233	Whiskey Creek	3,907	Cattle~~C~~	7/1-10/1	29
			Horse~~H~~	7/1-10/1	30
36234	Big Meadow	283	Cattle~~C~~	6/1-7/31	59
36235	North Pardee	382	Cattle~~C~~	4/15-7/1	9
36236	Myrtle	338	Cattle~~C~~	4/15-6/1	8
				11/1-12/20	8
36237	Taylor Bar	64	Cattle~~C~~	4/1-5/15	4
				12/1-2/15	5
36240	Partridge Creek	9,564	~~S~~Sheep	4/11-7/15	287
				10/15-11/30	142
			Cattle~~C~~	5/1-10/15	30
36241	Denny Creek	2,563	Cattle~~C~~	6/10-9/19	237
36242	Hard Creek	5,186	~~S~~Sheep	6/15-7/15	218
36244	Sugarloaf	282	Cattle~~C~~	4/15-8/15	29
36245	Trail Creek	2,564	Cattle~~C~~	7/15-10/1	85
36251	Culdesac Hill	93	Cattle~~C~~	7/1-10/15	6
36252	Blackhawk	381	Cattle~~C~~	4/1-6/15	17
				11/1-1/15	6
36253	Mcleod	158	Cattle~~C~~	5/1-11/30	7
36255	Warm Springs	2,553	Cattle~~SC~~	4/1-11/1	118
36256	Little Elk	1,434	Cattle~~C~~	6/1-8/1	103
36257	Sherwin Creek	406	Cattle~~C~~	3/1-6/15	11
				6/16-10/31	14
				11/1-2/28	12
36260	Wickiup Creek	1,865	Cattle~~C~~	4/1-6/15	55
				6/15-9/30	11
				10/1-1/1	69
36261	Kirks Fork	1,314	Cattle	7/1-10/1	45
36262	Dryden Site	42	Cattle	4/15-7/15	3

Table P-1
Grazing Allotments on CFO-Administered Lands *(continued)*

Allotment Number	Allotment Name	BLM Acres	Kind of Livestock	Season of Use	AUMs Livestock
36264	Getta Creek	848	Cattle~~C~~	4/15-6/1	39
				10/1-12/1	10
36265	Mader	186	Cattle~~C~~	4/15-6/15	9
				10/31-12/31	9
36266	Lucile Bar	1,243	Cattle~~C~~	4/1-6/15	42
				11/1-2/15	59
36267	Ericson Ridge	39	Cattle~~C~~	6/15-10/15	2
36268	Hewett	202	Cattle~~C~~	4/15-6/15	3
				10/1-11/15	6
36270	Central Ridge Point	181	Cattle~~C~~	4/1-6/15	2
				6/16-10/15	4
36271	Goat Ridge	725	Cattle~~C~~	4/1-6/15	25
				10/1-11/15	16
36273	Packers Creek	659	Cattle~~C~~	4/1-6/1	20
				11/1-1/1	20
36278	Catholic Creek	47	Cattle~~C~~	4/1-6/1	4
				11/1-1/1	1
36279	Wapshilla Ridge	12,541	Cattle~~C~~	11/1-6/15	445
				6/16-11/1	364
36280	Bug Slope	293	Cattle~~C~~	3/1-4/21	15
				11/1-1/1	7
36281	John Day	2,840	Cattle~~C~~	4/1-10/10	179
36282	Pinebar	388	Cattle~~C~~	4/1-6/1	18
				11/1-1/1	19
36283	Pratt	35	Cattle~~C~~	5/1-9/1	4
36284	Marshall Mountain	4,719	Sheep	7/5-8/4	166
36285	Suzie Creek	196	Cattle~~C~~	4/1-5/15	2
				11/1-12/15	3
36286	Upper Suzie Creek	59	Cattle~~C~~	4/1-12/15	2
36287	Upper Big Creek	41	Horse~~H~~	5/1-11/1	3
36288	Sally Ann Creek	81	Cattle~~C~~	5/1-6/1	4
36289	Craig Mountain	2,717	Cattle~~C~~	4/15-6/15	74
				11/1-1/1	61
36290	Corral Creek	3,391	Cattle~~C~~	4/1-2/15	12
36291	Race & Squaw Creek	232	Cattle~~C~~	4/1-7/1	12
				10/15-1/1	11
36292	Whitebird	55	Horse~~H~~	4/1-6/15	3
				10/15-1/1	3
36293	Lyons Bar	1,485	Cattle~~C~~	11/01-01/30	53
36294	Fall Creek	161	Cattle~~C~~	5/1-9/1	12
36295	Lower Buffalo Gulch	22	Horse~~H~~	7/15-7/31	3
36297	Upper Big Canyon	994	Cattle~~C~~	6/1-10/1	34
36298	Lower Lolo Creek	517	Cattle	5/10-6/15	32

Table P-1
Grazing Allotments on CFO-Administered Lands *(continued)*

Allotment Number	Allotment Name	BLM Acres	Kind of Livestock	Season of Use	AUMs Livestock
36304	Slate Creek	3	Cattle~~C~~	6/1-10/1	1
36310	Lockwood Creek	279	Cattle~~C~~	5/1-10/1	5
			Horse~~H~~	5/1-10/1	5
36315	Fall Creek II	161	Cattle~~C~~	4/15-11/30	8
36317	Cedar Creek	219	Cattle~~C~~	7/1-9/1	25
36320	Central Ridge	164	Cattle~~C~~	5/1-10/15	12
36325	Tahoe Ridge	53	Cattle~~C~~	4/15-11/1	6
36326	Bear Creek	28	Cattle~~C~~	5/15-10/31	2
36340	Lower Highrange Creek	140	Cattle~~C~~	3/1-6/15	4
				11/1-12/31	3
36345	John Day Mountain	490	Cattle~~C~~	6/16-10/31	34
36346	Bear Creek	41	Cattle~~C~~	5/15-6/15	4
				9/1-9/30	4
36348	Papoose Creek	527	Cattle~~C~~	4/1-5/31	14
				11/1-1/1	14
36349	Squaw Bar	115	Cattle~~C~~	3/1-6/15	4
				10/31-2/28	3
36351	Airport	480	Horse~~H~~	3/1-3/31	6
				12/1-2/28	17
35352	Whiskey Butte	750	Cattle~~C~~	6/1-2/28	50
36353	Spalding	227	Cattle~~C~~	6/1-6/15	3
				11/1-11/15	3
36354	Turner	200	Cattle~~C~~	9/1-11/1	10
36355	Snowhole	526	Cattle~~C~~	4/1-5/30	2
				11/1-1/1	3
36356	Seven Mile Bluffs	86	Horse	3/1-9/1	4
36357	Osborn Individual	480	Cattle	5/1-5/31	66
	Note: Inside BLM Boise District, but CFO administers under MOU				
36358	Big Creek	480	Sheep	6/1-10/31	81
	Note: Inside BLM Boise District, but CFO administers under MOU				
36359	Sheep Mountain	2,269	Cattle~~C~~	5/15-7/15	140
				10/15-11/15	74
36360	North Fork	845	Cattle~~C~~	9/7-10/20	100
36361	Otto Creek	21	Cattle~~C~~	4/1-6/15	1
				11/1-12/31	2
Total:		**122,851 acres**			**7,204 AUMs**

Source: BLM 2004a, Huibregtse 2005

Table P-2
Assessment of Standards for Rangeland Health and Guidelines for Livestock Grazing on CFO Grazing Allotments

Allotment Number	Allotment Name	Acres	Standard[1] and Guideline[1] Assessment Completed	Determination[1]	Grazing Lease Issued
36100	Lower Little Canyon	588	Yes	Meeting S & Gs	Yes
36101	Dryden Site	247			
36102	Sevenmile	40	Yes	Meeting S & Gs	Yes
36103	Hammer Creek	88	Yes	Meeting S & Gs	Yes
36104	Russel Site	41	Yes	Meeting S & Gs	Yes
36105	Shuck Creek	1880			
36106	Lower Sotin Creek	79	Yes	Meeting S & Gs	Yes
36107	West Greer	475			
36109	Big Canyon Mouth	46	Yes	Meeting S & Gs	Yes
36110	Bear Gulch	1261	Yes	Meeting S & Gs	Yes
36112	Wet Gulch	420	Yes	Meeting S & Gs	Yes
36113	Long Gulch Road	97	Yes	Meeting S & Gs	Yes
36115	Elmen	27	Yes	Meeting S & Gs	Yes
36116	Deep Creek	242	Yes	Meeting S & Gs	Yes
36117	Louse Creek	156			
36118	Oxbow	1049	Yes	Meeting S & Gs	Yes
36119	Maloney Creek	225			
36120	Gold Hill	75	Yes	Meeting S & Gs	Yes
36122	Fivemile Creek	201	Yes	Meeting S & Gs	Yes
36123	Mahoney Creek	700			
36124	Pardee	241	Yes	Meeting S & Gs	Yes
36125	Blacktail Butte	64	Yes	Meeting S & Gs	Yes
36127	Braun	42	Yes	Meeting S & Gs	Yes
36128	Cottonwood Creek I	35	Yes	Meeting S & Gs	Yes
36129	Wildcat Creek	1309	Yes	Meeting S & Gs	Yes
36132	Howard Gulch	177	Yes	Meeting S & Gs	Yes
36133	Nichols Canyon	80			
36134	Spring Camp	647	Yes	Meeting S & Gs	Yes
36135	Round Springs Creek	672	Yes	Meeting S & Gs	Yes
36137	Wolf Creek	776			
36138	Butcher Bar	361	Yes	Meeting S & Gs	Yes
36139	Isaksen	139			
36141	Tramway	201			
36142	Yanks Creek	43			
36143	Incendiary Creek	239			
36144	Basin	991			
36145	First Creek	240			
36146	Buffalo Gulch	2654			
36148	Tom Taha Creek	154			
36150	Coyote Gulch	66	Yes	Meeting S & Gs	Yes
36151	Lacy Meadows	818	Yes	Meeting S & Gs	Yes
36152	Little Canyon	453	Yes	Meeting S & Gs	Yes

Table P-2
Assessment of Standards for Rangeland Health and Guidelines for Livestock Grazing on CFO Grazing Allotments *(continued)*

Allotment Number	Allotment Name	Acres	Standard[1] and Guideline[1] Assessment Completed	Determination[1]	Grazing Lease Issued
36154	Upper Slippery Creek	81	Yes	Meeting S & Gs	Yes
36155	Big Canyon Mouth	742			
36156	American Bar	336	Yes	Meeting S & Gs	Yes
36157	Paul	167			
36158	Big Creek	441	Yes	Meeting S & Gs	Yes
36160	Cottonwood Creek	333	Yes	Meeting S & Gs	Yes
36161	White House Bar	620	Yes	Meeting S & Gs	Yes
36163	Upper Sixmile Creek	531			
36165	Swale Creek	302			
36167	Mcintire	651	Yes	Meeting S & Gs	Yes
36168	Maple Canyon	450			
36169	Adams Grade	44			
36171	Big Cave	209	Yes	Meeting S & Gs	Yes
36173	American River	487	Yes	Meeting S & Gs	Yes
36174	Horse Canyon Creek	83	Yes	Meeting S & Gs	Yes
36175	Peck	83			
36177	Telcher Creek	465	Yes	Meeting S & Gs	Yes
36180	Middle Potlatch Creek	43			
36182	Skookumchuck Creek	286	Yes	Meeting S & Gs	Yes
36183	Wolcott Creek	137			
36184	Rhett Creek	998	Yes	Meeting S & Gs	Yes
36186	Russell Bar	75			
36187	Rock Creek II	492			
36189	Lawyer Canyon Ranch	39	Yes	Meeting S & Gs	Yes
36190	Butcher Creek	18			
36191	China Creek	267	Yes	Meeting S & Gs	Yes
36193	Shawley	45	Yes	Meeting S & Gs	Yes
36195	Rattlesnake Ridge	8,616	Yes	Meeting S & Gs	Yes
36196	Simler	446			
36197	Adams	240	Yes	Meeting S & Gs	Yes
36198	Scully Creek	1,429			
36200	Sheep Creek I	222			
36201	South Tom Taha Creek	160			
36203	Divide Creek	3,345	Yes	Meeting S & Gs	Yes
36204	Cottonwood Flats	69	Yes	Meeting S & Gs	Yes
36205	Threemile Creek	38	Yes	Meeting S & Gs	Yes
36207	Little Potlatch Creek	39	Yes	Meeting S & Gs	Yes
36208	Rice Creek Bridge	90	Yes	Meeting S & Gs	Yes
36209	Post Hole Creek	140			
36210	Wheeler Canyon	68			
36211	Sixmile Canyon	598	Yes	Meeting S & Gs	Yes
36212	Little Elk Creek	285	Yes	Meeting S & Gs	Yes

Table P-2
Assessment of Standards for Rangeland Health and Guidelines for Livestock Grazing on CFO Grazing Allotments *(continued)*

Allotment Number	Allotment Name	Acres	Standard[1] and Guideline[1] Assessment Completed	Determination[1]	Grazing Lease Issued
36213	Jameson Draw	38	Yes	Meeting S & Gs	Yes
36214	Schmidt Creek	1,027	Yes	Meeting S & Gs	Yes
36215	Kippen	298	Yes	Meeting S & Gs	Yes
36216	Harpers Bend	213			
36220	Big Canyon	462	Yes	Meeting S & Gs	Yes
36221	Chesley	181	Yes	Meeting S & Gs	Yes
36222	Lapwai Creek	284	Yes	Meeting S & Gs	Yes
36223	Pickle Canyon	39			
36224	Weddle	337			
36225	Gilbert Grade	320	Yes	Meeting S & Gs	Yes
36226	Joe Creek	40	Yes	Meeting S & Gs	Yes
36227	North Sixmile Creek	45			
36228	Slippery Creek	36	Yes	Meeting S & Gs	Yes
36229	Mccormack Ridge	400			
36231	Bracket Gulch	56	Yes	Meeting S & Gs	Yes
36233	Whiskey Creek	3,907			
36234	Big Meadow	283	Yes	Meeting S & Gs	Yes
36235	North Pardee	382	Yes	Meeting S & Gs	Yes
36236	Myrtle	338	Yes	Meeting S & Gs	Yes
36237	Taylor Bar	64	Yes	Meeting S & Gs	Yes
36240	Partridge Creek	9,564	Yes	Meeting S & Gs	Yes
36241	Denny Creek	2,563	Yes	Meeting S & Gs	Yes
36242	Hard Creek	5,186	Yes	Meeting S & Gs	Yes
36243	Mill Creek	102			
36244	Sugarloaf	282	Yes	Meeting S & Gs	Yes
36245	Trail Creek	2,564			
36251	Culdesac Hill	93			
36252	Blackhawk	381	Yes	Meeting S & Gs	Yes
36253	Mcleod	158	Yes	Meeting S & Gs	Yes
36255	Warm Springs	2,553	Yes	Meeting S & Gs	Yes
36256	Little Elk	1,434			
36257	Sherwin Creek	406			
36260	Wickiup Creek	1,865	Yes	Meeting S & Gs	Yes
36261	Kirks Fork	1,314			
36262	Dryden Site	42	Yes	Meeting S & Gs	Yes
36264	Getta Creek	848			
36265	Mader	186			
36266	Lucile Bar	1,243	Yes	Meeting S & Gs	Yes
36267	Ericson Ridge	39	Yes	Meeting S & Gs	Yes
36268	Hewett	202	Yes	Meeting S & Gs	Yes
36270	Central Ridge Point	181			
36271	Goat Ridge	725	Yes	Meeting S & Gs	Yes

Table P-2
Assessment of Standards for Rangeland Health and Guidelines for Livestock Grazing on CFO Grazing Allotments *(continued)*

Allotment Number	Allotment Name	Acres	Standard[1] and Guideline[1] Assessment Completed	Determination[1]	Grazing Lease Issued
36273	Packers Creek	659	Yes	Meeting S & Gs	Yes
36278	Catholic Creek	47	Yes	Meeting S & Gs	Yes
36279	Wapshilla Ridge	12,541			
36280	Bug Slope	293	Yes	Meeting S & Gs	Yes
36281	John Day	2,840	Yes	Meeting S & Gs	Yes
36282	Pinebar	388	Yes	Meeting S & Gs	Yes
36283	Pratt	35			
36284	Marshall Mountain	4,719	Yes	Meeting S & Gs	Yes
36285	Suzie Creek	196			
36286	Upper Suzie Creek	59			
36287	Upper Big Creek	41	Yes	Meeting S & Gs	Yes
36288	Sally Ann Creek	81			
36289	Craig Mountain	2,717			
36290	Corral Creek	3,391			
36291	Race & Squaw Creek	232			
36292	Whitebird	55			
36293	Lyons Bar	1,485	Yes	Meeting S & Gs	Yes
36294	Fall Creek	161			
36295	Lower Buffalo Gulch	22	Yes	Meeting S & Gs	Yes
36297	Upper Big Canyon	994			
36298	Lower Lolo Creek	517	Yes	Meeting S & Gs	Yes
36304	Slate Creek	3	Yes	Meeting S & Gs	Yes
36310	Lockwood Creek	279			
36315	Fall Creek II	161	Yes	Meeting S & Gs	Yes
36317	Cedar Creek	219	Yes	Meeting S & Gs	Yes
36320	Central Ridge	164	Yes	Meeting S & Gs	Yes
36325	Tahoe Ridge	53	Yes	Meeting S & Gs	Yes
36326	Bear Creek	28	Yes	Meeting S & Gs	Yes
36340	Lower Highrange Creek	140			
36345	John Day Mountain	490	Yes	Meeting S & Gs	Yes
36346	Bear Creek	41	Yes	Meeting S & Gs	Yes
36348	Papoose Creek	527			
36349	Squaw Mountain	115			
36351	Airport	480	Yes	Meeting S & Gs	Yes
35352	Whiskey Butte	750			
36353	Spalding	227	Yes	Meeting S & Gs	Yes
36354	Turner	200			
36355	Snowhole	526	Yes	Meeting S & Gs	Yes
36356	Seven Mile Bluffs	86			

Table P-2
Assessment of Standards for Rangeland Health and Guidelines for Livestock Grazing on CFO Grazing Allotments *(continued)*

Allotment Number	Allotment Name	Acres	Standard[1] and Guideline[1] Assessment Completed	Determination[1]	Grazing Lease Issued
36357	Osborn Individual (Allotment is located within BLM Boise District, but CFO administers it under a Memorandum of Understanding)	480			
36358	Big Creek (Allotment is located within BLM Boise District, but CFO administers it under a Memorandum of Understanding)	480	Yes	Meeting S & Gs	Yes
36359	Sheep Mountain	2,269			
36360	North Fork	845			
36361	Otto Creek	21			

Source: Huibregtse 2005

[1] From *Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management* (BLM 1997a) (**Appendix A**)

[2] S = Standards for Rangeland Health; G = Guidelines for Livestock Grazing

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APPENDIX Q

APPENDIX Q—REASONABLY FORESEEABLE DEVELOPMENT SCENARIOS FOR MINERALS

INTRODUCTION

This appendix describes the Reasonably Foreseeable Development scenarios for leasable, locatable, and salable mineral commodities. The purpose of this information is to provide a model that predicts the level and type of future mineral activity in the planning area, and will serve as a basis for cumulative impact analysis as called for in the Supplemental Program Guidance for Energy and Mineral Resources (BLM Manual Section 1624). The Reasonably Foreseeable Development first describes the steps involved in developing a mineral deposit, with presentation of hypothetical exploration and production operations. Future trends and assumptions affecting mineral activity are discussed here, followed by the prediction and identification of anticipated mineral exploration and development.

SCOPE

The development scenarios are limited in scope to BLM managed lands within the planning area. The Reasonably Foreseeable Development is based on the known, or inferred mineral resource capabilities of the lands involved, and applies the conditions and assumptions discussed under Future Trends and Assumptions. Changes in available geologic data and/or economic conditions could alter the Reasonably Foreseeable Development, and some change is to be expected over time.

LEASABLE MINERAL RESOURCES

Oil and Gas

Future Trends and Assumptions

Based on the history of past drilling and the foreseeable development potential in the CFO, activity over the next 15 to 20 years would continue to be low. It is anticipated that oil and gas activity could consist of the issuance of one or two geophysical surveys and perhaps the drilling of one or two exploratory holes. However, it is noted that this level of activity is highly speculative due to the fact only three exploratory oil/gas wells have ever been recorded in the planning area. These wells were drilled in 1923, 1974, and 1982, and did not encounter any hydrocarbons. Also, because there is limited information concerning possible occurrence of hydrocarbons in the planning area, and no Known Geological Structure for oil and gas occurrence has been identified within the planning area, any activity associated with oil and gas could occur anywhere in the planning area.

Because of the low potential for development of hydrocarbons we do not anticipate the discovery of a producible oil and gas field during the period covered by this plan; however, the potential surface impacts associated with the exploration and development of a small oil/gas field are given in the following sections. The development and reclamation of oil and gas sites would be subject to the regulations found in 43 CFR 3100.

Geophysical Exploration

Geophysical exploration is conducted to determine the subsurface structure of an area. Three geophysical survey techniques are generally used to define subsurface characteristics through measurements of the gravitational field, magnetic field, and seismic reflections.

Gravity and Magnetic field surveys: These two techniques involve small portable measuring units which are easily transported via light off-road vehicles, such as four-wheel drive pickups and jeeps, or aircraft. Both off-road and on-road travel may be necessary in these two types of surveys. Usually a three-man crew transported by one or two vehicles is required. Sometimes small holes (approximately one inch by two inches by two inches) are hand dug for instrument placement at the survey measurement points. These two survey methods can make measurements along defined lines, but it is more common to have a grid of discrete measurement stations.

Seismic Reflection surveys: This technique is the most common of the geophysical methods and produces the most detailed subsurface information. Seismic surveys are conducted by sending shock waves through the Earth's surface. The waves are generated by a small explosion or through mechanically beating the ground surface with a thumping or vibrating platform. The thumper and vibrator methods pound or vibrate the ground surface using four large trucks (typically), each equipped with pads about four-foot square. The pads are lowered to the ground, and the vibrators are electronically triggered from the recording truck. Once information is recorded, the trucks are moved forward a short distance and the process is repeated. Less than 50 square feet of surface area is required to operate the equipment at each recording site.

The small explosive method requires charges to be detonated on the surface or in a drill hole. In the drill hole method, holes for the charges are drilled utilizing truck-mounted or portable air drills to drill small-diameter (two to six inch) holes to depths of 100 to 200 feet. Generally four to 12 holes are drilled per mile of line and a five- to 50-pound charge of explosives is placed in the hole, covered, and detonated. The shock wave created by the detonation is recorded by geophones placed in a linear fashion on the surface. In rugged terrain, a portable drill carried by helicopter can sometimes be used. A typical drilling seismic operation may utilize 10 to 15 men operating five to seven trucks. Under normal conditions, three to five miles of line can be surveyed daily using this method. The vehicles used for a drilling program may include heavy truck-mounted drill rigs, track-mounted air rigs, water trucks, a computer recording truck, and several light pickups for the surveyors, shot hole crew, geophone crew, permit man, and party chief.

The surface charge method utilizes one- to five-pound charges attached to wooden laths three to eight feet above the ground. Placing the charges lower than six feet usually results in the destruction of vegetation, while placing the charges higher, or on the surface of deep snow, results in little visible surface disturbance.

Public and private roads and trails are used where possible. However, off-road cross-country travel is also necessary in some cases. Graders and dozers may be required to provide access to remote areas. Several trips a day are made along a seismograph line, usually resulting in a well defined two-track trail. Drilling water, when needed, is usually obtained from private landowners.

During the life of this plan, it is speculated that one or two notices of intent involving seismic reflection and gravity/magnetic field surveys could be filed.

Drilling Phase

An operator would determine if they wished to pursue an oil and gas lease based on information collected during geophysical exploration. If a lease is issued, then the lessee would be required to submit an application for a permit to drill. Once the application for a permit to drill has been approved, the operator may begin construction activities in accordance with any stipulations and conditions. When a site is chosen that necessitates the construction of an access road, the length of road may vary, but usually the shortest feasible route is selected to reduce the haul distance and construction costs. Environmental factors or a landowner's wishes may dictate a longer route in some cases. Drilling activity in the planning area is predicted to be done using existing roads and constructing short (approximately 0.25-mile) roads to access drill site locations.

During the first phase of drilling, the operator would move construction equipment over existing roads to the point where the access road begins. No more than 0.25-mile of moderate duty access road with a cinder or gravel surface 18 to 20 feet wide is anticipated to be constructed. The total surface disturbance width would average 40 feet with ditches, cuts, and fill. The second part of the drilling phase is the construction of the drilling pad or platform. The likely duration of well development, testing, and abandonment is predicted to be less than 12 months per drill site. The total disturbance for each exploratory well and any new road constructed to that drill site is expected to be no more than six acres.

Based on past oil and gas drilling in North Idaho, it is speculated that one or two exploratory "wildcat" well(s) could be drilled on BLM land in the planning area. The estimated success rate of finding hydrocarbons is predicted to be less than ten percent, based on the average US wildcat well success rate and the lack of any indications of hydrocarbons in the planning area. The potential for oil and gas occurrence is low throughout BLM lands therefore target areas are unknown. The total surface disturbance caused by exploratory drilling over the life of the plan is projected to be no more than 15 acres.

Field Development and Production

No field development is expected to occur during the life of the plan. However, the following scenario describes operations and impacts associated with field development and production.

Small deposits of oil or gas discovered in the planning area would not be economic to develop. The minimum size that would be economic would be a field containing reserves of 50 to 60 billion cubic feet of gas over a productive lifespan of ten years. The total area of such a field would be 200 acres with a likely well spacing of 160 acres. The field would require four development wells in addition to the discovery well. Each development well would require 0.25-mile of road, likely cinder or gravel surfaced, and would have a width of about 20 feet. The width of the surface disturbance associated with roads would average 40 feet. Produced gas would be carried by pipelines estimated to average 30 to 60 miles in length, not all of which would necessarily be on BLM lands. The width of surface disturbance for pipelines would average 30 feet. Any produced oil would likely be trucked to

transmission lines in Washington for delivery to the west coast. Well servicing requirements would be provided by established service companies.

The total anticipated surface disturbance would be; 8 acres for well pads, five acres for roads, 13 acres for field development, and 600 acres for pipelines. In the unlikely event that an economic field is discovered, the total surface disturbance caused by exploration and development over the life of the plan is expected to be between 620 to 630 acres.

Plugging and Abandonment

Wells that are completed as dry holes are plugged according to a plan designed specifically for the down-hole conditions of each well. Plugging is accomplished by the placing of cement plugs at strategic locations down-hole and up to the surface. Drilling mud is used as a spacer between plugs to prevent communication between fluid bearing zones. The casing is cut off at least 3 feet below ground level and capped by welding a steel plate on the casing stub. After plugging, all equipment and debris would be removed and the site would be restored as near as reasonably possible to its original condition.

It is predicted that the one or two exploratory wells drilled would be plugged and abandoned.

Geothermal Resources

Future Trends and Assumptions

With environmental protection and enhancement being a major consideration, clean, low-impacting energy sources are becoming more important. Although abundant geothermal resources are thought to be present in the Northwest (Washington, Oregon, Idaho, and western Montana), none have been identified in the planning area. As the demand for environmentally-friendly energy sources increases, the planning area could attract renewed interest.

There are no areas classified as a Known Geothermal Resource Area by the Idaho Department of Water Resources, which is responsible for geothermal evaluation in Idaho. The potential for developing geothermal resources is considered to be low, based on the data collected by the Idaho Bureau of Water Resources, which indicates the temperatures are not high enough to be ranked for future evaluation. The development and reclamation of geothermal sites would be subject to the regulations found in 43 CFR 3200.

Geophysical/Geochemical Exploration

In addition to the geophysical methods discussed in the Oil and Gas section, the following exploration techniques are often employed in geothermal prospecting:

Microseismic: Small seismometers are buried at a shallow depth (hand-dug holes) and transmit signals from naturally-occurring, extremely minor seismic activity (micro-earthquakes) to an amplifier on the surface. Stations are located away from roads to avoid traffic "noise." These units are often backpacked into areas inaccessible to vehicles.

Resistivity: Induced polarization techniques are used to measure the resistance of subsurface rocks to the passage of an electric current. A vehicle-mounted transmitter sends pulses of electrical current into the ground through two widely-spaced electrodes (usually about two miles apart). The behavior of these electrical pulses as they travel through underlying rocks is recorded by "pots" (potential electrodes), small ceramic devices that receive the current at different locations. The electrodes are either short (two to three feet) rods driven into the ground, or aluminum foil shallowly buried over an area of several square feet. Two or three small trucks transport the crew of three to five people to transmitting and receiving sites.

Telluric: A string of "pots" record the variations in the natural electrical currents in the earth. No transmitter is required. Small trucks are used to transport the crew and equipment.

Radiometric: Radioactive emissions (generally radon gas) associated with geothermal resources are usually measured using a hand-held scintillometer, often at hot spring locations. Another method used involves placing plastic cups containing small detector strips sensitive to alpha radiation either on the surface or in shallow hand-dug holes. If holes are dug, they are covered, and the cups left in place for three to four weeks. At the end of the sampling period, the cups are retrieved and all holes are backfilled. These surveys can be conducted on foot or with the aid of light vehicles.

Geochemical Surveys: Geochemical surveys are usually conducted at hot springs by taking water samples directly from the spring. Sampling for mercury associated with geothermal resources is often done by taking soil samples using hand tools. These surveys can be conducted on foot or with the aid of light vehicles.

Temperature Gradient Drill Hole Surveys: Temperature gradient holes are used to determine the rate of change of temperature with respect to depth. Temperature gradient holes usually vary in diameter from about 3.5 to 4.5 inches, and from a few hundred feet to about 5,000 feet in depth. They are drilled using rotary or coring methods. Approximately 0.10- to 0.25-acre per drill hole would be disturbed. A typical drill site could contain the drill rig, most likely truck-mounted, water tank(s), fuel tank, supply trailer, and a small trailer for the workers. Drilling mud and fluids would be contained in earthen pits or steel tanks. Water for drilling would be hauled in water trucks, or if suitable water sources are close, could be piped directly to the site. Water consumption could range from about 4,000 to 20,000 gallons per day under extreme conditions.

Other equipment that would be utilized includes large flatbed trucks to haul drill rod, casing, and other drilling supplies, and in some cases, special cementing and bulk cement trucks. Two or three small vehicles would be used for transporting workers. In most cases, existing roads would be used. It is estimated that short spur trails (usually less than a few hundred yards long) would be bladed for less than ten percent of these holes. All holes would be plugged and abandoned to protect both surface and subsurface resources, including aquifers, and reclamation of disturbed areas would be required, unless some benefit to the public could be gained; for example, a water well or camping area.

Depending upon the location and proposed depth of the drill hole, detailed plans of operation covering drilling methods, casing and cementing programs, well control, plugging and abandonment may be required.

Based upon past geothermal exploration in the planning area and the lack of an identified geothermal resource, it is anticipated that less than five notices of intent to conduct geothermal exploration would be filed during the life of this plan.

Drilling and Testing

Drilling to determine the presence of, test, develop, produce, or inject geothermal resources can be done only on planning area lands covered by a geothermal resources lease issued to an operator by the Bureau of Land Management. A typical geothermal well drilling operation would require two to four acres for a well pad, including reserve pit, and 0.5-mile of moderate duty access road with a surface 18 to 20 feet wide, totaling up to 40 feet wide with ditches, cuts, and fills. Existing roads would be used whenever possible. Total surface disturbance for each well, and any new road is expected to be no more than six acres. In some cases, more than one production well could be drilled from one pad. Well spacing would be determined by the authorized officer after considering topography, reservoir characteristics, optimum number of wells for proposed use, protection of correlative rights, potential for well interference, interference with multiple use of lands, and protection of the surface and subsurface environment. Close coordination with the State would take place. It is anticipated that the duration of well development, testing, and if dry, abandonment, would be four months.

Plugging and Abandonment

Prior to abandonment, the operator would be required to plug the hole to prevent contamination of aquifers and any impacts on subsurface and surface resources. Plugging is accomplished by the placing of cement plugs at strategic locations down-hole and up to the surface. Depending upon the formations encountered, drilling mud could be used as a spacer between plugs to prevent communication between fluid bearing zones. The casing is cut off at least three feet below ground level and capped by welding a steel plate on the casing stub. After plugging, all equipment and debris would be removed, and the site would be restored as near as reasonably possible to its original condition. A dry hole marker is often placed at the surface to identify the well location. If the surface owner prefers, the marker may be buried. Any new roads not needed for other purposes would be reclaimed.

It is estimated that one or two exploratory wells would be plugged and abandoned during the life of this plan.

Geothermal Power Plant Development

It is projected that no geothermal power plants would be constructed during the life of this plan. However, the following scenario describes operations and impacts associated with development of a geothermal power plant. Before geothermal development could occur, site-specific baseline studies and environmental analyses, with public involvement, would be done. The scenario below describes the level of disturbance that would likely occur from the development of a 24-megawatt power plant.

Five to seven production wells and one or two injection wells would be drilled. It is anticipated that access would be provided by existing roads, and the construction of short (0.5- to one mile long) roads with a surface of 18 to 20 feet wide, totaling up to 40 feet wide with ditches, cuts, and fills. Surface disturbance from well pad and road construction would probably range from two to six acres per well. The power plant facility, including separators, energy converters, turbines, generators, condensers, cooling towers, and switchyard, would involve an estimated five to ten acres. Pipelines and power lines would disturb an additional three to six acres. If a water cooling system is employed, 1 to 3 water wells, requiring about 0.25-acre per well, would be drilled, unless the cooling water was obtained from the geothermal steam condensate. Depending upon location, terrain, geothermal reservoir characteristics, and type of generating facility, total surface disturbance for a 24-megawatt (gross) geothermal power plant, and ancillary structures, would probably range from about 26 to 76 acres, or about one to three acres per megawatt. After construction, approximately one-third to one-half of the disturbed area would be re-vegetated. Prior to abandonment, 30 to 50 years later, the remaining disturbed area would be reclaimed.

Direct Use of Geothermal Energy

Low- and moderate-temperature (50 to 300 degrees Fahrenheit) geothermal resources have many direct use applications. Direct applications, and potential development scenarios, include space heating and cooling of residences and businesses, applications in agriculture, aquaculture, and industry, and recreational and therapeutic bathing. Depending upon the type of use and magnitude of operation, surface disturbance could range from a few acres for a well and greenhouses, or food processing facility, to tens of acres for larger agricultural or aquacultural developments.

It is anticipated that no direct use of geothermal energy will occur during the plan period.

Solid Minerals

Future Trends and Assumptions

The potential for the occurrence of solid leasable mineral resources (both energy and non-energy) has been rated as low to zero throughout the planning area. This information, coupled with the fact no leasing of solid minerals has occurred on BLM lands in the planning area over the past 20-plus years, strongly indicates there will be no future activity. As such, the potential surface impacts associated with solid minerals exploration and leasing is predicted to be zero and will not be discussed. If for some reason interest does pick up regarding solid minerals, then the appropriate inventories and NEPA compliance would be conducted to prevent unnecessary and undue degradation. Any activities related to these resources would be subject to the regulations found in 43 CFR 3400 and 3500.

Salable Mineral Resources

Future Trends and Assumptions

The major use of salable minerals (primarily sand, gravel, and crushed rock) would continue to be in support of federal, state, county, and private roads/highways; and to a lesser extent, sales of

decorative stone to individuals for private purposes. It is anticipated the need for these resources will increase due to the continued urbanization of northern Idaho. Existing quarries and pits on Federal, State, and private lands are currently satisfying the demand for these resources; however, new site development on planning area lands is not precluded in this plan. These sites could occur anywhere throughout the planning area where not precluded by law or policy.

The development and reclamation of mineral material sites would be subject to the regulations found in 43 CFR 3600.

Rock Quarry, Sand & Gravel Pit Development

Developed material sites typically disturb approximately 15 to 20 acres of land each. This acreage is necessary for the mine itself, rock crushing operations, truck turn-around areas, access trails for bulldozers and drills, overburden stockpile sites, and aggregate stockpile areas. For access to a new quarry site, approximately 0.5-acre of land would be disturbed by new road construction.

Currently there are two authorized permits for stone (crushed) covering approximately 40 acres in the planning area, and one pending that would cover an estimated 40 acres. Also, two material rights-of-way have been issued to the Idaho Department of Transportation for use in highway and road construction and maintenance. These two rights-of-way cover 34.55 acres and are valid in perpetuity. It is anticipated that up to four new sites affecting an estimated 15 acres each would be opened up in the planning area during the next 20 years. Any existing pit expansion that causes surface disturbance beyond previously inventoried limits, or the development of any new site, would require resource inventories, site-specific NEPA compliance, and development and reclamation plans.

After all useable material has been removed, reclamation work would proceed according to an approved interdisciplinary plan. Upon depletion, reclamation work would be conducted on the material sites as well as on all unneeded access roads and trails. Oversize rock would be put back into the quarries or pits, and, where possible, cut-slopes would be graded to conform with the existing topography. Stockpiled topsoil would be spread over side-slopes and floors, and seeded as directed by BLM. Access roads and trails would be graded for proper drainage, scarified, and seeded.

Decorative Stone

It is speculated that the Cottonwood office could receive one or two sale requests per year for decorative stone. In most cases, existing roads would provide access to areas where the stone is scattered on the surface. In these areas, the rock would be hand-picked and loaded directly onto pick-ups or flatbed trucks, or onto pallets and then loaded onto trucks. There could be both on and off-road vehicle travel. This type of activity typically results in negligible surface disturbance. There is a possibility that temporary road or trail construction could be necessary to gain access in some areas. Prior to designating an area as a decorative rock gathering area, and prior to any road or trail construction, appropriate inventories and NEPA compliance would be conducted to prevent unnecessary and undue degradation. Reclamation plans would be developed for any designated collecting areas and their access roads and trails.

Locatable Mineral Resources

Future Trends and Assumptions

The major commodity of interest would continue to be gold. This is based on the mining history and the favorable geology for gold occurrences. The most active areas over the past 20-plus years have been around Elk City, in the Marshall Mountain area, and along the banks of the Salmon River. The other possible commodity of interest could be an uncommon variety of building stone; however, none have been identified in the planning area. Both placer mining and the development of underground lode deposits are anticipated. Reclamation science would continue to advance due to experience and research. More detailed design effort would be placed on the reclamation of mined lands in the future. This would result in an overall increase in reclamation costs but those costs would pay dividends in the future with increased reclamation success.

The economics of mining in the planning area would be driven by the relationship between production costs and the market price of the commodity. While production costs can be controlled or anticipated through management and technology, the price of mineral commodities could vary widely from year to year. The overall profitability of an operation, and hence the level of activity at the prospecting, exploration, and mining phases, for development of ore bodies would be closely related to the price of the mineral commodity.

There is a possibility that at least one chemical heap-leaching operation would be permitted on BLM land northwest of Elk City during the life of this plan. If this occurs, the operation would be subjected to environmental review under a plan of operations pursuant to regulations found in 43 CFR 3809.

Casual Use, Notices, Plans of Operations, Use and Occupancy

There are three levels of use defined by the 43 CFR 3809 regulations; casual, notice, and plan of operations. Generally, casual use means activities resulting in negligible, if any, disturbance of public lands or resources. Mechanized earth-moving equipment or truck-mounted drills are not allowed under casual use. Notice-level operations involve surface-disturbing exploration operations of 5 acres or less. Casual use and notice-level operations do not involve Federal actions that require compliance with NEPA. A plan of operations is required for all mining activity that is not casual use, regardless of the number of acres disturbed. A plan is also required for all exploration activities that disturb over five acres, bulk sampling which will remove 1,000 tons or more of presumed ore for testing, or for any surface-disturbing operations greater than casual use in certain Special Management Area's and lands/waters that contain federally-proposed or listed threatened or endangered species or their proposed or designated critical habitat. The approval of plans of operations is a Federal action that requires NEPA compliance. Mining claim occupancy associated with notice- or plan-level operations also requires compliance with NEPA.

Details of plan of operations filing and processing requirements can be found in 43 CFR 3809.400. Generally, plans must include a detailed description of all operations, including a map showing all areas to be disturbed by mining, processing, and access, all equipment that would be used, periods of use, and any necessary buildings or structures. A detailed reclamation plan to meet the standards

found in 43 CFR 3809.420, and a monitoring plan to monitor the effect of operations are also required. An interim management plan showing how the project area would be managed during periods of temporary closure to prevent unnecessary and undue degradation must also be submitted. The operator also must submit a reclamation cost estimate. The BLM may require operational and baseline environmental information, and any other information, needed to ensure that operations will not cause unnecessary and undue degradation.

When a plan of operations is received, BLM reviews it to make sure that it is complete. Where necessary, the BLM would consult with the State to ensure operations would be consistent with State requirements. In addition, the BLM would conduct any consultation required under the National Historic Preservation Act or Endangered Species Act. On-site visits would be scheduled when necessary. BLM could require changes to the plan of operations to ensure that the performance standards found in 43 CFR 3809.420 are met, and that no unnecessary or undue degradation of lands or resources would occur. In addition, site specific mitigating measures would be imposed when necessary. A financial guarantee covering the estimated cost of reclamation, as if BLM were to contract with a third-party, would have to be provided before operations could begin. The financial guarantee would have to be sufficient not only to cover costs of reclamation, but also costs associated with interim stabilization and compliance with federal, state, and local environmental requirements while third-party contracts would be developed and executed.

BLM approval is necessary to occupy public land for more than 14 calendar days in any 90-day period within a 25-mile radius of the initially occupied site. Details for the submittal and approval of use and occupancy are contained in 43 CFR 3715. As defined in these regulations, occupancy means full or part-time residence on the public lands. It also means activities that involve residence; the construction, presence, or maintenance of temporary or permanent structures that may be used for such purposes; or the use of a watchman or caretaker for the purpose of monitoring activities. Residence or structures include, but are not limited to, tents, motor homes, trailers, campers, cabins, houses, buildings, and storage of equipment or supplies. Also included are barriers to access, fences, gates, and signs intended to restrict public access.

Permanent structure means a structure fixed to the ground by any of the various types of foundations, slabs, piers, or poles, or other means allowed by building codes. The term also includes a structure placed on the ground that lacks foundations, slabs, piers, or poles, and that can only be moved through disassembly into its component parts or by techniques commonly used in house moving. The term does not apply to tents or lean-tos.

The disposal of sewage and gray-water would be subject to the rules and regulations of IDEQ. The disposal of garbage and other debris would be subject to all appropriate federal, state, and local rules and regulations. Likewise, the drilling of any water wells would be subject to all Idaho Department of Water Resources requirements. Permanent structures would be subject to all state and county permitting. Copies of all required state and local approvals and permits would be filed with the BLM prior to allowing any occupancy.

Background on the Development of a Locatable Minerals Mine

The development of a mine from exploration to production can be divided into four stages. Each stage requires the application of more discriminating (and more expensive) techniques over a successively smaller land area to identify, develop, and produce an economic mineral deposit. A full sequence of developing a mineral project involves reconnaissance, prospecting, exploration, and mine development.

Reconnaissance: Reconnaissance-level activity is the first stage in exploring for a mineral deposit. This activity involves initial literature search of an area of interest, using available references such as publications, reports, maps, aerial photos, etc. The area of study can vary from hundreds to thousands of square miles. Activity that would normally take place includes large scale mapping, regional geochemical and geophysical studies, and remote sensing with aerial photography or satellite imagery. These studies are usually undertaken by academic or government entities, or major corporations.

The type of surface-disturbing activity associated with reconnaissance-level mineral inventory is usually no more than occasional stream sediment, or soil and rock, sampling. Minor off-road vehicle use could be required.

Prospecting: The prospecting area of interest is identified based on the information gathered during reconnaissance. This area could range from a single square mile to an entire mountain range of several hundred square miles. Activity that would take place in an effort to locate a mineral prospect includes more detailed mapping, sampling, geochemical and geophysical study programs. Also, this is the time when property acquisition efforts usually begin and most mining claims are located in order to secure ground while trying to make a mineral discovery. Prospecting on an annual basis is considered a minimum requirement, under the mining laws, to secure a claim.

Types of surface disturbing activity associated with prospecting would involve more intense soil and rock chip sampling using mostly hand tools, frequent off-road vehicle use, and placement and maintenance of mining claim monuments. This activity is normally considered "casual use" (43 CFR 3809.5) and does not require BLM notification or approval.

Exploration: Upon location of a sufficiently anomalous mineral occurrence, or favorable occurrence indicator, a mineral prospect is established and is subjected to more intense evaluation through exploration techniques. Activities that take place during exploration include those utilized during prospecting but at a more intense level in a smaller area. In addition, activities such as road building, trenching, and drilling are conducted. In later stages of exploration, an exploratory adit or shaft may be driven. If the prospect already has underground workings these may be sampled, drilled, or extended. Exploration activities utilize mechanized earth-moving equipment, drill rigs, etc., and may involve the use of explosives.

Typical exploration projects in the planning area could include: in-stream dredging with portable suction dredges, exploratory drilling which could include construction of new roads, use of explosives to sample rock outcroppings, and excavation of test pits. If the exploration project disturbs 5 acres or less, it is conducted under a "Notice" (43 CFR 3809.301) which requires the

operator to notify BLM 15 days before beginning the activity. If the project disturbs more than five acres, it is conducted under a "Plan of Operations" (43 CFR 3809.401) and requires NEPA compliance before approval.

Mine Development: If exploration results show that an economically viable mineral deposit is present, activity would intensify to obtain detailed knowledge regarding reserves, possible mining methods, and mineral processing requirements. This would involve applying all the previously utilized exploration tools in a more intense effort. Once enough information is acquired, a feasibility study would be done to decide whether to proceed with mine development and what mining and ore processing methods would be utilized.

Once the decision to develop the property is made, the mine permitting process begins. Any mining that involves greater than casual use, regardless of the number of acres, requires the submittal of a plan of operations and appropriate NEPA analysis under 43 CFR 3809.401 and .411 Upon approval, work begins on development of the mine infrastructure. This can include constructing the mill, offices, and laboratory; driving development workings if the property is to be underground mined, or pre-stripping if it is to be open pit mined; building access roads or haulage routes; and placement of utility services. During this time additional refinement of ore reserves is made.

Once enough facilities are in place, actual mine production begins. Concurrent with production there often are "satellite" exploration efforts to expand the mine's reserve base and extend the project life. Reclamation of the property is conducted concurrently with, or upon completion of, the mining operation. Often sub-economic resources remain unmined and the property is dormant, waiting for changes in commodity price or production technology that would make these resources economic.

Activities that occur on these lands include: actual mining, ore processing, tailings disposal, waste rock placement, solution processing, metal refining, and placement of support facilities such as repair shops, labs, and offices. These activities involve the use of heavy earthmoving equipment and explosives for mining and materials handling, exploration equipment for refinement of the ore reserve base, hazardous or dangerous reagents for processing requirements, and general construction activities.

The size of mines varies greatly and not all mines would require all the previously mentioned facilities and equipment. The amount of surface disturbance can range from less than five acres for small operations into the hundreds of acres for large deposits. In the planning area, 11 of the 12 open locatable minerals cases have disturbed about 15 total acres. The one exception is the Buffalo Gulch Mine northwest of Elk City. This operation was an open pit mine using heap leach technology to recover the gold. It was permitted around 1990 and had an anticipated extent of disturbance near 200 acres. The mine never went into full production and currently only about 60 acres are considered un-reclaimed.

Notices

Based on the mineral exploration over the past twenty years, it is anticipated that one or two notices per year would be submitted over the life of this plan. These notices could be located anywhere, but

likely they would affect BLM lands in the Elk City and Marshall Mountain areas. Each notice covers exploration activities which cause less than five acres of disturbance, therefore it is anticipated that on average no more than ten acres per year will be affected. Upon completion of activities covered by each notice, which is typically within two years of approval, the disturbed lands are reclaimed as outlined in the proposal. This typically requires a two- to three-year time period for reestablishment of an acceptable vegetative cover.

In addition to the exploration efforts mentioned above, it is speculated that up to five notices for in-stream suction dredging could be filed during the life of the plan. In-stream dredging is usually a one to two person operation using a floating suction dredge with a five- to seven-horsepower engine. The dredge pulls up all the gravel in the stream down to bedrock. The gravels are passed over a sluice box and returned to the stream without the gold. This process does not require any chemicals. Most of the dredges have an intake nozzle opening diameter of less than five inches. Other activities associated with dredging include temporary occupancy and negligible road and trail construction. These operations would be monitored pursuant to the regulations found in 43 CFR 3809.

Mine Plans

With the recent recovery of gold prices, interest in the property previously covered by the Buffalo Gulch Mine permit has returned. As with the original permit, it is possible that up to 200 acres could be affected by mining related activities if a mine does get permitted. At this time however, only exploration activities are occurring. No other recent exploration in the planning area has produced results that would indicate the presents of an ore body sufficient to proceed to preliminary property development.

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APPENDIX R

APPENDIX R—COTTONWOOD RESOURCE MANAGEMENT PLAN FEDERAL REGISTER NOTICES ~~OF INTENT~~

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authorized by BLM in the ROD and will not constitute a general amendment of the IAP/EIS.

EPA is a cooperating agency because it potentially has a permitting decision to make on the disposal of wastewater from camps under an NPDES permit. The alternatives presented in the FEIS discuss the use of a general permit or an individual permit. The USACE as a cooperating agency will review the proposed project pursuant to relevant Federal jurisdiction.

Henri R. Bisson,

State Director.

[FR Doc. 04–20036 Filed 9–2–04; 8:45 am]

BILLING CODE 4310–JA–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[ID–087–1610–DO–034D]

Notice of Intent To Prepare a Resource Management Plan and Associated Environmental Impact Statement for the Cottonwood Field Office

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent.

SUMMARY: This document provides notice that the Bureau of Land Management (BLM) intends to prepare an RMP with an associated EIS for the Cottonwood Field Office. The planning area for the RMP, which includes 140,143 acres of BLM-administered public lands, is located in Adams, Clearwater, Idaho, Latah, Lewis, and Nez Perce Counties, Idaho. Preparation of this RMP and EIS will conform to the Federal Land Policy and Management Act (FLPMA), the National Environmental Policy Act (NEPA), Federal regulations, and BLM management policies.

DATES: This notice initiates the public scoping process. Comments on the scope of the plan, including issues or concerns that should be considered, should be submitted in writing to the address listed below by November 15, 2004. However, collaboration with the public will continue throughout the planning process. Dates and locations for public meetings will be announced through local news media, newsletters, and the BLM Web site (*http://www.id.blm.gov/planning/ctnwdrmp/index.htm*), at least 15 days prior to the event.

ADDRESSES: Please mail written comments to the BLM, Cottonwood Field Office. ATTN: RMP, House 1, Butte Drive Route 3, Box 181, Cottonwood, ID 83522–9498, or fax to (208) 962–3275. All public comments, including names and mailing addresses of respondents, will be available for public review at the Cottonwood Field Office during regular business hours (7:45 a.m. to 4:30 p.m.) Monday through Friday, except holidays, and may be published as part of the EIS. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, please state this prominently at the beginning of your written correspondence. The BLM will honor such requests to the extent allowed by law. All submissions from organizations and businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be available for public inspection in their entirety.

FOR FURTHER INFORMATION CONTACT: For further information or to have your name added to the Cottonwood RMP Mailing List, contact Carrie Christman at the Cottonwood Field Office (see address above), telephone (208) 962–3245.

SUPPLEMENTARY INFORMATION: The Cottonwood RMP planning area is located in the southern part of the Idaho panhandle. The area is bordered to the west by the Oregon and Washington state lines, to the north by Benewah and Shoshone Counties, to the east by the Montana state line, and to the south by Lemhi and Valley Counties and the southern portion of Adams County. The Cottonwood Field Office planning area lies entirely within the ceded territory of the Nez Perce Tribe. The Nez Perce Reservation lies entirely within the planning area, and there are about 17,586 acres of BLM administered land within the reservation boundary. Management of BLM administered lands will involve trust and treaty resources.

The BLM-administered public lands within the Cottonwood Field Office planning area are currently managed in accordance with the decisions in the 1981 Chief Joseph Management Framework Plan (MFP) as amended. BLM will continue to manage these lands in accordance with the MFP and amendments until the RMP is completed and a Record of Decision is signed.

Preparation of an RMP for the Cottonwood Field Office is necessary to respond to changing resource conditions; respond to new issues; and provide a comprehensive framework for managing public lands administered by the field office. The RMP will establish new land use planning decisions to address issues identified through public scoping and, where appropriate, will incorporate decisions from the existing Chief Joseph MFP.

Public Participation: The BLM will work collaboratively with interested parties to identify the management decisions that are best suited to local, regional, and national interests. The public scoping process will hold identify planning issues and provide for public comment on the proposed planning criteria.

BLM has identified the following preliminary issue themes:

1. Vegetation management (including noxious weeds, riparian areas and Wetlands, and fuels and forest management).
2. Fire management.
3. Management of habitat for wildlife and special status species.
4. Management of transportation, public access, and recreational opportunities.
5. Land tenure adjustments.
6. Availability and management of public lands for commercial uses (minerals, forest products and livestock grazing).
7. Management of areas with special values.
8. Tribal treaty rights and trust responsibilities.

These preliminary issue themes are not final and may be refined or added to through future public participation.

BLM has also identified some preliminary planning criteria to guide development of the plan, to avoid unnecessary data collection and analysis, and to ensure the plan is tailored to the issues. These criteria may be modified or other criteria identified during the public scoping process. The public is invited to comment on the following preliminary planning criteria.

1. The plan will comply with all applicable laws, regulations, and current policies. This includes local, State, tribal, and Federal air quality standards; as well as water quality standards from the Idaho Non-Point Source Management Program Plans.
2. The RMP planning effort will be collaborative and multi-jurisdictional in nature. The BLM will strive to ensure that its management decisions are complementary to other planning jurisdictions and adjoining properties, within the boundaries described by law and Federal regulations.
3. All previously established Wilderness Study Areas will continue to be managed for wilderness values and character until Congress designates them as wilderness areas, or releases them for multiple use management.

4. The RMP will recognize all valid existing rights.

5. As part of this RMP process, BLM will analyze areas for potential designation as Areas of Critical Environmental Concern (ACEC) in accordance with 43 CFR 1610.7–2 and river corridors for suitability for designation under the Wild and Scenic Rivers Act.

July 6, 2004.

K. Lynn Bennett,

Idaho State Director, Bureau of Land Management.

[FR Doc. 04–19607 Filed 9–2–04; 8:45 am]

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DEPARTMENT OF THE INTERIOR

Bureau of Land Management

Notice of Availability of Record of Decision for the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area (NCA) and Associated Wilderness and Other Contiguous Lands in Nevada, Resource Management Plan (RMP)/ Environmental Impact Statement (EIS), Nevada

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of availability of Record of Decision (ROD).

SUMMARY: In accordance with the National Environmental Policy Act (NEPA), the Federal Land Policy and Management Act (FLPMA), Bureau of Land Management (BLM) policies, and the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area Act of 2000 (Public Law 106–554), the BLM announces the availability of the RMP/ROD for the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area Planning Area, located in northwestern Nevada. The Nevada and California State Directors will sign the RMP/ROD, which becomes effective immediately.

ADDRESSES: Copies of the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area (NCA) and Associated Wilderness and Other Contiguous Lands in Nevada RMP/ROD are available upon request from the Field Manager, Winnemucca Field Office, Bureau of Land Management, 5100 E Winnemucca Blvd., Winnemucca, Nevada 89445–2921, or via the Internet at *http://www.blackrockhighrock.org.* Copies of the RMP/ROD are also available for public inspection at the following repositories: University of Nevada-Reno Getchell Library, Reno, NV; Humboldt County Library, Winnemucca, NV; BLM-Nevada Carson City Field Office, Carson City, NV; BLM-Nevada State Office, Reno, NV; Public Library, Gerlach, NV; Public Library, Reno, NV; Pershing County Public Library, Lovelock, NV; Lyon County Library, Dayton, NV; Lyon County Library, Fernley, NV; BLM-California Surprise Field Office, Cedarville, CA; Modoc County Library, Cedarville, CA; Modoc County Library, Alturas CA; BLM-California State Office, Sacramento, CA; and BLM-California Eagle Lake Field Office, Susanville, CA. Persons who are not able to inspect the RMP/ROD either on-line or at one of the locations provided may request one of a limited number of printed copies or compact discs (CDs) by contacting the NCA Planning Staff at the Winnemucca Field Office by e-mail at *wfoweb@nv.blm.gov,* by telephone at (775) 623–1500, or by fax at (775) 623–1503. Requests should be directed to the NCA Planning Staff, clearly state that it is a request for a printed copy or CD of the Black Rock-High Rock RMP/ROD, and include the name, mailing address and phone number of the requesting party.

FOR FURTHER INFORMATION CONTACT: David C. Cooper, NCA Manager, BLM Winnemucca Field Office, 5100 E Winnemucca Blvd., Winnemucca, NV 89445–2921, (775) 623–1500, *wfoweb@nv.blm.gov* (''Attn: NCA Manager'' in subject line of message).

SUPPLEMENTARY INFORMATION: The RMP/ROD was developed with broad public participation through a 3-year collaborative planning process. This RMP/ROD addresses management on approximately 1.2 million acres of public land in the planning area. The RMP/ROD is designed to achieve or maintain objectives that were identified in the legislation that created the NCA and wilderness areas or developed through the planning process. The RMP/ROD includes a series of management actions to meet the desired resource conditions for upland and riparian vegetation, wildlife habitats, cultural and visual resources, livestock grazing and recreation.

The approved RMP is essentially the same as Alternative D in the Proposed RMP/Final Environmental Impact Statement (PRMP/FEIS), published in September 2003. BLM received eight protests to the PRMP/FEIS. No inconsistencies with State or local plans, policies or programs were identified during the Governor's consistency review of the PRMP/FEIS. As a result, only minor editorial modifications were made in preparing the RMP/ROD. These modifications corrected technical errors that were noted during review of the PRMP/FEIS and provided further clarification for some of the decisions.

Dated: May 10, 2004.

Terry A. Reed,

Field Manager, Winnemucca Field Office, Bureau of Land Management.

[FR Doc. 04–19606 Filed 9–2–04; 8:45 am]

BILLING CODE 4310–HC–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[ID–086–1610–DO–006D]

Notice of Intent To Prepare a Resource Management Plan and Associated Environmental Impact Statement for the Coeur d'Alene Field Office

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of Intent.

SUMMARY: This document provides notice that the Bureau of Land Management (BLM) intends to prepare an RMP with an associated EIS for the Coeur d'Alene Field Office. The planning area for the RMP, which includes 96,745 acres of BLM-administered public land, is located in Boundary, Bonner, Kootenai, Benewah, and Shoshone Counties, Idaho. Preparation of this RMP and EIS will conform with the Federal Land Policy and Management Act (FLPMA), the National Environmental Policy Act (NEPA), Federal Regulations, and BLM management policies.

DATES: This notice initiates the public scoping process. Comments on the scope of the plan, including issues or concerns that should be considered, should be submitted in writing to the address listed below by November 15, 2004. However, collaboration with the public will continue throughout the planning process. Dates and locations for public meetings will be announced through local news media, newsletters, and the BLM Web site (*http://www.id.blm.gov/planning/cdarmp/index.htm*), at least 15 days prior to the event.

ADDRESSES: Please mail written comments to the BLM, Coeur d'Alene Field Office, Attn: RMP, 1808 North Third Street, Coeur d'Alene, ID 83814–3407, or fax to (208) 769–5050. All public comments, including names and mailing addresses of respondents, will be available for public review at the Coeur d'Alene Field Office during regular business hours (7:45 a.m. to 4:30

Summary: EPA was supportive of the selection of the Drainage Impaired Land Retirement Alternative, but expressed environmental concerns about treatment methods to remove selenium from drainage water and potential impacts to air quality. EPA requested additional analysis and monitoring commitments prior to implementation of any alternative and expressed continued objections if an out of valley alternative.

EIS No. 20060259, ERP No. F–BLM–J02042–UT, Uinta Basin Natural Gas Project, Proposal to Produce and Transport Natural Gas in the Atchee Wash Oil and Gas Production Region, Resource Development Group, Right-of-Way Grant, U.S. COE Section 404 Permit and Endangered Species Act Permit, Uintah County, UT.

Summary: No formal comment letter was sent to the preparing agency.

EIS No. 20060263, ERP No. F–BIA–F65058–MI, Nottawaseppi Huron Band of Potawatomi Indians (the Tribe), Proposes Fee-to-Trust Transfer and Casino Project, Calhoun County, MI.

Summary: EPA's previous concerns have been resolved; therefore, EPA does not object to the proposed action.

EIS No. 20060332, ERP No. FC–NOA–E86002–00, Amendment 26 to the Gulf of Mexico Reef Fish Fishery Management Plan, Proposed Individual Fishing Quota (IFQ) Program to Reduce Overcapacity in the Commercial Red Snapper Fishery.

Summary: EPA does not object to the proposed action.

EIS No. 20060228, ERP No. FS–COE–B32009–MA, Boston Harbor Inner Harbor Maintenance Dredging Project, Updated Information, Boston Harbor, Mystic River and Chelsea River, MA.

Summary: EPA does not object to the proposed project.

Dated: August 22, 2006.

Robert W. Hargrove,

Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. E6–14150 Filed 8–24–06; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[ER–FRL–6678–5]

Environmental Impacts Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information (202) 564–7167 or *http://www.epa.gov/compliance/nepa/.*

Weekly receipt of Environmental Impact Statements

Filed 08/14/2006 Through 08/17/2006

Pursuant to 40 CFR 1506.9.

EIS No. 20060344, Final EIS, AFS, AZ, Deep Lake Allotment Project, Proposes to Re-authorize Grazing, Mormon Lake Ranger District, Coconino National District, Coconino County, AZ , Wait Period Ends: 09/25/2006, Contact: Katherine Sanchez Meador 928–526–0866.

EIS No. 20060345, Draft EIS, AFS, WA, Buckhorn Access Project, To Utilize the Marias Creek Route to Construct and Reconstruct Roads, Funding, NPDES Permit and U.S. Army COE Section 404 Permit, Okanogan and Wenatchee National Forests, Tonasket Ranger District, Okanogan County, WA, Comment Period Ends: 10/10/2006, Contact: Jan Flatten 509–826–3277.

EIS No. 20060346, Final EIS, SFW, CA, San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan, Implementation, Sweetwater Marsh and South San Diego Bay Units, San Diego County, CA, Wait Period Ends: 09/25/2006, Contact: Victoria Touchstone 760–431–9440 Ext. 349.

EIS No. 20060347, Draft EIS, BLM, ID, Cottonwood Resource Management Plan, Implementation, Latah, Clearwater, Nez Perce, Lewis, Idaho and Adams Counties, ID, Comment Period Ends: 11/22/2006, Contact: Chuck Dillon 208–962–3686.

EIS No. 20060348, Draft EIS, NPS, MN, Disposition of Bureau of Mines Property, Twin Cities Research Center Main Campus, Implementation, Hennepin County, MN, Comment Period Ends: 10/09/2006, Contact: Kim M. Berns 651–290–3030 Ext. 244.

EIS No. 20060349, Draft EIS, DOE, FL, Orlando Gasification Project (DOE/EIS–0383) To Provide Cost-Shared Funding for Construction and Operation of Facilities at Orlando Utilities Commission's Station Energy Center near Orlando, FL, Comment Period Ends: 10/10/2006, Contact: Richard A. Hargis 412–386–6065.

EIS No. 20060350, Final EIS, BLM, AK, Ring of Fire Resource Management Plan, Implementation, Alaska Peninsula, Kodiak Island and Aleutian Islands, AK, Wait Period Ends: 09/25/2006, Contact: Robert Lloyd 907–267–1246.

EIS No. 20060351, Final EIS, FRC, 00, Carthage to Perryville Project, Construction and Operation of a Natural Gas Pipeline Facilities, CenterPoint Energy Gas Transmission, Located in various counties and parishes in eastern Texas and northern Louisiana, Wait Period Ends: 09/25/2006, Contact: Todd Selmak 1–866–208–3372.

Dated: August 22, 2006.

Ken Mittelholtz,

Environmental Protection Specialist, Office of Federal Activities.

[FR Doc. E6–14145 Filed 8–24–06; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[FRL–8213–2]

EPA Science Advisory Board; Notification of a Public Telephone Conference of the Science Advisory Board

AGENCY: Environmental Protection Agency.

ACTION: Notice.

SUMMARY: The Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announces a public telephone conference of the Chartered Board to review three draft SAB Panel Reports.

DATES: The SAB will meet via telephone conference on September 21, 2006, and if necessary continue on September 22, 2006, to review three SAB draft reports: (1) *Review of 2005 Agency Draft entitled Expansion and Upgrade of the RadNet Air Monitoring Network, Vol. 1&2, Concept and Plan; (2) SAB Advisory on EPA's Second Generation Model; and (3) Peer Review of the ''All-Ages Lead Model (AALM) Version 1.05.* The meeting will begin at 1 p.m. and end at 4 p.m. (Eastern Time) on September 21, 2006. If additional time is needed to complete any of these reviews, the meeting will be reconvened at 1 p.m. (Eastern Time), Friday, September 22, 2006.

Location: Telephone conference call only.

FOR FURTHER INFORMATION CONTACT: Any member of the public wishing to obtain general information concerning this telephone conference should contact Mr. Thomas Miller, Designated Federal Officer (DFO), EPA Science Advisory Board (1400F), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW., Washington, DC 20460; via telephone/voice mail: (202) 343–9982; fax: (202) 233–0643; or e-mail at: *miller.tom@epa.gov.* General information concerning the EPA Science Advisory Board can be found on the EPA Web Site at: *http://www.epa.gov/sab.*

resources, and protecting natural and cultural resources and refuge visitors.

Under this alternative, the refuge will continue to seek acquisition of lands within the present acquisition boundary. Lands acquired as part of the refuge will be made available for compatible wildlife-dependent recreation and environmental education opportunities, where appropriate. Lands that provide high-quality habitat and connectivity to existing refuge lands will be priority acquisitions. Equally important acquisition tools to be used include: transfer lands, partnerships with conservation organizations, conservation easements with adjacent landowners, and leases/cooperative agreements with state agencies.

Public comments were requested, considered, and incorporated throughout the planning process in numerous ways. Public outreach included open houses, public meetings, technical workgroups, planning update mailings, and **Federal Register** notices. During the draft comprehensive conservation plan/environmental assessment comment period, the Service received several comments, which were incorporated, when appropriate, and responded to in the comprehensive conservation plan.

Authority: This notice is published under the authority of the National Wildlife Refuge System Improvement Act of 1997, Public Law 105–57.

Dated: February 22, 2006.

Cynthia K. Dohner,

Acting Regional Director.

Editorial Note: This document was received at the Office of the Federal Register on August 29, 2006.

[FR Doc. 06–7381 Filed 8–31–06; 8:45 am]

BILLING CODE 4310–55–M

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[UT–020–02–2640–HO–UTZA]

Notice of Temporary Closure of the Manning Canyon Area

AGENCY: Bureau of Land Management, Department of the Interior.

ACTION: Extension of Notice of Temporary Closure, Manning Canyon Area.

SUMMARY: Notice is hereby given that the Notice of Temporary Closure for the Manning Canyon area, first published in the **Federal Register** on October 29, 2002 page 66000, volume 67, number 209, is hereby extended until rehabilitation, and range, habitat, and watershed restoration are successful. The area described is hereby closed to all motorized vehicle and mechanized vehicle use to protect the rehabilitation efforts of the Manning Canyon hazardous mine tailings remediation project. The opening date for the West Manning Canyon and Lewiston roads will be determined by mutual agreement with Utah County. The public lands affected by this closure are all public lands within the following described area which is approximately 2,971 acres in size:

Manning Canyon Hazardous Material Cleanup Site

T. 6 S., R. 3 W., Salt Lake Meridian,
Section 13, W½,
Section 14, all,
Section 15, all,
Section 22, E½, all public lands east of and including the north-south road,
Section 23, all,
Section 24, S½NE¼, W½,
Section 26, all public lands east of the West Manning Canyon Road,
Section 27, NE¼NE¼NE¼, north of the West Manning Canyon Road.

FOR FURTHER INFORMATION CONTACT: Tim Ingwell, BLM Hazardous Material Specialist, Salt Lake Field Office, Bureau of Land Management, 2370 South 2300 West, Salt Lake City, Utah, 84119; (801) 977–4300, or e-mail him at *tim_ingwell@ut.blm.gov*.

SUPPLEMENTARY INFORMATION: This closure of the public lands to motorized vehicle and mechanized use will serve to protect the rehabilitation of the lands following the cleanup of hazardous material in Manning Canyon. The hazardous material consists of numerous mine tailings piles containing large concentrations of heavy metals, such as lead and arsenic. As a result of the cleanup of these hazardous mine tailings, large areas were re-contoured and reseeded and a repository was created to contain the tailings. These areas require protection until the rehabilitation actions are determined to be successful. A map depicting the closure area is available for public inspection at the Bureau of Land Management, Salt Lake Field Office.

The authority for establishing this restriction is found at 43 CFR 8364.1(a) and 43 CFR 8341.2. This restriction does not apply to:

(1) Any federal, state or local government officer or member of an organized rescue or fire fighting force while in the performance of an official duty.

(2) Any Bureau of Land Management employee, agent, contractor, or cooperator while in the performance of an official duty.

(3) Any federal, state, local, or contract law enforcement officer, while in the performance of their official duties, or while enforcing this closure notice.

Violation of this closure is punishable by a fine not to exceed $100,000 and/or imprisonment not to exceed 12 months as provided in 43 CFR 8360–0.7 as further defined in 18 U.S.C. 3571.

Dated: July 23, 2006.

Glenn A. Carpenter,

Field Office Manager.

[FR Doc. 06–7371 Filed 8–31–06; 8:45 am]

BILLING CODE 4310–$$–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[WY–030–1310–DB]

Notice of Retraction of a Notice of Availability of the Final Environmental Impact Statement for the Atlantic Rim Natural Gas Development Project

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of retraction.

SUMMARY: The Bureau of Land Management (BLM) inadvertently published a Notice of Availability of the Final Environmental Impact Statement for the Atlantic Rim Natural Gas Development Project in the **Federal Register** on Wednesday, August 9, 2006 (FR 71 45576). BLM will publish this Notice of Availability at a later date.

FOR FURTHER INFORMATION CONTACT: Mr. David Simons, Project Lead, BLM Rawlins Field Office, 1300 N. Third Street, Rawlins, WY 82301.

Dated: August 9, 2006.

Robert A. Bennett,

State Director.

[FR Doc. 06–7369 Filed 8–31–06; 8:45 am]

BILLING CODE 4310–22–M

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[ID420 1610 DP 034D]

Notice of Availability of the Cottonwood, ID, Draft Resource Management Plan and Draft Environmental Impact Statement

AGENCY: Bureau of Land Management, Department of the Interior.

ACTION: Notice of availability.

SUMMARY: In accordance with the National Environmental Policy Act of 1969 (NEPA, 42 U.S.C. 4321 *et seq.*) and

the Federal Land Policy and Management Act of 1976 (FLPMA, 43 U.S.C. 1701 *et seq.*), the Bureau of Land Management (BLM) has prepared a Draft Resource Management Plan/Environmental Impact Statement (RMP/EIS) for the Cottonwood Field Office and by this notice is announcing the opening of the comment period.

DATES: To assure that they will be considered, BLM must receive written comments on the Draft RMP/EIS within 90 days following the date the Environmental Protection Agency publishes their Notice of Availability in the **Federal Register**. The BLM will announce future meetings or hearings and any other public involvement activities will be announced at least 15 days in advance through public notices, media news releases, and/or mailings, and on the BLM Web site (*http://www.blm.gov/rmp/id/cottonwood/*).

ADDRESSES: You may submit comments by any of the following methods:

- Web Site: *http://www.blm.gov/rmp/id/cottonwood/*
- E-mail: *comments@cottonwoodrmp.com*
- Mail: *Attn:* RMP, BLM Cottonwood Field Office, 1 Butte Drive, Cottonwood ID 83522–9498
- Fax: (208) 962–3275

FOR FURTHER INFORMATION CONTACT: Carrie Christman at the Cottonwood Field Office (see above address), telephone (208) 962–3245.

SUPPLEMENTARY INFORMATION: The Cottonwood RMP planning area is located in the southern portion of the Idaho panhandle. The BLM administers scattered parcels of lands totaling 143,830 acres within the following Idaho counties: Latah, Clearwater, Nez Perce, Lewis, Idaho and Adams. The Cottonwood Field Office planning area lies within the ceded territory of the Nez Perce Tribe. The Nez Perce Reservation lies within the planning area, and there are about 17,586 acres of BLM-administered land within the reservation boundary. Management of the BLM administered lands will involve trust and treaty resources.

The BLM-administered public lands within the planning area are currently managed in accordance with the decisions of the 1981 Chief Joseph Management Framework Plan (MFP) as amended. BLM will continue to manage these lands in accordance with the MFP and amendments until the Cottonwood RMP is completed and the Record of Decision is signed.

The Cottonwood RMP will provide future broad-scale management direction for land use allocations and allowable uses on public lands within the planning area. In the Draft EIS, four alternatives were analyzed, including a no action alternative. These alternatives were developed through issue identification during the scoping process. Such issues include: Watershed management, forestry, fuels treatments, recreation, land tenure, special designations, invasive plant species, travel management and special status species. The agency preferred alternative is alternative B.

The preferred alternative proposes the designation of five new Areas of Critical Environmental Concern (ACECs) and the continuation of six ACEC/Research Natural Areas (RNAs) totaling 34,528 acres and ranging in size from 18 acres to 16,199 acres. Two existing ACECs totaling 3,986 acres would be dropped under the preferred alternative. Resource use limitations that apply to the proposed ACECs include no surface occupancy for mineral extraction activities and some restrictions on timber harvesting, livestock grazing, and road construction (See Table 1).

TABLE 1.—EVALUATION OF AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Area name	Values of concern	Resource use limitations	Acres	Preferred alternative direction
Wapshilla Ridge (Existing RNA/ACEC—1989).	Natural processes, designated RNA for canyon grasslands and BLM Idaho Watch List plant (Idaho RNA cell for basalts).	1, 2	401 existing	Continue as RNA/ACEC 401 acres.
Lower and Middle Cottonwood Islands (Existing RNA/ACEC—1989).	Natural processes, designated RNA, riparian, Palouse prairie remnant, Clearwater River islands.	3	43 existing	Continue as RNA/ACEC 43 acres.
Captain John Creek (Existing RNA/ACEC—1989).	Natural processes, designated RNA for canyon grasslands, Douglas fir, and riparian (Idaho cell). Captain John Creek provides habitat for listed steelhead and spring/summer chinook Salmon, and Idaho BLM sensitive wildlife, amphibians, reptiles, and plants.	1	1,321 existing.	Continue as RNA/ACEC 1,321 acres.
Long Gulch (Existing RNA/ACEC—1989).	Natural processes, designated RNA for Federally listed MacFarlane's four-o'clock.	4	47 existing	Continue as RNA/ACEC 47 acres.
Lucile Caves (Existing RNA/ACEC—1989).	Natural processes, designated RNA, Federally listed MacFarlane's four-o'clock, Idaho BLM sensitive plants, wildlife and snails; limestone cave and spring; geology.	4	404 existing	Continue as RNA/ACEC 136 acres/
Skookumchuck (Existing RNA/ACEC—1989).	Natural processes, designated RNA for Federally listed MacFarlane's four-o'clock.	4	18 existing	Continue as RNA/ACEC 18 acres.
Craig Mountain (Existing ACEC—1989).	Designated ACEC, scenic, cultural, Federally listed fish, bald eagle, and Spalding's silene; Idaho BLM sensitive wildlife, amphibians, reptiles, and plants.	2	3,956 existing.	Discontinue ACEC.
Elk City/American Hill Lake (Existing ACEC—1989).	Natural hazards, designated ACEC because of concerns for safety and public welfare.	5, 6	30 existing	Discontinue ACEC.
Lower Lolo Creek (Existing ACEC—1989.	Designated ACEC, cultural, scenic, Federally listed fish; Idaho BLM sensitive wildlife, amphibians, reptiles, and plants; National historic trail.	7, 8, 9	3,678 existing.	Continue as ACEC 3,678 acres.
Lower Salmon River (Confluence to White Bird Creek) (Existing ACEC—1989).	Designated ACEC, cultural, scenic, Federally listed fish, bald eagle, and Spalding's silene; Idaho BLM sensitive wildlife, amphibians, reptiles, and plants; geology, natural processes.	3, 4	15,702 existing.	Continue as ACEC 16,199 acres.
Upper Lolo Creek	Idaho BLM sensitive wildlife, amphibians, reptiles and plants, cultural, scenic.	7, 10	1,625 proposed.	Do not add ACEC.

TABLE 1.—EVALUATION OF AREAS OF CRITICAL ENVIRONMENTAL CONCERN—Continued

Area name	Values of concern	Resource use limitations	Acres	Preferred alternative direction
Partridge/Elkhorn	Natural processes, old growth ponderosa pine, Idaho BLM sensitive wildlife.	14	576 proposed.	Do not add ACEC.
Little Salmon	Natural processes, old growth ponderosa pine, Idaho BLM sensitive wildlife.	14	590 proposed.	Do not add ACEC.
Upper Salmon River (White Bird Creek to French Creek).	Cultural, scenic, Federally listed fish, bald eagle, and MacFarlane's four-o'clock; Idaho BLM sensitive wildlife, amphibians, reptiles, and plants; geology, natural processes.	4	5,759 proposed.	Add as ACEC 5,759 acres.
East Fork of American River	Listed fish, Idaho BLM sensitive wildlife, amphibians, reptiles, fish, and plants; natural processes; riparian and wetlands; and old growth Engelmann spruce.	3, 11, 12	570 proposed.	Add as ACEC 570 acres.
American River Historic Sites District.	Cultural resources, historic mining	13	6,356 proposed.	Add as ACEC 6,356 acres.

Use Limitations:
1 = Timber harvest only to support stand health.
2 = Exclude livestock grazing.
3 = Prohibit soil or vegetation disturbance not supporting improved condition (long term).
4 = No actions resulting in long-term adverse impacts to listed plants.
5 = Closed to OHV use.
6 = No ground disturbing activities other than rehab.
7 = No construction of hydroelectric facilities.
8 = No new road construction within 300′ of Lolo Creek or on slopes exceeding 50%.
9 = Custodial timber management.
10 = Timber harvest activities on slopes over 50% utilize aerial or high lead systems.
11 = Decommission temporary roads within 3 years of construction.
12 = No road construction within Riparian Conservation Areas.
13 = Use mining plan of operations.
14 = Minimize road construction.

Additionally, BLM would recommend the continuation of the mineral withdrawal of the Lower Salmon River corridor. The preferred alternative recommends four suitable segments of river for inclusion in the National Wild and Scenic River system; one segment (totaling 24 miles) is suitable for inclusion under the scenic classification, three segments (totaling 5.34 miles) are suitable for inclusion under the recreational classification. Resource use limitations that apply to the suitable river segments include no surface occupancy for mineral extraction activities. The 750 acre portion of the Frank Church/River of No Return Wilderness will continue to be managed to maintain wilderness characteristics under all alternatives. Two previously designated Wilderness Study Areas (WSAs) (totaling 10,872 acres) will continue to be managed under the BLM's Interim Management Policy for Lands Under Wilderness Review. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations and businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be available for public inspection in their entirety. A copy of the Draft RMP/EIS is available for review via the Internet Web site at *http://www.blm.gov/rmp/id/cottonwood/*. You may also obtain a copy on CD–ROM, or paper copy at the BLM Cottonwood Field Office at the address listed above, or by contacting Carrie Christman at (208) 962–3245.

Dated: June 7, 2006.

Bud Cribley,

Acting State Director, Idaho.

[FR Doc. E6–14542 Filed 8–31–06; 8:45 am]

BILLING CODE 4310–GG–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[AK–910–06–1739–NSSI]

Notice of Public Meeting, North Slope Science Initiative, Science Technical Group

AGENCY: Bureau of Land Management, Alaska State Office, North Slope Science Initiative, Interior.

ACTION: Notice of public meeting.

SUMMARY: In accordance with the Federal Land Policy and Management Act (FLPMA) and the Federal Advisory Committee Act of 1972 (FACA), the U.S. Department of the Interior, North Slope Science Initiative (NSSI) Science Technical Group (STG) will meet as indicated below.

DATES: The meeting will be held October 11–12, 2006, in Fairbanks, Alaska. The meeting will be held at the Bureau of Land Management, Fairbanks District Office, 1150 University Avenue, Fairbanks, Alaska 99709, in the Kobuk Conference Room. On October 11, the meeting will begin at 10 a.m. The public comment period starts at 3 p.m. On October 12, the meeting will begin at 8:30 a.m. at the same location.

FOR FURTHER INFORMATION CONTACT: Ken Taylor, Executive Director, North Slope Science Initiative (910), Bureau of Land Management, 222 W. Seventh Avenue, #13, Anchorage, Alaska 99513. Telephone (907) 271–3131, or e-mail *kenton_taylor@ak.blm.gov.*

SUPPLEMENTARY INFORMATION: The North Slope Science Initiative, Science Technical Group provides advice and recommendations to the North Slope Science Oversight Group (OG) regarding priority needs for management decisions across the North Slope of Alaska. These priority needs may include recommendations on inventory, monitoring and research activities that lead to informed land management decisions. At this meeting, topics we plan to discuss include:

- Onshore oil and gas development monitoring requirements.
- Offshore oil and gas development monitoring requirements.

APPENDIX S

APPENDIX S—SPECIES-SPECIFIC HABITAT DEFINITIONS

INTRODUCTION

The primary purpose of this appendix is to reduce confusion 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. Additional clarification may also be needed in the terminology used for describing species or habitats.

DEFINITIONS

General Definitions Applicable to All Species

Avoid	To the extent possible, do not implement the action indicated. If the action needs to take place, then add stipulations or take additional steps (mitigation) to minimize impacts. Avoidance is the preferred management approach in the identified habitats for species conservation.
Best Management Practices (BMPs)	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 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.

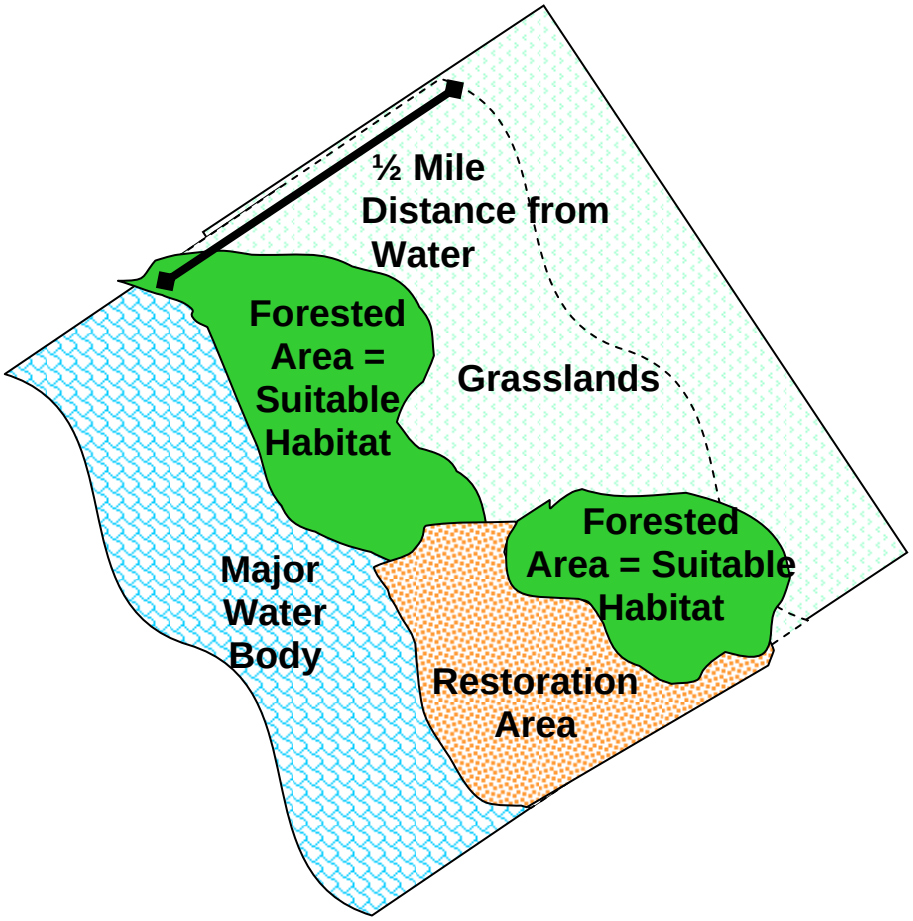
Bald Eagle (Haliaeetus leucocephalus)

Communal roosts	A forested area where 6 or more eagles traditionally spend the night within 100 meters (328 feet) of each other.
Key foraging areas	Important concentrated use areas where bald eagles congregate; these areas are not nest sites or traditional communal roosts. For example, areas below dams and riffles are often key foraging areas.
Nest site	Most nests are located in large cottonwood, fir, or pine trees. Nest sites within the breeding area may have been built or used by a bald eagle, and are usually as a focus for reproductive behavior and fledgling activity.
Restoration areas	Areas identified by the BLM within 0.5-mile of major water bodies that currently have site potential for riparian forest development to support riparian forest (i.e., cottonwood galleries) through passive or active management. See illustration under the definition of "suitable habitat."

Bald Eagle (Haliaeetus leucocephalus) (continued)

Suitable habitat

Mature riparian and upland forest communities that currently provide nesting, roosting, and loafing perch sites within 0.5-mile of major waterbodies. Other forested areas outside of the 0.5-mile buffer may be identified by the BLM as suitable habitat, based on occupancy, on a case-by-case basis. General foraging areas are not included, unless identified as a key foraging area. See illustration below for a sample of how suitable habitat is defined. The definition of suitable habitat may change as new information concerning the species is gathered.



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 (< 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 (< 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 ~~p~~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

Gray Wolf (Canis lupus)

Key habitat areas	Key wolf habitat areas include active den and rendezvous sites and big game crucial winter range within known, established pack territories.
Wolf habitat	Wolf habitat includes key habitat features and lands that are seasonally occupied by prey species in sufficient densities to support wolves. Characteristics of high-quality wolf habitat include low road densities, low human occurrence, and few sources of disturbance.
Den sites	In the Northern Rockies, wolf pups are born any time from late March to late April or possibly early May. Some particular dens or denning areas may receive traditional use by a wolf pack over time. Wolves are particularly sensitive to human activity near den sites and may abandon them if disturbed. Section 7 guidance from USFWS indicates that activities or projects that occur within 1.6 kilometers (1 mile) of an active wolf den site may negatively affect gray wolves.
Rendezvous sites	Sites where wolf packs traditionally congregate. The initial rendezvous site is where wolves appear most sensitive to prolonged or substantial human disturbances. Section 7 guidance from USFWS indicates that activities or projects that occur within 1.6 kilometers (1 mile) of an active wolf rendezvous site may negatively affect gray wolves.
Wolf pack territory	The recovery plan defines territory as the geographic area an organism defends against others of the same species and/or other species by scent marking, vocalizations, fighting and/or other means. Territories are areas occupied by a wolf pack on a regular basis. Summer territories or home ranges are smaller than winter ranges. The annual range may extend up to several hundred square kilometers, but also may be much smaller (less than 50 square kilometers [19 square miles]).

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) 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.

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 ~~is~~ 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 bout 3 to 6 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	<u>Travel Habitat:</u> 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. <u>Travel Corridors:</u> 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 T

APPENDIX T—COTTONWOOD FIELD OFFICE HABITAT MANAGEMENT PLANS

INTRODUCTION

This appendix summarizes existing HMPs that have been prepared within the planning area. HMPs are activity plans that have identified specific resource goals, objectives, actions, and monitoring for a designated area. With the exception of a one HMP (MacFarlane's Four-o'clock – Long Gulch HMP), all of the identified HMPs in **Table T-1** (CFO Fisheries, Wildlife, and Botanical Habitat Management Plans) have a Sikes Act Cooperative Agreement with Idaho Department of Fish and Game. The Cooperative Agreement defines the responsibilities of the BLM and Idaho Department of Fish and Game for attaining the objectives of the HMP and is written in accordance with Section 202 of the Sikes Act (Public Law 93-452), the Sikes Act Supplement to the Master Memorandum of Understanding between the Idaho Department of Fish and Game and the BLM, and the FLPMA.

With more emphasis on multi-species or ecosystem/landscape management, new activity plans may be developed or existing plans may be modified, updated, or dropped. Activity plan development or modification would be conducted under an interdisciplinary approach, with applicable coordination with state, federal, and tribal agencies and interested publics.

Table T-1
CFO Fisheries, Wildlife, and Botanical Habitat Management Plans

HMP Name	Subbasin	Acres	Date	Management Emphasis
MacFarlane's Four-O'Clock – Long Gulch HMP	Lower Salmon River	45	1981	Federally listed plant, MacFarlane's four-o'clock.
Clearwater River Islands Goose Nesting HMP	Clearwater River	30	1981	Geese habitat restoration and conservation.
Chaney Goose Nesting HMP	Lower Salmon River	11	1981	Geese habitat restoration and conservation.
Little Pine Bar Goose Nesting HMP	Lower Salmon River	25	1981	Geese habitat restoration and conservation.
Little Salmon River Goose Nesting HMP	Little Salmon River	8	1981	Geese habitat restoration and conservation.
Elk City Aquatic Zone HMP	South Fork Clearwater River	683	1982	Native anadromous and resident fish and riparian-dependent species. Aquatic and riparian restoration and conservation.
MacFarlane's Four-O'Clock – Skookumchuck HMP	Lower Salmon River	28	1983	Federally listed plant, MacFarlane's four-o'clock.
Craig Mountain Wildlife Management Area HMP	Lower Snake River	4,862	1983	Wildlife and fisheries.

Table T-1
CFO Fisheries, Wildlife, and Botanical Habitat Management Plans *(continued)*

HMP Name	Subbasin	Acres	Date	Management Emphasis
Lower Salmon River Aquatic Zone III HMP	Lower Salmon River	1,516	1984	Native anadromous and resident fish and riparian-dependent species. Aquatic and riparian restoration and conservation.
Brushy Ridge HMP	Lower Salmon River	399	1984	Elk and deer winter range restoration.
Lower Salmon River Aquatic Zone I HMP	Lower Salmon River	5,637	1985	Native anadromous and resident fish and riparian-dependent species. Aquatic and riparian restoration and conservation.
Lucile Caves HMP	Lower Salmon	438	1985	Unique geologic and botanical values. MacFarlane's four-o'clock transplant population.
Whiskey Creek HMP	South Fork Clearwater River	1,179	1986	Big game winter and early spring range restoration.
Rattlesnake Ridge HMP	Lower Salmon River	8,504	1986	Big game, upland game, and nongame habitat restoration and conservation.

APPENDIX U

APPENDIX U—COMMENTS RECEIVED ON COTTONWOOD DRAFT RMP/EIS

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AGENCY COMMENTS

Comments

2006 10:20am From- T-932 P.004/011 F-343
7/2006 17:09 2089623275 BLM COTTONWOOD PAGE 04

RECEIVED
NOV 27 2006
BLM Cottonwood
Idaho 83522

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

November 22, 2006

Reply To
Attn Of: ETPA-088 Ref: 04-048-BLM

Carrie Christman
Bureau of Land Management,
Cottonwood Field Office
ATTN: RMP, House 1
Butte Drive Route 3, Box 181
Cottonwood, ID 83522-9498

Dear Ms. Christman:

The U.S. Environmental Protection Agency (EPA) has reviewed the draft Environmental Impact Statement (EIS) for **Cottonwood Resource Management Plan** (RMP) (CEQ No. 20060347) in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. Section 309, independent of NEPA, specifically directs EPA to review and comment in writing on the environmental impacts associated with all major federal actions. Under our policies and procedures we evaluate the document's adequacy in meeting NEPA requirements.

The draft EIS was prepared to provide the BLM Cottonwood Field Office with a framework for managing lands in the planning area that consists of 8.8 million acres of which 143,830 acres are administered by BLM. Four alternatives were analyzed including the No Action Alternative and the agency's Preferred Alternative. Alternative A is the No Action; Alternative B is the Preferred Alternative and emphasizes a balanced level of protection, restoration, and commodity production; Alternative C emphasizes the preservation and protection of ecosystem health; and Alternative D emphasizes commodity production, amenities, and services.

A1-1 Based on our review, we have rated the Preferred Alternative EC-2 (Environmental Concerns, Insufficient Information). This rating and a summary of our comments will be published in the *Federal Register*. A summary of the rating system we used in conducting our review of the Draft EIS is enclosed for your reference. We have concerns regarding water quality
A1-2 impacts due to the current level of impaired water bodies discussed in the EIS and the ability of the proposed project to restore designated beneficial uses and achieve the delisting of 303(d)
A1-3 listed stream segments. We also believe that there is insufficient information regarding source water for public water supplies in the project area and monitoring requirements. We support the
A1-4 activities to improve watershed conditions and promote forest stand health and species composition as proposed in Alternative B; however, we recommend consideration of an alternative with a higher level of ecosystem protection and restoration.

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Responses

A1-1: Thank you for your review.

A1-2: Because of the generally low percentage of BLM-administered lands within many of the 303(d)-listed segments, in most cases the activities outlined in the RMP will help, but not necessarily achieve, delisting of these segments and restoration of beneficial uses. On the project level, BLM will coordinate with IDEQ to design site-specific BMPs in 303(d)-listed segments. This currently involves jointly consulting with IDEQ and the Army Corps of Engineers on 404 permit applications within 303(d)-listed segments. The Corps issues a 404 permit and IDEQ issues a letter of consent. The BLM will continue to comply and stay current with IDEQ or EPA regulations regarding 303(d)-listed segments as the process evolves. Please also see Objective 2, Actions 3 and 4 on page 2-15 of the DRMP/EIS which addresses TMDLs and Objective 3, Action 2 page 2-17 of the DRMP/EIS.

A1-3: Regarding source water, please refer to the response to Comment Number A1-15. An action specific to source waters for public water supplies has been added to the PRMP/FEIS. See new Water Resources, Objective 2, Action 6 (Vol. 1, Chapter 2).

A1-4: Thank you for your comment.

Comments

Nov-28-2006 10:21am From- T-932 P.005/011 F-343
11/27/2006 17:09 2089623275 BLM COTTONWOOD PAGE 05

EPA appreciates the opportunity to provide comments on the Cottonwood RMP and EIS. If you have any questions regarding our comments, please contact me at (206) 553-1601. Please also feel free to contact Lynne McWhorter at (206) 553-0205.

Sincerely,

for Christine B. Reichgott, Manager
NEPA Review Unit

Enclosure

cc: Don Martin, EPA, Coeur d'Alene, ID

2

Responses

Comments

Nov-28-2006 10:21am From- T-932 P.006/011 F-343
11/27/2006 17:09 2089623275 BLM COTTONWOOD PAGE 06

EPA DETAILED COMMENTS ON COTTONWOOD RESOURCE MANAGEMENT PLAN and EIS

General Comments

A1-5 The draft Resource Management Plan (RMP) clearly describes the driving issues for the development of alternatives and organizes the current conditions of resources and potential impacts clearly. We appreciate the attention given to the discussion of management goals; objectives; comparison of alternatives; as well as connection to other federal, local, and interagency management plans and authorities. We feel there was a high level of consideration of the various stakeholders and agencies related to the project area and developing a large scale management plan that also considers site specific conditions and impacts.

A1-6 A1-7 Our concerns are related to improving water quality, protecting source water used as public drinking water supplies and including monitoring measures in the EIS. Also, we support the higher level of resource protection described in Alternative C related to forestry prescriptions, road activities, and fishery resources.

Water Quality

A1-8 The EIS lists water quality impaired 303(d) listed waterbodies as well as the Total Maximum Daily Load Status for each segment. Alternative C appears to be more protective and restorative of riparian corridors and fish habitat than the Preferred Alternative, Alternative B. Alternative C would implement Riparian Conservation Buffers on 27,624 acres versus Alternative B with 22,847 acres. Also, Alternative C would implement riparian management objectives on 68,359 acres versus 64,481 with Alternative B. We recommend providing the highest level of maintaining and improving water quality in the project area by managing forest prescriptions, grazing, and minerals extraction in a way that supports this goal.

A1-9 A1-10 We appreciate the inclusion and reference to Appendices B and C that describe Best Management Practices (BMPs) and information about conservation and restoration watersheds; we support these activities. It should be noted that in Table 2-1 for water resources Alternative C is consistent with Alternative B except on one action under Objective 2 and two actions under Objective 4 where it refers to Appendix C, Alternative C. However, Appendix C does not specifically address Alternative C and therefore, it is unclear what the different measures would be from Alternative B. Please explain this in the EIS.

A1-11 A1-12 EPA believes the RMP should include direction that assures that projects tiered from the management plan adequately assess the potential impacts on riparian functions and protect those functions. We support the establishment of riparian conservation areas (i.e., buffer zones) to avoid adverse impacts to streams and riparian areas, such as the INFISH and PACFISH riparian protection guidelines that promote recovery of native fish populations as discussed in the RMP. We would like to add that the Interior Columbia Basin Strategy indicates that riparian conservation areas or appropriate direction need to be identified in BLM and USFS management

3

Responses

A1-5: Thank you for your comment.

A1-6: Regarding improving water quality, please refer to the response to Comment Number A1-2. Regarding source water, please refer to the response to Comment Number A1-3. Regarding monitoring measures, please refer to the response to Comment Number A1-18.

A1-7: Thank you for your comment.

A1-8: The various management objectives and actions in the Forest Products, Vegetation-Forests, Livestock Grazing, and Minerals sections of Chapter 2 strive to accomplish this.

A1-9: Thank you for your comment.

A1-10: Appendix C addresses Alternative C in Table C-2 of the DRMP/EIS, "Conservation and Restoration Management Watersheds – Alternative C." Alternative B is addressed in Appendix C, Table C-1 of the DRMP/EIS, "Conservation and Restoration Management Watersheds – Alternative B."

A1-11: DRMP/EIS, Riparian and Wetlands Management, Objectives 3 and 4, and corresponding actions provides management direction for the maintenance and protection of properly functioning riparian areas and movement of non-functional or functional-at-risk sites to proper functioning condition.

A1-12: DRMP/EIS Appendix F, provides a management strategy which incorporates the aquatic and riparian components of the Interior Columbia Basin Strategy. Appendix F (*Aquatic and Riparian Management Strategy*) addresses the six components of *A Framework for Incorporating the Aquatic and Riparian Habitat Component of the Interior Columbia Basin Strategy into BLM and Forest Service Plan Revisions* (2004). Appendix F will replace the interim direction provided by PACFISH.

Comments

Nov-28-2006 10:22am From- T-932 P.007/011 F-343
11/27/2006 17:09 2089623275 BLM COTTONWOOD PAGE 07

A1-12 plans based on the best available science and appropriate ecological and geomorphic criteria. We recommend discussing the connection of the RMP to this strategy in the EIS.

The EIS identifies gold and silver mining as the main source of mineral resources. Water quality is a major concern associated with mining due to the high level of in-stream disturbance from recreational mining and the resulting increased sediment load. We recommend that EISs be developed to analyze impacts associated with approving plans of operations. These should be developed in conjunction with any relative permits that would need to be obtained. Also, it is unclear whether or not other mining activities such as underground or open pit are foreseeable actions. The EIS should clearly discuss the type and level of mining activities that may occur in the area.

A1-13

A1-14

The EIS does not appear to provide a discussion on source water for public drinking in the project area. Source water for many public water supplies (PWSs) originates on Federal lands. Public Water Supply owners and operators are responsible for the quality of surface and ground water supplies and need to be advised of revisions to the existing RMP. Effects to water quality of source watersheds for Public Water Supplies caused by projects and programs implemented through the RMP must be disclosed.

A1-15

The 1996 Amendments to the Safe Drinking Water Act require all States with primary enforcement authority for public water supply supervision programs to carry out a source water assessment program for all public water systems (PWSs) within the State. It may also be of interest to know that there is a Memorandum of Understanding among several Federal Agencies, in support of this program, called the Federal Multi-Agency Source Water Agreement, that can be found on the web at, http://cleanwater.gov/swa/ .

Ground water under a project area may serve as a drinking water supply and/or a recharge source of nearby surface water bodies. Contamination from land management activities could have an adverse public health or ecological impact on such resources. Management direction should assure that ground water is adequately protected from risks (e.g., use of mitigation measures and barriers). The discussion of ground water protection may include; identification, characterization and mapping of aquifers and confining beds; definition of flow system (i.e., recharge and discharge areas, flow direction); identification of current and anticipated ground water uses (e.g., domestic, municipal, industrial); and listing BMPs to be used as barriers for aquifer protection. We recommend that Resource Management Plan:

A1-16

1. Identify the locations of drinking water sources (i.e., surface water intakes, ground water wells) for Public Water Supplies affected by activities caused by the RMP;
2. Identify activities that may impact the quality of the identified surface or ground water source (e.g., turbidity, total organic carbon, organic chemicals, inorganic chemicals; bacteriological/viral/pathogenic organisms, pesticides, radionuclides, herbicides, etc; streamflow characteristics potentially affecting water quality like channel stability, etc);
3. Disclose measures (i.e., Management prescriptions, standards, guidelines, BMP's,

A1-17

4

Responses

A1-13: The level of environmental review for proposed activities on federal lands in the CFO is prescribed via federal laws and regulations. The DRMP/EIS specifically states in the Executive Summary, Management Alternatives, General Description of Each Alternative Section, "All management under any of the alternatives would comply with state and federal laws, regulations, policies, and standards."

A1-14: See DRMP/EIS Appendix Q, "Reasonably Foreseeable Development Scenarios for Minerals."

A1-15: Section 3.2.4 (Water Resources), in the third paragraph on page 3-15 of the DRMP/EIS includes a discussion on source water: "As defined by EPA, 'Source Water is untreated water from streams, rivers, lakes, springs, and aquifers that is used as a supply of drinking water.' Source Water Areas within the CFO planning area are the sources of drinking water delineated and mapped by the IDEQ. The BLM uses the source water database provided by the IDEQ to coordinate with the State regarding proposed activities within these areas. The BLM also continues to notify and coordinate with the public water system operator for proposed activities within all source water areas. Specific potential contaminants and protective measures for a proposed activity are identified at the project level."

A1-16: A new Water Resources action under Objective 7 on page 2-18 of the DRMP/EIS has been added to specifically address groundwater.

A1-17: BLM maintains a record of the type and location of drinking water sources. Specific impacts of and protective measures for a proposed activity are identified at the project level.

There are multiple management objectives, actions, BMPs, and other measures throughout the RMP that are designed to protect water quality in Chapter 2 . Refer to Volume III, Appendix

(continued on the following page)

Responses
(Continued from Previous Page)

A1-17 (continued): B of the DRMP/EIS, which includes a list of BMPs for protection of source drinking waters.

Specific risks to Public Water Supplies that require special considerations are identified for a proposed activity at the project level. The BLM regularly monitors the effectiveness of its RMPs through plan monitoring and plan maintenance, which is explained in the DRMP/EIS. A new action has been added as Objective 1, Action 3 to the Water Resources section. We will follow BLM planning regulations for all project planning.

Comments

Nov-28-2006 10:24am From- T-932 P.008/011 F-343
11/27/2006 17:09 2089623275 BLM COTTONWOOD PAGE 08

A1-17

barriers, etc.) designed to protect water quality of the affected sources;

4. Review agency programs, permits and projects to identify and categorize risks to Public Water Supplies that require special considerations. Review or establish a monitoring program to determine whether established RMP guidance adequately protects drinking water delivered to Public Water Supplies or if additional measures are needed;
5. For projects and programs having high risks for pollution (such as Oil & Gas, cyanide heap leach) to sources of drinking water, escrow accounts adequate for protection, emergency cleanup and proper post-operation rehabilitation are strongly recommended; and
6. Include language in RMP areawide standards that requires separate NEPA analysis and approval of any proposed application of toxic substances.

Monitoring

A1-18

It is unclear in the EIS what monitoring will be required, who will monitor, and what triggers will determine a management action as well as how the management will adjust depending on results. The EIS should describe project monitoring in some detail. We recommend that the level of effort afforded monitoring be commensurate with the complexity of the project and the risk to and sensitivity of the affected environment if a project is permitted and/or approved. As a first step, we recommend that the EIS clearly define the goals and objectives of monitoring, and present an overall monitoring strategy for the project. Second, the EIS should provide enough detail on the monitoring program for reviewers to evaluate whether the goals and objectives of monitoring will be achieved. This can generally be satisfied by providing summary information on monitoring (including a list of measurement parameters, methods, locations, and frequency), data analysis, and reporting. In addition, we recommend that alternatives include clear requirements for regular analysis and reporting of data to oversight agencies, and include a requirement that the operator submit a full sampling and quality assurance plan for agency approval.

Noxious Weed Management

A1-19

The EIS discusses prevention of future spread of noxious weeds in great detail. However, the degree of current infestation is unclear. We recommend including a discussion on species and acres affected and success of current management activities.

A1-20

Under the description of alternatives part of the goal states "reduce infested acreage of established invasive plant species." For Alternatives B, C and D the objective is to work with partners and coordinate weed management areas and develop annual treatment strategies. We support working with partners to develop coordinated strategies in order to increase the success of weed reduction and recommend including a discussion of what agencies and stakeholders would be included and how the goal could be met.

A1-21

The EIS states that control methods include physical, mechanical, biological, and

5

Responses

A1-18: A detailed monitoring plan will be developed as part of the implementation/monitoring plan for the RMP. Monitoring will track the success of the implementation of the RMP in moving the Field Office lands towards goals and desired conditions. Project monitoring is established during the project analysis process.

A1-19: Section 3.2.6, Vegetation – Weeds in the DRMP/EIS discusses current conditions. Exact acres of areas affected by noxious weeds is unknown, which is disclosed by the statement, "Although weeds are spreading rapidly throughout the Upper Columbia River Basin (BLM and Forest Service 1997), which includes the planning area, a complete inventory of such species does not exist" on page 3-19 of the DRMP/EIS.

A1-20: Vegetation – Weeds Objective 1, Action 1from the DRMP/EIS shows BLM is to prioritize the use of BLM resources in areas with established partnerships. Currently there are five organized Weed Management Areas with a variety of partners. Since these efforts are likely to change during the life of the plan, a laundry list of potential partners would not be accurate. Objective 1, Action 8 for this resource indicates that the BLM will monitor control and rehabilitation projects to document results. This information will then be used to assess our movement in relation to goals set out in yearly operating plans agreed upon in the WMAs.

A1-21: Thank you for your comment.

Comments

Nov-28-2006 10:25am From- T-932 P.009/011 F-343
11/27/2006 17:09 2089623275 BLM COTTONWOOD PAGE 09

A1-21 chemical. We support the commitment to not use persistent herbicides in sensitive areas and we recommend integrated weed management with mitigation to avoid herbicide transport to surface or ground waters.

Old Growth/Late Seral

A1-22 The EIS states that management actions would improve forest health, including species composition and stand density. EPA supports maintaining and restoring large, native, late-seral overstory trees and forest composition and structure within ranges of historic natural variability (e.g., Ponderosa pine, western larch, Western white pine). We support maintaining a higher level of old growth as described in Alternative C versus Alternative B and we believe that the EIS should more fully discuss why a higher level of harvesting old growth would be preferable and support improved forest health including habitat.

6

Responses

A1-22: The plan does not propose any level of old growth harvesting. See response to Comment Number A3-14.

Comments

Nov-28-2006 10:26am From- T-932 P.010/011 F-343
11/27/2006 17:09 2089623275 BLM COTTONWOOD PAGE 10

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections

The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonaby available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA

Responses

Comments

Nov-28-2006 10:27am From- T-932 P.011/011 F-343

11/27/2006 17:09 2089623275 BLM COTTONWOOD PAGE 11

does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

Responses

Comments

Cottonwood BLM
Resource Management Plan Comments

Randy Doman, Idaho County Commissioner

I have not read the whole plan but have a few comments after reading through the executive summary. Comments are mostly on the summary of effects tables.

A2-1 **Air Quality**: No mention is made of the effects of the increased fire use program on air quality. I would think that this would have potential for large adverse effects as the smoke combines with other fire use or wildfire events.

A2-2 **Soils**: I just have a question here on cross country travel and soil compaction, is the compaction from ATVs, motorcycles, or full sized vehicles. Have there been any studies to differentiate the differences in compaction from the different vehicles. My observations would indicate much less compaction from ATVs than the other vehicles. Would your plan regulate the different vehicles for cross country travel?

A2-3 **Vegetation Forests:** I'm not sure about your numbers here, in the soils effects you state that Alt A would treat 358 acres and Alt D would treat 361 acres. But in the veg effects you state that Alt A would have the highest level of treatment to maintain …. forest vigor. I must be missing something.

A2-4 **Vegetation Weeds**: I think we may miss the boat here if we don't talk about some measures to deter weed spread that would be implemented across all alternatives. Heightened awareness programs, required washing of vehicles, etc. Couldn't you in your timber sale contracts collect money to treat weeds for 3-5 years after sale closure to contain the spread of the invader species? I would think that you should have many options to keep weed invasions minimized in your timber sale areas.

A2-5 **Wildland Fire Management**: I seriously question whether you have the time (days, weeks and months of fire burning) and space (distance to areas where fire is not desirable) needed to carry out an effective fire use program. I would be happy to sit down at a map and have you explain your thoughts on fire use.

A2-6 Again your numbers for forest management activities and your effects write-up don't match. Alt A shows 35,757 acres treated and Alt D 45,190 acres, but, your effects write-up states that Alt D would result in 27% less fuels reduction???

A2-7 **Livestock Grazing**: I think we are missing a great opportunity to integrate grazing into our weed control program. I don't think pouring out all the chemicals we all do to control weeds is a sustainable practice and we need to start finding more environmentally friendly practices. I believe managed grazing could be one of those practices. We need to demand more research on how to integrate grazing into our weed management program.

Responses

A2-1: We have added language to address your concern in the Air Quality impacts discussion on page 4-11 of the DRMP/FEIS.

A2-2: Soil compaction has been linked to OHV use (Iverson et al. 1981, Wilshire and Nakata 1976, Webb 1983, Raghaven et al. 1976, Sheridan 1979, Griggs and Walsh 1981), in part because of the use of OHVs on wet soils, which are particularly sensitive to compaction. For Alternatives A and D, no specific vehicle restrictions are identified for cross country travel and for areas designated "open" for such use. Alternatives B and C have no areas identified as open for wheeled vehicle cross country travel.

A2-3: The discrepancies have been corrected.

A2-4: The DRMP/EIS specifies action items specific to Integrated Pest Management activities in Table 2-1, Pg 2-21 and 2-22 including emphasis on prevention (Action 5) and education/ awareness (Action 4). In addition, Appendix E sets out specific prevention activities to be considered in the planning area. Many of these reiterate the need to prevent weed establishment and spread during project activities and to monitor for and treat weeds post-project. The potential for noxious weed spread due to disturbance is acknowledged and we address this as part of our project planning and project design. Project level actions which are commonly implemented include re-vegetation, priority emphasis for treatment of disturbed sites, and project monies devoted to weed control.

A2-5: Thank you for your comment.

A2-6: The treatment acres and fuels reduction numbers will be clarified in the PRMP/FEIS.

A2-7: BLM considers livestock grazing as a biological control method to be implemented as an integrated pest management strategy. We will be using this strategy where appropriate. See Livestock Grazing, Objective 1, Action 6 and Objective 3, Action 3 in the DRMP/EIS.

Comments

A2-8 **Transportation and Travel Management**: I have talked to the Nez Perce Forest about the issue of having an area somewhere in Idaho County open to cross country travel. I believe that the BLM, Forest Service and IDL need to get together and find some place where folks can "turn it loose." If we don't designate and area then folks will find one on their own and then we all have an enforcement problem. I would be happy to sit down with all three agencies and see if we can wrestle this issue into a corner.

A2-9 **Lands and Reality**: Not sure if this is the proper place or proper procedure but Idaho County wants to go on record as wanting to acquire BLM land near the old Bennett Lumber Mill at Elk City. We would like to acquire the land across the river where the shop sits as well as the land for road access to the shop. Additionally we would like to acquire the land across the highway to develop a gravel source that all road agencies in the area could use. Ron Grant has knowledge and I believe a map of the areas we would like to acquire.

Responses

A2-8: Alternatives A and D of the DRMP/EIS include Open areas that would allow cross-country motorized use.

A2-9: Thank you for your comment.

Comments

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BLM Cottonwood
Idaho 83522

IDAHO DEPARTMENT OF FISH AND GAME
CLEARWATER REGION
3316 16th Street
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James E. Risch/Governor
Steven M. Huffaker/Director

November 25, 2006

Greg M. Yunkevich
Bureau of Land Management
Cottonwood Field Office
1 Butte Drive
Cottonwood, Idaho 83522

Email: comments@cottonwoodrmp.com

RE: COTTONWOOD FIELD OFFICE DRAFT RESOURCE MANAGEMENT PLAN/ENVIRONMENTAL IMPACT STATEMENT

Dear Mr. Yunkevich:

Thank you for the opportunity to review the Cottonwood Field Office Draft Resource Management Plan (RMP)/Environmental Impact Statement (DEIS). We also want to express special appreciation to your planning team members for the time they've taken to meet with us to discuss our interests and to resolve questions we had about the Draft EIS and the RMP development process. BLM team members helped us better understand your planning process and helped resolve many of our initial questions and concerns with the RMP. Still, new questions arose with as we continued to review, and we feel it is important to reiterate here some of our previous concerns with the RMP.

As you can well imagine, IDFG has a great deal of interest in the management of BLM land in the Clearwater Region as a sister resource management agency. IDFG Clearwater Region shares property boundaries with many BLM owned parcels and IDFG and BLM have a long history of co-managing resources with shared boundaries in the region, particularly in the Craig Mountain area. We offer the following comments in the spirit of continued cooperation.

A3-1 **General Comments:**

- ***We recommend selection of Alternative C as the Preferred Alternative.***

  It appears from the DEIS and from our discussions with BLM staff that all of the Alternatives except Alternative A (the "no-change" Alternative) meet the stated goals and objectives. Of the Alternatives analyzed, Alternative C offers the greatest resource protections and enhancements while still meeting the stated purpose and need. Despite the greater resource protections afforded under Alternative C, BLM has identified Alternative B as the

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Responses

A3-1: As stated in Section 2.4.2 of the DRMP/EIS, Alternative B is the BLM's preferred alternative based on interdisciplinary team recommendations, analysis of environmental consequences of the alternatives, and public input during scoping. Alternative B emphasizes a balanced level of protection, restoration, and commodity production to meet needs for resource protection and resource use. This alternative reflects recommendations made by the interdisciplinary team in response to issues identified through the assessment of current management and concerns raised during public scoping. Changes have been incorporated into Alternative B in response to public comments.

Comments

A3-1 preferred Alternative. We do not believe the DEIS provided sufficient reasons to select Alternative B over C *(See our comments below, especially those on the Social and Economic Conditions)*. Therefore, we recommend selection of Alternative C as the Preferred Alternative, unless compelling evidence can be presented in the analysis to support selection of the less environmentally protective Alternative B.

A3-2
- ***We recommend that the Resource Management Plan have a clearly specified lifetime, with a schedule for periodic review to update the Plan to incorporate new knowledge or respond to new technology.***

The RMP does not have a specified lifetime. In fact, there are contradictory indications of the anticipated longevity of the plan in the EIS. For instance, there is a reference to the 20-year life of the RMP in Appendix C (C-1), but forest products management is expressed in terms of 15 years.

The BLM planning team explained to us that setting a RMP lifetime was purposely avoided, primarily because of past Planning experience, in which Plans typically remained in effect well past their expiration date.

A3-2 We believe that specifying a lifetime for the Plan, including an outline of interim milestones and objectives, is critical. A schedule for meeting objectives is a cornerstone for building any strong, workable plan. A schedule not only provides a target, but serves as a benchmark against which to define and measure success. And it provides an incentive to ensure that the Plan does not outlive its usefulness.

A3-3 Also, we believe the Plan would be strengthened by a schedule for periodic review and updating to incorporate new scientific knowledge or changes in technology to improve the effectiveness of the Plan. Perhaps better would be a direction in the RMP that would allow BLM to revisit and, if necessary, update the Plan whenever new knowledge and technology become available that would help meet resource goals.

A3-4
- ***We recommend that the EIS clearly recognize Idaho Fish and Game's role as the agency responsible for management of wildlife, fish and plants.***

IDFG Clearwater Region and the Cottonwood BLM Field Office have maintained a long, healthy and very productive partnership as resource management agencies. Our responsibilities often differ, but we share many of the same goals for the state's natural resources. We anticipate that our partnership will continue to grow and strengthen over time. Even so, we would like to see language in the RMP that formally recognizes IDFG's role, as well as a firm commitment from BLM to continue to consult and coordinate with IDFG regarding management of public lands.

A3-4 For purpose of clarity, we noted statements or inferences in several places in the DEIS that BLM has a wildlife management role. BLM staff have affirmed to us those references should have stated the role as habitat management to benefit wildlife. We anticipate the RMP will be edited so that this distinction is clear.

A3-5
- ***We recommend strengthening RMP by adding language about building relationships and coordination with other agencies, organizations and individuals.***

2

Responses

A3-2: The RMP will provide management direction for the next 15-20 years.

A3-3: Periodic review and maintenance or amendment of the RMP is standard practice that should have been more clearly defined in the DRMP/EIS. The PRMP/FEIS will include this information.

A3-4: See edits to *Wildlife and Special Status Wildlife*, Objective 11, Action 3 of the DRMP/EIS, which now reads: "The BLM recognizes IDFG's role as the agency responsible for management of wildlife and fish in Idaho. The BLM will coordinate with IDFG, Tribes, USFWS, and other partners on population management of wildlife and habitats. Through coordination with the appropriate agencies, Tribes, USFWS, and partners; the BLM will allow for transplants, reintroductions, and natural expansion of native and other desired species populations."

Also, see new first paragraphs under Sections 3.2.9 and 3.2.10, *Wildlife and Special Status Wildlife* and *Aquatic Resources, Fish, and Special Status Fish*, respectively, which now read: "BLM manages fish and wildlife habitat, while fish and wildlife populations are administered by IDFG, U.S. Fish and Wildlife Service (USFWS), or National Marine Fisheries Service (NMFS)."

A3-5: Refer to *Wildlife and Special Status Wildlife*, Objective 8, Action 5; and *Aquatic Resources, Fish, and Special Status Fish*, Objective 1, Action 5. Appendix C, *Conservation and Restoration Watersheds of the* DRMP/EIS, emphasizes that priority for watershed and aquatic restoration efforts would be focused in watersheds where other landowners such as U.S. Forest Service or Idaho Fish and Game would facilitate and enhance management efforts. See response to Comment Number A3-4.

(continued on the following page)

Responses

A3-5 (continued): Also, new text has been added to DRMP/EIS Chapter 2, *Wildlife and Special Status Wildlife*, Objective 3, Action 3; Objective 11, new action 4; and *Aquatic Resources, Fish, and Special Status Fish*, Objective 5, new Action 7.

Comments

The DEIS contains a number of statements that BLM often has little control over the ultimate condition of its diverse properties because it is a minor landholder in some areas and has no control over activities outside its boundaries. Although true, this statement seems to be offered as a reason, even as an excuse, for perhaps not meeting RMP goals and objectives on some properties.

A3-5 Attaining the RMP goals will, undeniably, be more difficult when BLM has little to no influence on land management outside its property boundaries. However, we believe the Plan would benefit by a more positive approach to this dilemma. We agree that it's necessary to identify BLM limitations because of mixed or isolated ownership; but we recommend definitive statements throughout the RMP that BLM will do its best to move toward meeting all objectives on its own property, regardless of impacts from neighboring properties. In short, don't let bad behavior by neighbors, if there is any, constrain efforts. And take advantage of every opportunity to support and build on resource enhancements made by neighbors who wisely manage their resources.

In addition, we believe the Plan could be strengthened with specific direction to identify new opportunities and expand and improve existing relationships with other agencies, organizations and private landholders in the CFO as a primary tool for achieving BLM goals in the area.

- ***The BLM DEIS should describe the relationship between BLM Plans and the Clearwater and Nez Perce National Forest Plans, which are also in the revision process. Goals and objectives in the BLM RMP for those BLM properties which shared boundaries with National Forests should reflect anticipated goals and objectives for Forest Service lands as outlined in the Draft FS Plans.***

A3-6 BLM Cottonwood Field Office holdings abut National Forest property in many places. The Clearwater and Nez Perce National Forests are currently revising their Forest Plans, which are essentially the Forest Service version of this RMP. We believe that integration of Forest Service Plans and BLM this RMP may be essential to successful Plan implementation for both agencies. For instance, will RMP prescriptions and designations for shared streams be the same (*i.e.,* conserve and restore designations), will riparian buffer widths be maintained contiguously across FS/BLM boundaries, etc.? Or will the two federal land managers have different prescriptions on abutting properties that might effect goals attainment by either agency?

The RMP acknowledges the on-going Forest Planning process on Page 4-9, but does not indicate how the BLM and forest plans can or will be integrated. In our recent meeting, BLM indicated that this was primarily due to differences in the planning process schedules which, in turn, effect the NEPA decision-making process so, once adopted, any differences between Forest Service Plans and BLM RMP would require re-initiation of the NEPA process to amend the RMP (which will be finalized before Forest Plans). BLM's concern – and a valid one – for not integrating with the Forest Plan revisions is that FS Plans and the RMP are on different timetables and the first out of the NEPA box would have to reinitiate a very demanding NEPA process to be retrofitted, if there are substantive differences.

A3-6 To accommodate the differences in the BLM/FS planning process schedules, we submit that the RMP could contain language – perhaps a specific action item or direction -- that will permit modification of the RMP to eliminate differences in management between Forests and BLM where the two agencies share boundaries. We also submit that, although the

3

Responses

A3-6: Both the BLM and US Forest Service are guided by common direction in initiatives such as the Healthy Forest Initiative, National Fire Plan, Interior Columbia Basin Ecosystem Management Plan and in legislation, including the Endangered Species Act and Clean Water Act, so that direction provided in individual administrative unit plans should provide overall compatible guidance across administrative boundaries. This is particularly true for watershed and fisheries management on public lands, because of the occurrences of federally listed fish in rivers and streams that flow across US Forest Service and BLM lands in the planning area.

Specific management strategies will not be exactly the same with adjacent Forest plans. However, general similarities do exist in regards to overall strategies for aquatic and riparian restoration, wildlife habitats, grazing, achievement of HRV, recreation, weed management efforts, and travel management. The BLM administers lands that occur adjacent to and/or within watersheds that includes lands administered by the Nez Perce, Clearwater, Payette and Wallowa Whitman National Forests. The majority of our restoration watersheds include lands administered by the Forest Service (see Appendix C in the DRMP/EIS).

See Section 1.9, Implementation and Monitoring of the Resource Monitoring Plan of the DRMP/EIS, that identifies revisions or amendments to the RMP may be necessary to accommodate changes in resource needs.

Comments

A3-6 Forest Service planning process is on a different schedule than the BLM process, the timetable for and current development status of FS plans are not so different from the BLM schedule that they preclude preliminary discussion of similarities/differences in resource management direction and goals. There are opportunities now to identify and eliminate potential conflicts and to strengthen opportunities for mutual benefit. Many elements of the Forest Service plans are now well enough developed to indicate what the FS is likely to propose in their DEIS.

Social and Economic Conditions

A3-7 We did not find sufficient evidence the Social and Economic Conditions section to support selection of Alternative B as the Preferred Alternative.

Since the goal of the RMP is to strike a balance between maintenance or restoration of natural resources and providing community stability through resource use and enjoyment (see ES-2), a detailed analysis of social and economic impacts must be weighed against resource impacts as a critical part of this analysis. Logic dictates that the Preferred Alternative would be that which affords the best balance between meeting social/economic needs and providing natural resource protection and restoration.

A3-7 The DEIS states that Alternative C would have the least impact on physical and biological resources but a greater potential for adverse impact on local economies and businesses that depend on BLM managed lands for tourism, recreation, and resource extraction (ES-13). We don't believe that the DEIS presents sufficient evidence to make that case. In fact, much of the information provided seems to contradict that premise. Barring a stronger socio-economic justification for Alternative B as the best alternative for meeting both resource objectives and economic objectives, the more resource-protective Alternative C should be chosen as the Preferred Alternative.

A3-7
- We found this section to be a somewhat confusing mixture of state-wide and planning area data. Most of the economic indicators cited are from state-wide data; these are likely to have little relevance in the CFO. Has a detailed social/economic analysis been done <u>for the planning area</u>? If not, the EIS should describe how the authors applied the state-wide data to determine how RMP direction would effect the planning area, including calculations of current resource/activity values, projected values, comparisons of various resource uses, etc.

A3-7
- Economic trends or projections were not provided in this section of the RMP for any economic indicators except recreation* – and those were not very detailed. Clearly, recreation contributes significantly to local economies statewide (Page 3-78,) And recreation is cited as the most important industry sector in the CFO (Page 4-371). Recreation is expected to increase from 1-4% annually over the unspecified lifetime of the Plan (pp 3-78). What kind of real dollar values, local income and job opportunities do these recreation data predict for the lifetime of the plan? How do recreation and tourism dollars compare with predicted income from the other resource uses that effect the local economy (forest products, grazing, mining)? We suggest that comparisons of resource-driven economies is key to providing direction for the plan – for striking the balance between resource protection and use and for developing a sound argument for selection of the Preferred Alternative.

4

Responses

A3-7: Refer to response to Comment Number A3-1. A socioeconomic analysis and report was conducted at the beginning of the planning process (Tetra Tech 2005). It has been available on the project web site (www.cottonwoodrmp.com) since that time. The conclusions in the DRMP/EIS were reached based in large part on that analysis and report.

Comments

* Trends were discussed in the DEIS for forest products, but not in the Social and Economic Conditions analysis. There are references to anticipated trends for some other economic indicators scattered in the text as well, but these have not been incorporated into the socio-economic analysis.

A3-7 For instance, a discussion of cumulative impacts in Chapter 4.1.3 (P 4-6) indicates that BLM expects "declines (in timber harvest) in the CFO unless national direction places more emphasis on timber production on federal lands" in the future. (We wonder, though, if changes in the national direction would matter, since the number of acres available for harvest is designated for each of the various Alternatives? That is, the Plan would determine the "trend" for harvest on BLM lands.) The more difficult task of trying to forecast the economic impact in the highly volatile timber products market, whether or not national direction changes, would appear to be necessary despite the difficulty.

Travel Management:

A3-8 IDFG fully supports RMP direction to restrict motorized travel to designated trails (*i.e.,* no travel off designated roads or trails will be allowed in the CFO, except for snow machine travel) 4.3.6.

A3-9
- Both to clarify and to emphasize Plan direction to restrict motorized travel to designated trails, we recommend that you remove from the Plan the assumption that *"User-created trails would continue to be developed throughout the CFO . . . "* (P. 4-300) The assumption that users would continue to pioneer new trails contradicts Plan direction, and gives the impression that BLM either condones that illegal practice, or would be unable to stop it. We recommend instead that you include an assumption that user-created trails are illegal and that creators and users of non-designated open trails will be subject to enforcement and appropriate penalties. The RMP should reinforce your intent to have no new user-created trails in the CFO.

A3-10
- Similarly, the assumption that *"The incidence or resource damage and conflicts among recreationists involved in mechanized, motorized, and nonmotorized activities would increase with increasing use . . ."* (P. 4-300 and 4-278) is defeatist and contradicts RMP goals to manage resources for the mutual benefit and enjoyment of diverse users.

A3-11
- We also recommend adding an assumption: Technology will continue to advance the ability of motorized vehicles to travel in previously inaccessible terrain. (*I.e.,* the RMP should anticipate technological advances and set management direction with the assumption that motorized vehicles can traverse any terrain in the CFO.)

A3-12
- P 4-305. *Effects from Transportation and Travel Management:* says, *"Eliminating Open area designations would . . . .have effect . . . by reducing the area of cross-country travel permitted . . . "* Doesn't eliminating open areas eliminate , not "reduce" cross-country travel? Or eliminate all but winter cross-country travel?

A3-13
- A similar confusion is created in some of the Travel Management maps. Numerous areas are mapped as "Motorized Travel Limited to Designated Routes," *and* all trails/roads in those areas are designated as "closed to motorized vehicle travel yearlong." If all trails/roads are closed yearlong, and no cross-country travel is allowed, these areas are for all practical purposes closed to motorized travel yearlong. For consistency and clarity, we

5

Responses

A3-8: Thank you for your comment.

A3-9: The assumptions listed in Chapter 4 of the DRMP/EIS were developed to consider the worst-case scenario for purposes of impact analysis. The bulleted assumption pointed out on pages 4-278 and 4-300 from the DRMP/EIS will be changed to "User-created trails could continue to be developed throughout the CFO, although such actions are illegal, and creators and users of nondesignated trails will be subject to enforcement actions."

A3-10: The assumptions listed in Chapter 4 of the DRMP/EIS were developed to consider the worst-case scenario for purposes of impact analysis.

A3-11: This assumption has been added to page 4-300 of the DRMP/EIS.

A3-12: This sentence has been changed in the PRMP/FEIS to, "Eliminating Open area designations would have a long-term direct effect on OHV use by eliminating the area of cross-country travel permitted on BLM-administered lands."

A3-13: There are several maps for Alternatives B, C, and D that show areas designated as "Motorized Travel Limited to Designated Routes" because they do not all fit on one map (see Figures 31 through 36 in the DRMP/EIS). Throughout these designated areas, some routes are designated open and some are designated closed either seasonally or year round. As you point out, some maps only happen to show closed routes even though they are within an area that is designated "Motorized Travel Limited to Designated Routes." Despite this, the area/polygon designation of "Motorized Travel Limited to Designated Routes" still applies to these areas even though currently a particular map does not show any open routes. These maps cannot change the area/polygon designation to Closed as you

(continued on the following page)

Responses

A3-13 (continued): suggest because the BLM, by designating the areas "Motorized Travel Limited to Designated Routes," retains the opportunity to designate open routes in these areas in the future should the BLM determine that particular routes meet the RMP criteria for a designated route (see criteria in Chapter 2 of the DRMP/EIS, Transportation and Travel Management, Objective 3 and all accompanying actions). Changing the map title or area/polygon designation to Closed would eliminate this flexibility.

Comments

A3-13 recommend those areas be designated and mapped as Closed to Motorized Travel Yearlong.

Desired Future Condition:

When we met with BLM staff recently, we expressed confusion and concerns about the RMP's descriptions of Desired Future Conditions (DFC). We appreciate the time your staff spent helping us better understand this aspect of the RMP. However, we still have numerous questions and concerns about this topic that we feel need to be addressed. We remain particularly concerned with RMP directions regarding management of Forest Vegetation and Wildlife Habitat (Chapter 4; Appendix D).

A3-14 We believe that the proposed DFCs outlined in Appendix D, Tables D-2 and D-5 may be inadequate to protect wildlife. Appendix D contains DFCs for Forest Vegetation/Wildlife Habitat for Alternatives B and C (Table D-2) in general. Appendix D, Table D-5 describes the DFCs more specifically for ACECs. DFCs specified in these tables indicate that large tree and old forest classes are not likely to be maintained at their current availability, and may even fall below what is currently available. This is troublesome, especially for Low Elevation Dry Conifer (PVGs 1 & 2). BLM direction is to ensure there are no significant adverse effects to sensitive species or habitats (page 4-136); however, the DFCs outlined indicate to us that adverse effects are likely to result if implemented. For instance, sensitive species such as white-headed woodpeckers and flammulated owls rely on this already-limited type of forest structure, so failure to maintain the current levels of large and/or old forest structure would adversely effect these, as well as other, species over the long term. We recommend adjusting the standards for these vegetation categories to maintain them at or, preferably, to increase percentages currently on the landscape.

We find the "DFC block" management approach to implementing Forest Vegetation and Wildlife Habitat DFCs particularly troubling. All BLM lands, regardless of size, should be managed to help achieve the highest wildlife habitat and other resource values possible, consistent with your stated purpose for the RMP. We feel that the DFC block approach used for forest vegetation/wildlife habitat not only fails to meet that RMP direction, but is likely to impede achieving stated resource management goals.

The proposed DFCs for forest vegetation/wildlife habitat do not apply to the entire CFO, or even to large management areas or units, like a watershed. Instead, DFCs are described for and meant to be applied only in "DFC blocks" that meet a defined minimum size. The DFCs themselves (*e.g.,* area-wide range of size classes, percent old growth, number of snags, etc.) vary between Alternatives. The minimum size of the "DFC blocks" that would receive treatments aimed at achieving those DFCs vary between Alternatives. And the DFCs for each Alternative described in Appendix D (*e.g.,* area-wide range of size classes) are not expressed as an expected natural range of variability for each vegetative type, but as a single point from within the natural range.

A3-14 If Alternative B were to be implemented, forest vegetation/wildlife habitat DFCs and the management actions identified to attain those DFCs would apply only to areas larger than 1000 acres. The RMP offers no management direction to maintain or achieve the DFCs in smaller areas, regardless of the current condition or wildlife value of smaller parcels. Similarly, if Alternative C were selected, only blocks larger than 500 acres would receive the management protections needed to achieve DFCs (and the DFCs themselves differ). This "DFC block, minimum size" approach ignores existing or potential habitat values that many smaller BLM

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Responses

A3-14: Tables D-2 and D-5 in Appendix D of the DRMP/EIS provide a range of structural values and does not indicate an existing condition or that the existing condition would be altered. See page 3-16 of the DRMP/EIS and Objective 1, Action 2 on page 2-19, Alternatives B and C. See modification to Objective 1, Action 1 on page 2-19 of the DRMP/EIS.

DFCs were developed to provide a range of structural classes consistent with the HRV for the potential vegetation group which the various species evolved with.

See Vegetation – Forest Management, Objective 3 new Actions 2 and 3 of the DRMP/EIS.

To the extent practicable, an emphasis will be placed on retention conservation of large tree sizes of ponderosa pine (*Pinus ponderosa*), western larch (*Larix occidentalis*), and/or Douglas-fir (*Pseudotsuga menziesii*).

The DRMP/EIS developed alternatives to meet our multiple-use mandate, as well as to comply with other pertinent laws and regulations. During project development, wildlife values would be evaluated in conjunction with other resource values.

Comments

A3-14 parcels afford and may place valuable habitat in those smaller parcels in jeopardy by failing to provide sufficient protections and clear RMP direction for their management.

A3-14
- We recommend developing DFCs that apply across the entire CFO, for all forest and habitat types, rather than setting goals and limiting management to minimum sized blocks. DFCs should be developed that can be used to direct management of all parcels under BLM control, regardless of size, to achieve "the estimated range of historic variability in the distribution of tree sizes and ages," as well as to protect forest and other habitat type values on an integrated, landscape scale. We appreciate that many BLM holdings may be too small to manage effectively for old growth, for example; but collectively and in relation to the broader landscape, the smaller parcels contain important habitat and play a critical role, for instance in providing habitat for wide-ranging wildlife. Even the smallest isolated holdings demand a high level of management; in some cases, perhaps greater attention than large parcels. We suggest treating the CFO forests as a whole, and managing individual blocks as part of the whole – gearing management and RMP direction toward meeting CFO-wide DFCs. One effective approach might be to employ a multiple-scale assessment of forest vegetation like that described in Aquatic and Riparian Management (F-,8) when developing forest vegetation management strategies.

A3-15
- The lack of baselines or discussion of the BLM forest "existing condition" is a critical missing element in describing DFCs and directing management activities for forest vegetation. What is the current status of the forested areas with respect to the desired natural range of variability?

A3-16 A clearly defined DFC is provided in the RMP only for vegetation, although there are repeated references to attaining a DFC (by another name) for various environmental attributes; for instance, for riparian areas and streams. Based on narrative in many places in the RMP (*e.g.,* Chapter 4), the desired condition or goal is to restore and maintain a natural range of variability for forest, streams, grasslands, and other attributes. However, those goals are not clearly expressed in the summary, which says, for streams for example, a goal is to maintain or improve biological/physical and chemical integrity. There is similar non-specific language describing goals for other resource values. Clearly stating DFCs for all resource attributes, as has been done for forest vegetation/wildlife habitat, is important because the plan and, subsequently, every more detailed step toward individual project implementation should be expressed in terms of moving toward that desired condition.

Narrow focus on Threatened and Endangered Species:

A3-17 We are concerned with the RMP's narrow focus on federally-listed threatened and endangered species (TES) expressed primarily in Appendices C and F, but also scattered throughout the RMP. Resource management actions that protect TES will incidentally benefit other species that share the same habitat; however, there is no similar direction or emphasis on action in the RMP for habitat that supports non-listed species. We propose that the same levels of habitat protection are appropriate whether or not TES are present. For example, non-TES streams that support BLM sensitive species like westslope cutthroat trout, redband trout and Pacific lamprey should be afforded the same protections as TES streams. Similarly, intermittent streams, seeps, and wetlands that are critical habitat for a number of amphibians, some of which are BLM sensitive species-listed, deserve high levels of protection. These are not directly addressed in the RMP. The RMP should better describe how both listed- and non-listed wildlife species and habitat will be protected.

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Responses

A3-15: The DRMP/EIS does not identify the current status of the forested areas with respect to the desired natural range of variability. Following are some findings from ICBEMP (BLM and Forest Service 1997), and general conclusions from field observations:

- Decrease in the amount of old forest characteristic ponderosa pine stands and large trees.
- Loss of old forest stands in dry and wet conifer types.
- Increase of mid-aged stands.
- Loss of early seral stands.
- Loss of whitebark pine trees and stands.

Page 3-22 of the Wildlife and Special Status Wildlife section in Volume 1, Chapter 3 and Table 3-4 of the Vegetation – Forest Management section of the DRMP/EIS includes additional information concerning baseline conditions for forest vegetation and wildlife habitats.

A3-16: Additional baseline information has been included in the PRMP/FEIS in regards to vegetation and wildlife habitat (see DRMP/EIS Section 3.2.9, Wildlife and Special Status Wildlife). Also, see Appendix W, *Watershed and Aquatic Condition Indicators*, for watershed and aquatic condition indicators.

A3-17: The DRMP/EIS, Wildlife and Special Status Wildlife Management, Objectives 8 – 13, and associated actions provide management emphasis for non-federally-listed wildlife species. Aquatic Resources, Fish, and Special Status Fish Management, Objectives 1 – 5, and associated actions also identify actions that would support non-listed fish such as westlope cutthroat trout, redband trout, and Pacific lamprey, and other native fish and aquatic/riparian dependent species. Appendices C and F are not specific to federally listed species, but do provide an aquatic and riparian management strategy that would be beneficial to a variety of native aquatic and

(continued on the following page)

Responses

A3-17 (continued): riparian dependent species. We also recognize that small intermittent and perennial streams, seeps, and wetlands provide important wildlife habitats. Appendix F *Aquatic and Riparian Management Strategy* and Volume 1, Chapter 2, Vegetation – Riparian and Wetland Objectives and Actions from the DRMP/EIS are also applicable to small streams, seeps, springs, and wetlands. See response to Comment Number A3-14, which provides for additional actions that would benefit forest habitat dependent species with emphasis on management actions that support achievement of HRV, with emphasis on large tree and stand retention and old growth/old forest characteristics.

Additional guidance for green tree snag replacement is included in Appendix D of the PRMP/FEIS. Additionally, new actions for Alternatives B and C in Wildlife and Special Status Wildlife Management, Objective 9, are identified as follows:

"Action 1. To minimize or avoid adverse effects to elk habitat, Elk Habitat Management Coordinating Guidelines can be used as needed during project design, authorization, and implementation of land uses that affect elk habitat.

"Action 9. The following guidelines can be used when designing vegetation projects in big game habitat:

- "To provide forage areas, promote the creation of openings less than 40-acres in size (preferred < than 20 acres) and/or maximum width is less than 1,000 feet.
- "Openings should be bordered on all sides by cover not less than 800 feet in width.

"Rejuvenate and enhance the shrub and herb component of big game winter ranges by simulating or promoting natural disturbance regimes for early-seral habitats.

"Action 10. Provide for migratory bird habitat through implementation of actions supporting habitat diversity (e.g. HRV, guilds, riparian and aquatic strategies, etc)."

Comments

Baseline Conditions and Monitoring:

Two troubling omissions in the Draft RMP are discussions of baseline conditions and monitoring.

A3-18 The RMP does not describe baseline conditions for vegetation/wildlife habitat, stream and riparian conditions, fisheries, and other resource attributes. We believe that a description of baseline conditions is very necessary not only to identify RMP management needs and direction, but to establish the criteria that will be used to measure progress toward stated goals. For instance, how close to meeting the described DFCs (or natural range of variability) are current forest vegetation conditions, riparian zones, grasslands, etc.? What actions are needed to maintain areas which currently meet DFCs or to restore those not meeting DFCs? We recommend that the FEIS include baseline information on the current status of resources relative to the DFCs. Where DFCs are not clearly specified in the RMP (*e.g.,* stream condition), other baseline criteria (*e.g.,* stream condition indicators) need to be established and outlined in the RMP.

A3-19 We believe it is equally important to monitor progress from the baseline toward goals identified in the Plan. The RMP should include an effectiveness monitoring plan. The only commitment we saw to monitoring (and adaptive management) to ensure the Plan is achieving desired outcomes was in Appendix F – Aquatic and Riparian Management Strategy (Page F-1). We recommend that a similar monitoring outline be developed for all RMP implementation strategies.

Conservation and Restoration Watersheds** and **Aquatic/Riparian Management Strategy:

A3-20 The Aquatic/Riparian Management Strategy (Appendix F), supported by the Conservation and Restoration Watersheds approach (Appendix C) could serve as a model for the other strategies in the RMP. Although a solid baseline still needs to be developed for aquatics indicators, this strategy contains all of the essential elements we feel are needed, but mostly missing, in other parts of the RMP: clear direction, parameters to measure success, and a commitment to monitoring and adaptive management.

Additional comments on these topics:

A3-21
- We recommend that PACFISH/INFISH standards be used as the default where watershed analysis has not been completed or sufficient data are not available to modify those standards.

A3-22
- Barring adoption of PACFISH/INFISH, we recommend adoption of the standards described for Alternative C at a minimum; but with stronger protections for permanently flowing streams, whether or not fish-bearing, and for intermittent streams and wetlands smaller than one acre. There is a rapidly growing body of literature describing the importance of small streams, including intermittent flows, to the health and condition of downstream fisheries and receiving waters. Small tributaries store water for recharge, are a source of beneficial sediments and wood, a source of nutrients, and they supply essential insects and other forage for fish. Nor do streams have to be perennial to support fish -- many intermittent streams support fish seasonally or year round, including listed species. Small intermittent and perennial streams, ponds and wetlands also provide critical habitat for a host of wildlife other than fish, many of which are at risk,

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Responses

A3-18: See response to Comment Number A3-16.

A3-19: A formal plan for effectiveness monitoring will be included in the RMP implementation plan.

A3-20: Baseline information has been added in Chapter 3 of the DRMP/EIS.

A3-21: Appendix F in the DRMP/EIS identifies standards that are similar to PACFISH and default RCA widths that will be used as indicated below:

"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. In all cases, the rationale supporting RCA widths and their effect would be documented. Refer to previous listed goals, values, and WACIs that should be considered for managing RCAs. In addition to previous pertinent resource values, specific RCA watershed, reach, or site characteristics should be addressed in supporting rationale for modifying RCAs."

A3-22: See response to Comment Number A3-37; and response to Comment Number O2-39.

Comments

A3-22 including some BLM-listed sensitive species. Protecting small streams is important to protecting the fish-bearing streams to which they are tributary. The critical values of non-fish bearing and intermittent streams deserve protection. At a minimum, we recommend adopting a 300 foot buffer for non-fish bearing perennial streams and 150 foot buffers for ponds, lakes, wetlands, and intermittent streams.

A3-23
- The RMP's focus on federally-listed threatened and endangered species (TES) is especially narrow in these sections. Providing only *". . . for optimal aquatic, riparian, and watershed conditions for TES species"* (Page F-3, conservation measures) will incidentally benefit other species that share habitat with TES; however, as written, the RMP infers that non-TES habitat may not receive the same level of analysis or protection. Per our previous comments, we propose that the same levels of protection will often be appropriate whether or not TES are present.

A3-24
A3-25
- We recommend strengthening conservation measures for *Grazing Management*. For instance, don't delay locating livestock handling facilities outside of RCAs. Also, please clarify an apparent contradiction between conservation measures to modify stocking rates and assumptions on Page 4-119 that, *"Livestock type and stocking rates would remain the same over the planning period."*

A3-24
- Also, reduced " *"trampling of (TES) redds and other direct and indirect effects that may result in adverse impacts on the (TES) species"* by livestock is not only undesirable, it probably constitutes a "take" under ESA. To improve, we suggest borrowing language from the *Recreation Management* conservation measures which states the action will be to, *"Relocate or close (livestock handling facilities)where . . . effects on TES fish cannot be avoided."* . . . though we would not limit that standard to fish and, again, contend that the same protections should be afforded all water bodies, regardless of presence or absence of TES.

Miscellaneous notes and comments:

Management goals:

A3-26 It would be very helpful to restate the management goals by resource in other sections of the EIS (*e.g.*, Affected Environment and Environmental Consequences subheadings Air Quality, etc.) as they were presented in the Executive Summary (ES-4,5,6) so proposed actions can be more easily compared to desired outcomes.

P 3-61. Mineral withdrawals:

A3-27 Salmon River withdrawals were described in the DEIS as pending. We understand that the withdrawals have been approved. We assume this change will be reflected in the FEIS/RMP.

Page 4-45. re. Effects from Recreation Mgt and land acquisition:

A3-28 A stated goal for all of the Alternatives is to attempt to acquire more land to increase recreational opportunity, a direction we fully support. However, public and even administrative access across private lands to reach some BLM properties will remain a problem, and smaller scattered BLM parcels complicate management. We suggest including an "action" in the RMP

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Responses

A3-23: Refer to the response to Comment Number A3-17.

A3-24: DRMP/EIS Appendix A, Idaho Standards for Rangeland Health and Guidelines Livestock Management, Guideline 2 states the following, "locate livestock management facilities away from riparian areas wherever they conflict with achieving or maintaining riparian-wetland functions." Also, see Appendix F, Aquatic and Riparian Management Strategy – Alternatives B, C, and D, GM-2.

A3-25: The statement on page 4-119 reflects an assumption used for the DRMP/EIS alternative impact analysis only. When the Idaho Standards for Rangeland Health and Guidelines (Appendix A in the DRMP/EIS) are reviewed and if it is determined that Standard 2 (Riparian Areas) is not being met as the result of livestock grazing, BLM will then modify the livestock management practices to meet the riparian objective.

A3-26: The BLM agrees that it is a good idea to restate management goals by resource in the Environmental Consequences Chapter and has done so in the PRMP/FEIS.

A3-27: The DRMP/EIS was already in the process of being printed when approval of this withdrawal occurred. This change has been reflected in the PRMP/FEIS.

A3-28: See Lands and Realty, Objective 1 and all accompanying actions across all alternatives in the DRMP/EIS that address land tenure adjustments. Additionally, management blocks identified for Alternatives B, C, and D in Appendix M of the DRMP/EIS were developed based on many considerations that included consolidating public ownership and disposing of some scattered parcels.

Comments

A3-28 to attempt to acquire or exchange land to consolidate public ownership and management in the CFO where that makes sense from administrative and resource management perspectives.

Page 4-51. Effects from Recreation Management : re: Outfitters

A3-29 The DEIS states that commercial permits in SRMAs would be coordinated through the state licensing board for outfitters and guides. We recommend the following language that better reflects the long-standing coordination that has taken place between federal agencies, IDFG and the Outfitters and Guides per interagency Memorandum of Agreement: "Whenever considering Conditional Use Permits for new or modified activities related to hunting and fishing, BLM will consult with IDFG regarding the need, resource capacity and allocation to the industry."

Forest Management – Environmental Consequences:

A3-30 For clarity, we recommend separating mechanical treatment from prescribed fire treatment and from wildland fire (area of mechanical treatment *versus* area treated with fire in the descriptions of action and comparisons of Alternatives)

Wildlife (Ch 4.2.9) Effects Common to All Alternatives:

Effects of livestock grazing on wildlife on P-4-140 (and the antithesis in Livestock Grazing effects, P 4-252 *"Grazing conflicts could arise where . . ."*) sections should include a reference to the potential risk for transfer of diseases to wild bighorn sheep by domestic sheep and goats. The Plan should have a grazing management plan that 1) is designed to avoid contact between domestic goats and sheep and wild bighorn sheep, and 2) that can/will be readily adapted in response to new information about wild bighorn sheep movement and/or expanded range.

A3-31 That BLM is aware of the potential for disease transfer from domestic sheep and goats to wild bighorn sheep is reflected in Action 11 (Alternatives B, C, and D) to limit class of livestock in Hells Canyon and the lower Salmon downstream of and including Maloney Creek to cattle and/or horses. We recommend expanding that protection to include all allotments where the potential exists for wild bighorn sheep contact with domestic sheep or goats. The Salmon, from the Middle Fork down, is the home for the only native (*i.e.,* not reintroduced) bighorn sheep in Idaho. The Plan should direct that grazing allotments will be limited to cattle/horses in all areas where there is potential for conflict between bighorns and domestic sheep or goats. This management direction should be flexible enough to readily adapt grazing management to respond to changes in knowledge about bighorn sheep movements, and to reflect changing conditions if bighorn sheep populations increase and re-colonize historically occupied habitat in the Salmon and Snake River canyons.

4-374. Effects from vegetation-riparian and wetlands management (on social/econ conditions):

A3-32 The RMP states that *"protecting riparian buffers could reduce the potential volumes of timber sales."* Based on the assumption that PACFISH/INFISH standards have been adhered to in the past and would continue to be used under Alternative A, this statement is only true for Alternative A; the other Alternatives all recommend variously less restrictive riparian designations and could, therefore, *increase* the potential timber volumes.

A3-33 ***P 3-48. Allotment Categorization Process and Prioritization Process:***

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Responses

A3-29: BLM currently coordinates with IDFG through a state-wide MOU and IDFG's position on the Outfitter and Guide Licensing Board to address concerns related to hunting and fishing.

A3-30: The DRMP/EIS does keep prescribed fire and mechanical treatments separate - (see Wildland Fire Management, Objective 2, Actions 2, 3, and 4).

A3-31: Additional discussion regarding risk of disease transmission between domestic sheep and bighorn sheep has been included in the PRMP/FEIS (see DRMP/EIS, Vol. I, Chapter 3, page 3-22 and Vol. II, Chapter 4, page 141). Additional edits to actions and new actions have been included in the PRMP/FEIS to address the concern for risk of domestic sheep transmission of disease to bighorn sheep. See edits to Wildlife and Special Status Wildlife, Objective 13, Actions 2 and 3 and new additional actions 4, 5, 6, and 7 in the PRMP/FEIS (corresponding DRMP/EIS pages 2-53 and 2-54). Also, see edits to Livestock Grazing, Objective 1, Action 11, and new action 15 in the PRMP/FEIS. See response to Comment Number A5-12.

A3-32: The DRMP/EIS has been edited as follows: Protection measures to conserve or restore RCAs would vary by alternative, dependent on RCA widths. Volumes of timber sales would increase for Alternative B and D, and decrease for Alternative C, compared to baseline conditions (Alternative A) (see Table 4-12 in Volume II of the DRMP/EIS).

A3-33: The intent of DRMP/EIS Chapter 3 is to provide a description of the existing biological, physical, and socioeconomic characteristics, including human uses that could be affected by implementing the alternatives described in Chapter 2. DRMP/EIS Chapter 3 does not outline actual management direction; the Livestock Grazing section of Chapter 2 does. Management

(continued on the following page)

Responses

A3-33 (continued): direction pertaining to the allotment categorization and prioritization processes is detailed in Livestock Grazing, Objective 3, Action 1 under all alternatives (this objective and actions speak to continuing the allotment prioritization process); Objective 4 and all accompanying actions under all alternates; and Objective 5 and all accompanying actions under all alternatives.

Comments

A3-33 This section describes the current Livestock Grazing allotment categorization and prioritization processes, but does not indicate how these have been used to develop the RMP, or if BLM's intent is to continue to use those processes to manage its grazing allotments. Is it Plan direction to continue to use these processes to determine implementation of the RMP with respect to specific grazing actions? Can and how are these grazing allotment and categorization processes integrated into the Conservation/restoration watershed -- Aquatic/Riparian management strategy and other resource management strategies in the RMP?

BLM North Idaho Timber Management Plan:

A3-34 The BLM North Idaho Timber Management Plan (TMP) was completed in 1982; it was developed as a 10-year plan. BLM informed us that the TMP is still in effect and will continue to be used to direct timber management activities in the CFO. The RMP should include language that allows the Plan to be easily modified when and if elements of the now 25-year old Timber Management Plan need to be changed to accommodate new state or federal mandates, new technologies, etc.

Lolo Creek:

A3-35 We wholeheartedly support the Plan direction for greater protections for water resources and other criteria. We especially recommend that protections identified in Alternative C for Lolo Creek (P 4-62) be implemented to protect this important watershed. IDFG has recommend withdrawal of Lolo Creek from state Recreational Dredge Mining Permits in comments to be submitted to IDWR by November 13, 2006 regarding the 2007 Idaho Recreational Dredge Mining Program proposals. Although IDWR has yet to respond to our request, we recommend

A3-35 that BLM withdraw Lolo Creek watershed from those off-stream mining activities under its jurisdiction to further protect Lolo Creek watershed.

Water resources cumulative effects analysis:

A3-36 The water resources cumulative effects analysis is based on faulty assumptions that demands from future growth and development on water sources in the CFO are limited and will be restricted to large water bodies (*e.g.,* P 4-66 *". . . high quality supplies are plentiful in most areas." ". . . there is limited agricultural and industrial demand . . ."* and a discussion of dams on rivers). Our experience is that residential development, urban growth, changing land use and agricultural demands are having an increasing impact on water supply throughout the planning area. The impacts are most pronounced on, but by no means limited to, small streams. Many of our local streams, once perennial, have been reduced to intermittent or seasonal flow by water withdrawals and changes in land use. This trend in increasing demand/impact is already having adverse effects on some larger bodies of water that the DEIS describes as currently "plentiful." The cumulative impact assessment should assess not only the effects of increasing demands on our large rivers, but also on their tributaries and the subsequent impact on larger streams and rivers. Furthermore, the RMP should identify goals to

A3-37 protect and restore small streams, including perennial, intermittent and seasonal streams, and identify actions to move toward meeting those goals.

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Responses

A3-34: The referenced document will be used to guide management until a decision is reached on the RMP and any appeals, stays and/or litigation have been settled.

A3-35: Thank you for your comment.

A3-36: Edits to the analysis on cumulative effects have been incorporated,, which includes the following in Volume II on page 4-66 of the DRMP/EIS: "Population growth can put increased demand on water resources. In the CFO planning area land uses, such as residential development, urban growth, changing land uses, vegetation treatments, and agricultural demands are having various impacts on water supply. Such impacts may impact water quality, flow regimes, peak flows, and available water supply."

A3-37: In Chapter 2 of the DRMP/EIS, goals, objectives, and actions developed specifically for Water Resources (Section 3.2.4), Vegetation – Riparian and Wetlands (Section 3.2.8), and Aquatic Resources, Fish, and Special Status Fish (Section 3.2.10) do have actions that are applicable to small streams. Refer to Objective 1, Actions 1 and 2 (see Category 2 and 4 streams) in Volume 1 on pages 2-27 and 2-28 of the DRMP/EIS and Appendix F. The PRMP/FEIS has been amended to provide additional emphasis for small streams. See edits to Riparian and Wetlands, Objective 3, Action 1 and Objective 4, Action 1.

Comments

Vegetation – Riparian and Wetlands (Ch. 4) Assumptions:

A3-38 The first (Methods and Assumptions, Page 4-118,119) assumption is that most activities in RCA stream buffers would be restricted *"to those that benefit or restore the quality of habitat within these areas"* is followed by another assumption that *"Livestock type and stocking rates would remain the same over the planning period."* To be consistent with the first assumption, it would appear that the second assumption requires a caveat that says livestock type and stocking rates would remain the same – but only as long as they can be demonstrated to benefit or restore the quality of habitat within RCAs. This caveat is consistent with Idaho Guidelines for Livestock Grazing Management, especially Guidelines 2 and 5, that the RMP incorporates by reference.

Differences in number of conservation and restoration watersheds between Alternatives:

A3-39 Alternative B has 1 conservation watershed and 32 restore watersheds; Alternative C has 3 conservation watersheds and 40 restore; and Alternative D has 1 conservation watershed and 27 restore. Since there are specific definitions for "conservation watershed" and "restoration watershed," and since all alternatives share the same goal and objectives, it would follow that there should be an equal number of conservation and restoration watersheds for each definition, regardless of Alternative (Definitions and designations in Appendix C). Please provide an explanation for the differences in the EIS.

Best Management Practices – Appendix B:

A3-40 Appendix B attempts to provide a list, or lists, of best management practices (BMPs) that would be used to mitigate various activities. As with many lists, Appendix B provides an incomplete accounting of the scores of BMPs that are available for the diverse management activities BLM might implement on its properties. We believe that it is important to emphasize that the BMPs in Appendix B are not limiting, but represent only a partial menu of options that can be used to mitigate impacts to, for instance, water quality.

A3-41 It's also important to recognize that BMP technology is constantly improving. A statement in the Appendix and/or a Plan directive should indicate that the most current and effective BMPs will be selected for every project, whether or not those BMPs are on this list.*

* We believe this approach would not only make the Plan more effective, but more efficient. Identifying the lists in Appendix B as partial and adaptable to project demands and/or developing technology could eliminate the need for the administrative process of interdisciplinary review and/or interagency cooperation, followed by a RMP supplement, you have committed to in the introduction.

A3-42 We recommend an emphasis throughout the RMP on *avoidance first* as a BMP for any and all activities that could have adverse impacts on resources. For instance, the Road Planning -- Design and Location BMP #4 is to plan transportation networks to "*minimize road construction within RCAs*." We suggest the priority should be to plan roads to avoid RCAs.

In Minor Road Construction, BMP #1 is timing to avoid work in streams occupied by listed fish to avoid disturbing redds, etc. The same protections should be afforded for all fish, regardless of their federal ESA status. Typically, Idaho Stream Alterations permits, needed to conduct work in streams, are conditioned in consultation with Idaho Fish and Game to protect all species of fish, other aquatic organisms and other resource values.

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Responses

A3-38: See response to Comment Number A3-25.

A3-39: Errors were noted in summaries and mapping of conservation and restoration watersheds in the DRMP/EIS. Maps and numbers in the PRMP/FEIS will be corrected.

In Alternative C we recognize our conservation watersheds are not consistent with the FS rating. In Alternative C we wanted to emphasize priority for conservation in the Hard Creek, Hazard Creek and the East Fork of American River.

A3-40: We will add language to emphasize that the BMPs in Appendix B of the DRMP/EIS are only a partial listing.

A3-41: Suggested language has been added to Appendix B of the DRMP/EIS.

A3-42: Appendix B, *Road Planning – Design and Location*, BMP #4 of the DRMP/EIS has been edited as follows: 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. Appendix B, *Minor Road Construction*, BMP #1 of the DRMP/EIS has been edited to replace "listed fish" with "native fish."

Comments

A3-43 BMPs are only effective when scrupulously maintained and monitored. BMPs must be monitored for effectiveness and corrections made quickly and efficiently when they fail to perform. There are no references to effectiveness monitoring of BMPs, except as a specific Watershed Management BMP (Page B-7). The BMP section of the Plan should include provisions for effectiveness monitoring of all BMPs and a response plan for those times when BMPs fail to perform as intended.

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Again, thank you for the opportunity to comment on the Cottonwood Field Office Draft Resource Management Plan. We recognize the demands an effort like writing the new RMP has been on your staff and we hope that you take our comments in the spirit we intended. We hope you find our input informative and constructive. If you have any questions about our comments, please contact Ray Hennekey at our IDFG Clearwater Regional Office. We look forward to receiving the Final RMP.

Sincerely,

Cal Groen
Clearwater Regional Supervisor

c: Tracey Trent
Jeff Rohlman

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Responses

A3-43: Project design criteria and implementation and effectiveness of BMPs will be monitored. BMPs will be modified as needed to achieve desired results.

Comments

JAMES E. RISCH
governor

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November 27, 2006

Greg Yuncevich, Field Manager
Cottonwood Field Office
1 Butte Drive
Cottonwood, ID 83522

RE: Draft Resource Management Plan/EIS

Dear Mr. Yuncevich:

The Idaho Department of Parks and Recreation (IDPR) staff reviewed the Cottonwood Draft Resource Management Plan (RMP) /EIS. This RMP will guide management activities in the Cottonwood Field Office (CFO) for the next 15 to 20 years.

Our staff is familiar with BLM's RMP revision process. We have been involved in the Craters of the Moon, Challis, Bruneau, Snake River Birds of Prey, and Coeur d' Alene Field Office RMP revisions.

The CFO is somewhat unique to other BLM Field Offices in Idaho. The large land area (8.8 million acres) and small, scattered ownership (143,830 acres) can make management difficult. These BLM lands are important though because they provide valuable recreation access to North Central Idaho's rivers and National Forest land.

The CFO is much like the Coeur d' Alene Field office with its ownership patterns. We were surprised to see that the two RMP revisions were much different because ownership patterns and the planning timelines were similar.

The draft RMP/EIS presents four alternatives. These alternatives range from the no-action to three action alternatives. This RMP is somewhat unique because the RMP is also a travel plan.

We are concerned that the draft RMP is trying to implement a Travel Plan during the RMP process. Travel Planning is controversial and can derail an RMP Process. The small amount of land area and number of routes might make this effort successful, but we are troubled with the lack of travel alternatives.

A4-1 The draft RMP closes 108.76 to 108.74 miles of routes in the CFO. This is an inadequate range of alternatives for a Travel Plan. Typically, a travel plan varies its amount of motorized access on routes from 105% to 85% of total available routes.

Responses

A4-1: While it is true that the alternatives do not vary significantly, it is primarily because the routes mentioned as closed are already closed for the most part, and we are not proposing to open any routes that are already closed.

Comments

Cottonwood Draft Resource Management Plan/EIS
November 27, 2006
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A4-2 The IDPR requests that the BLM reconsider its decision to close the Broken Leg Trail in Township 24 North Range 3 East to two-wheel motorized use. This trail connects with the Hershey Butte Lookout Trail #373 on the Payette National Forest.

The Hershey Butte Lookout Trail #373 is currently open to two-wheeled motorized use on the Payette Forest Travel Management Plan. This plan is currently undergoing revision from the draft EIS stage to the final EIS stage.

The IDPR has been an informal cooperating agency partner in the Payette National Forest Travel Plan process. To the best of our knowledge, Trail #373 will remain open to two-wheeled motorized use in the final decision.

A4-2 The Broken Leg Trail is very steep with an average grade of 21%. This grade is unsustainable for either motorized or non-motorized use. The BLM should apply for either an Off Road Motor Vehicle Fund grant or Recreation Trail Program grant from our department to reconstruct this trail.

The Recreation Trails Program (RTP) received a significant boost in funding with the passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETA-LU). Idaho will receive $1.1 million in FY 2006 that will increase to $1.3 million in FY 2009.

A4-2 Our Motorbike Recreation Fund has grown by an average of 16% per year for the last ten years. As a result of the revenue growth, we are expanding our Trail Cat Program by one machine and an additional Trail Ranger crew by next summer. The IDPR has the resources and funding to assist the Cottonwood Field Office with the reconstruction of this trail.

A4-3 Table ES-2 lists CFO Planning Area Management Goals by Resource on Pages ES-4 and ES-5. The Recreation Goal is as follows:

> "Manage public lands and waters to provide a broad spectrum of recreation experiences and benefits. Emphasize resource-based river recreation. Ensure that developed facilities and sites are appropriate for the resource setting, well maintained, safe, secure, and accessible. Provide high value recreation opportunities and receive a fair return for commercial and specialized recreation use."

We believe that this goal, while outlining a number of admirable attributes is too complicated. The Coeur d' Alene Field Office has a much simpler goal to "Provide opportunities for quality outdoor recreation experiences ensuring enjoyment of natural and cultural resources on BLM-managed or partnered lands and waters."

A4-3 The CFO should consider simplifying the recreation goal. The objectives can further specify those items outlined in the original goal.

The draft plan covers the goals, objectives, and action items for recreation on Pages 2-112 through 2-121. The action items differ little within the range of alternatives. The biggest difference between Alternative B and Alternative D is that the Craig Mountain SRMA would be managed for backcountry experience under Alternative B and a rural experience under Alternative D.

Responses

A4-2: The Switchback Trail, or Broken Leg Trail has never been open to public motorized use. It is not suitable to motorized use due to excessively steep gradient, and lack of public access by motorized vehicles (it is accessible on the bottom end only from the Salmon River crossing private lands).

A4-3: Thank you for your comment.

Comments

Cottonwood Draft Resource Management Plan/EIS
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Page 3

A4-4 Objective 1, Action 1 on Page 2-112 uses the Recreation Opportunity Spectrum (ROS) to maintain physical, social, and administrative settings for recreation opportunities and experiences. All of the action alternatives reduce the semi-primitive motorized acreage by 2,613 acres and the primitive acreage by 8,181 acres.

Chapter 4 uses this acreage reduction to justify greater impacts on a variety of resources. ROS is dependant on variety of factors, many which are not in the control of the CFO. For example, the CFO does not have the tools currently to manage the number of human contacts a visitor receives. The more visitor contacts that are encountered in a setting can move the ROS to a higher setting.

North Central Idaho's increasing population and visitation are the most likely culprits for the shift in primitive ROS setting. When the original Cottonwood Field Office RMP was written, the population and visitation was much lower. The BLM doesn't have much control over these factors. The draft plan's current ROS setting is actually more reflective of what is going on now, then the prior plan's ROS setting.

Objective 2 on Page 2-112 provides intensive management of Special Recreation Management Areas (SRMA). SRMA status varies across the range of alternatives with Alternative A providing three SRMAs and Alternatives B, C and D providing five SMRAs.

A4-5 Chapter 4 asserts that additional SRMA status could draw more people into the management area. SRMA status does not necessarily draw more people into a management area. SRMAs more intensively manage recreation than Extensive Recreation Management Areas (ERMA). These additional SRMAs are needed to reduce the impacts from increased visitation in the future.

A4-6 The draft RMP allocates commercial and non-commercial licenses in the Salmon River SRMA with the coordination of the Idaho Outfitters and Guides Licensing Board under Action Item 1.1 on Page 2-113. The Idaho Outfitters and Guides Licensing Board sets the number of licenses allowed on a particular stretch of river under the Idaho Administrative Rules (IDAPA) 25.01.01.059. The CFO should examine this action with IDAPA to make sure the number of licenses isn't under allocated. If they are under allocated in the RMP, it could set up a conflict between the RMP and IDAPA.

A4-7 Action 4.1 on Page 2-117 covers whether commercial water-based permits would be allowed in the new Lolo Creek SRMA. Alternatives B and C would not allow any commercial permits while Alternative D delays that decision until a SRMA plan is in place. The CFO should consider adopting the Alternative D action item. This would give both the CFO and the Idaho Outfitters and Guides Licensing Board more discretion at a later date.

Action 5 designates part of the Craig Mountain WMA as an SRMA under all action alternatives (B, C, and D). The only difference between the alternatives is that Alternatives B and C would manage the area for a remote backcountry experience while Alternative D manages the area for a rural developed experience.

A4-8 The Craig Mountain WMA is heavily roaded from past timber activity. The CFO needs to consider managing this area for a roaded natural experience rather than a backcountry experience. Many people

Responses

A4-4: Thank you for your comment.

A4-5: Thank you for your comment.

A4-6: BLM allocates permits, not licenses. BLM works closely with the Idaho Outfitters and Guides Board, and have jointly set the number of outfitter licenses which the board allocates. However, the BLM is not required to issue permits to all outfitters who receive a license, and there are commercial uses other than outfitting which BLM permits that do not fall under the purview of the state licensing board (such as non-profits, educational organizations, etc.)

A4-7: BLM analysis indicated that commercial use is not desirable in Lolo Creek for the foreseeable future.

A4-8: While it is true that the Craig Mountain WMA is heavily roaded, nearly all of the roads are now and always have been closed to public motorized use. The majority of the roads in the Craig Mountain WMA are administered by IDFG and other land owners, not the BLM.

Comments

Cottonwood Draft Resource Management Plan/EIS
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think of backcountry areas as being roadless. The Craig Mountain WMA and surrounding BLM lands are not roadless.

A4-9 Objective 4, Action 2 states "Coordinate with Idaho Statewide Comprehensive Outdoor Recreation Plan for developing new trails and facilities." We appreciate the reference to Idaho State Comprehensive Outdoor Recreation and Tourism Plan (SCORTP), but this action item misses the purpose of SCORTP. SCORTP is an analysis of supply and demand as well as an overview of outdoor recreation in the state. SCORTP does not dictate new trails and facilities. Its intent is to be used and a guide and a reference for justifying the demand for maintaining and creating new recreation facilities.

The National Park Service will approve the new 2006-2010 Idaho Statewide Comprehensive Outdoor Recreation Plan soon. The plan may be downloaded at http://parksandrecreation.idaho.gov/datacenter/statewide_planning.aspx.

A4-10 Travel and Transportation Action 2 on Page 2-124 eliminates summer cross-country motorized travel under Alternatives B and C. Alternative D keeps 23,189 acres open to cross-country motorized travel. The IDPR support the elimination of cross-country travel. BLM staff and permittees also limit cross-country travel. Once a track is made, it can be difficult for the average visitor to distinguish the new created route from the designated route. We encourage the BLM to carry this action forward as outlined in Alternative B into the final decision.

A4-11 The DEIS states "The travel management plan is expected to be completed in 2006." on page 4-19. IDPR is an informal cooperating agency in this planning process and we have updated information. The Payette National Forest Travel Plan Decision will not be signed until the summer of 2007. Winter travel regulations will go into effect in 2007-2008 and summer travel regulations will be effective in the summer of 2008.

A4-12 In conclusion, we believe that the goal for recreation is too complicated. It to be simple like the Coeur d' Alene Field Office Recreation Goal. The Switchback Trail should remain open to two-wheeled motorized use and be reconstructed.

It is our hope that once this RMP is finished, we can continue to work cooperatively on providing outstanding recreation opportunity and resource stewardship in the Cottonwood Field Office. If you have any questions about our comments, please contact me at (208) 334-4180 ext. 230.

Sincerely,

Jeff Cook

Jeff Cook, Outdoor Recreation Analyst
Comprehensive Planning, Research and Review

Responses

A4-9: Recreation, Objective 4, Action 2 has removed from the PRMP/FEIS.

A4-10: Thank you for your comment.

A4-11: The RMP ROD will be signed in 2007-8, implementing our travel management plan.

A4-12: The Switchback Trail, or Broken Leg trail is proposed for closure for motorized use due to excessively steep gradient and lack of public access by motorized vehicles.

Comments

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RECEIVED
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BLM Cottonwood
Idaho 83522

STATE OF IDAHO
DEPARTMENT OF AGRICULTURE

JAMES E. RISCH
Governor
PATRICK A. TAKASUGI
Director / Secretary

November 9, 2006

Greg Yuncevich, Field Manager
Cottonwood Field Office
1 Butte Drive
Cottonwood, ID 83522-5200

RE: Cottonwood Field Office Draft Resource Management Plan/Environmental Impact Statement

Dear Mr. Yuncevich:

The Idaho State Department of Agriculture (ISDA) appreciates the opportunity to comment on the Cottonwood Field Office Draft Resource Management Plan (RMP)/Environmental Impact Statement (EIS). Since this document outlines management alternatives for public lands within the field office boundaries, and will be the guiding management document for many years to come, it is important that all issues and options for addressing them are considered and discussed. Hopefully our comments will help in the analysis of environmental impacts of the management alternatives, and will be considered by the planning team when finalizing the RMP.

A5-1 Most of our comment will focus on the livestock grazing aspect of the commercial land uses which were identified. However, the Bureau of Land Management (BLM) should keep in mind that, since private lands are intermingled with BLM lands, actions proposed under the Cottonwood RMP could directly or indirectly affect private individuals and their livelihood (even apart from the grazing adjustments identified under the different alternatives).

A5-2 Certainly the fact that many of the grazing allotments are small in acreage, often surrounded by private land, and possibly lack access, makes it difficult to "control" grazing (as stated on page 4-5). However, this should not be a reason for canceling grazing privileges if the grazing lessee needs to use the public lands in conjunction with his grazing operation, and if Standards for Rangeland Health and Guidelines for Livestock Grazing Management are being met. The document does, indeed, show that all allotments evaluated so far under the S&G process have met Standards for Rangeland Health.

1

Responses

A5-1: Thank you for your comment.

A5-2: The statement that you reference on page 4-5 of the DRMP/EIS is part of Section 4.1.3, Cumulative Impacts, and the list of other past, present, or reasonably foreseeable projects or activities in and near the CFO planning area that could incrementally add to the BLM's proposed management under the alternatives considered in Chapter 2 of the DRMP/EIS. This statement in Chapter 4 does not indicate that grazing privileges would be canceled because the season of use or number of AUMs removed from public lands on isolated tracts is difficult to control. DRMP/EIS Chapter 2 specifies under what circumstances grazing privileges could be changed or revoked. See Chapter 2, Livestock Grazing, Objective 4, Action 3 and Objective 5, Action 7 in the DRMP/EIS.

Comments

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A5-3 We notice that the allotments identified for cancellation in Alternative B are presently not being leased for livestock grazing. We suggest that there is an advantage to leaving these areas as grazing allotments in case the opportunity arises in the future to make use of them.

A5-4 In relation to the environmental consequences section of the plan, page 4-56 of the document discusses the fact that alternative B would not allow grazing on 15,000 acres LESS than at present, but states that there would be "*no change* in impacts on water resources compared to alternative A". However, on page 4-64 the document states the impact on water resources due to grazing under alternative D (where there are more acres allowed for grazing than under other alternatives) would be *greater* than all other alternatives. Thus, there is not consistency in determining increased or decreased impact to water resources based on grazing.

A5-5 In the Livestock Grazing Effects section on page 4-69, the term "grazing encroachment" is unclear.

A5-6 Throughout the document and for all alternatives, quite often the discussion under the Rangelands Management impact section centers on livestock grazing. We point out that (as stated on page 4-100) "actions under most resource categories have the potential to affect rangeland vegetation". There is the separate Livestock Grazing Management discussion section where grazing related impacts should be specified.

Similarly, the weeds management impact section under the various alternatives too often centers on grazing impacts while not even mentioning other factors such as all-terrain vehicles (ATV), etc.

A5-7 Impacts on wildlife as a result of the livestock grazing program (page 4-141) show new water developments resulting only in a situation where livestock and wildlife would have increased competition for forage in a given area. This section should also discuss the fact that new water developments would allow increased use of an area by wildlife (by providing previously unavailable watering sites for many different wildlife species) when livestock are not in the vicinity.

A5-8 The livestock impact discussion, as it pertains to wildlife, also mentions "overuse" and "overgrazing" by livestock – resulting in declining range condition and unwanted changes to plant species composition. This document also mentions that livestock grazing stimulating growth of grazed plants, the fact that desired changes in plant composition for the use of wildlife species can also be the result of *proper* livestock grazing management.

A5-9 Another example of inconsistency is on pages 4-152, and 4-157. One of the "Effects from Livestock Grazing Management" sections talks only about an *improvement* of habitat for wildlife if grazing privileges are retired; but the discussion for the other alternative (further reduction in grazing) says that habitat will improve for some species and not for others.

A5-10 The last sentence in the narrative on page 4-252 (Effects from Vegetation – Riparian and Wetlands Management) implies only that livestock forage availability would be *reduced* by achieving desired future conditions (DFC). We are assuming that your thoughts are that DFC, in this instance, would be for more woody vegetation (and, thus, less

2

Responses

A5-3: The vacant allotments in Livestock Grazing Alternative B have been vacant for many years because: a) they are impractical for grazing livestock, or b) the adjoining base property owner does want the BLM grazing lease. BLM is only considering removing these allotments from the grazing base because there is no public demand for these allotments.

A5-4: As stated on page 4-56 of the DRMP/EIS, under Alternative B, three allotments currently not leased would be removed as grazing allotments. These allotments are currently not leased and not being used under Alternative A (current management), and removing them as allotments under Alternative B would not change current management. Therefore there would be no change in impacts on water resources compared to Alternative A.

Under Alternative B, 105,619 acres would be available for livestock grazing. Under Alternative D, 135,850 acres would be available for livestock grazing. This increase is why it states on page 4-64 of the DRMP/EIS, there would be increased potential for impacts on water resources.

A5-5: We have clarified the language in the document.

A5-6: The Livestock Grazing Summary (Section 4.3.2, page 4-250 in the DRMP/EIS) will be modified to include the following sentence, "Actions under most resource categories have the potential to affect livestock grazing."

A5-7: In response to your comment, text has been added to page 4-141 of the DRMP/EIS: "New water developments would allow increased use of an area by wildlife by providing previously unavailable watering sites for different wildlife species when livestock are not in the vicinity or conflicting with wildlife use of the area."

A5-8: Thank you for your comment.

(continued on the following page)

Responses
(Continued from Previous Page)

A5-9: In response to your comment text has been added to page 4-152 of the DRMP/EIS"Retiring three allotments could improve wildlife habitats within those allotments because any potential competition for forage would be alleviated and cover for wildlife may increase. Habitat for other species might not improve. It needs to be noted that current conditions and trends for wildlife habitat would probably continue, because these allotments are currently not grazed by livestock."

A5-10: Depending upon the desired objectives, livestock grazing could be modified to meet the desired objectives. Typically during vegetation rehabilitation efforts, livestock grazing may need to be temporarily deferred to meet desired vegetation objectives.

Comments

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A5-10 herbaceous cover) on a given site. Even if this is the case, the livestock forage base could be *increased* through an overall improvement of site conditions.

A5-11 On page 2-252 & 253 (Effects from Wildlife and Special Status Wildlife Management) has absolute statements "livestock *management adjustment would be implemented to reduce short- and long-term livestock impacts on wildlife.*" There is no flexibility in this statement that would allow BLM to take other management actions that would not impact wildlife and livestock users. There should also be statements that would address the reduction of wildlife populations when they have impacts on the livestock user and other wildlife populations.

A5-12 Since the RMP will outline livestock management on public lands under jurisdiction of the Cottonwood Field Office (CFO) for many years to come, it is important that only the best science is considered in relation to impacts on the domestic livestock industry. Rocky Mountain bighorn sheep were mentioned on page 3-22 of being within the planning area, but a discussion of a possible conflict with domestic sheep is not found in the document. ISDA appreciates the fact that this perceived conflict is not brought forth in the RMP as it has been in other land management agency documents. We would like to add to the information, that no single report has ever documented mortality through disease transmission from domestic sheep to bighorn sheep in their natural habitat. (See Attached Letters). We hope that flexibility of management be incorporated into the RMP to allow any wildlife and livestock conflict to be addressed on a case by case basis.

A5-13 On page 4-253, the following statement is made in the "Effects from Wildland Fire Management" section: *BLM policy requires that areas burned by wildland fires and prescribed burns for fuel-reduction project sites receive a minimum of two growing seasons of rest from livestock grazing to ensure species regrowth and that existing vegetation or seeded vegetation become established.*

We agree with the need to have vegetation recovered or well established before livestock grazing can occur. However, we have not found that the BLM policy is officially to keep livestock off an area for a minimum of two years. This is generally understood to be the guidance that is followed in most cases, but the BLM Emergency Fire Rehabilitation Handbook, H-1742-1; Chapter III states: "*Livestock closures for less than two growing seasons may be justified, on a case-by-case basis, based on sound resource data and experience*".

We suggest that the wording in Handbook, H-1742-1 Chapter III be incorporated into the RMP. This will allow to possibly shorten the minimum time period for naturally recovering areas to allow grazing to occur in less than 2 growing seasons if the soil/vegetative resource was not damaged to a significant degree during the fire and has responded well (appropriate ground cover, plant vigor, seed production, root-holding capability, etc.).

A5-14 Appendix I (Grazing AUMS by Allotment) has an error. The total shows only those AUMS for the allotments on the final page (I-5).

A5-15 We favor the selection of alternative D as the course of management action as regards the grazing program. This would allow the most flexibility in the future even if all the identified allotments are not grazed on a yearly basis. Available acres could be grazed following vegetation treatments or wildfire on other acres that would need to be rested for

3

Responses

A5-11: The BLM assumes you mean DRMP/EIS pages 4-252 and 253 in your comment, not pages 2-252 and 253. DRMP/EIS Chapter 4 is an analysis of expected impacts of the various management objectives and actions outlined in the alternatives in Chapter 2. Chapter 4 does not outline actual management direction; the Livestock Grazing section of Chapter 2 does.

Specifically, pages 4-252 and 253 of the DRMP/EIS state, "Livestock management adjustments would be considered when wildlife and livestock conflicts arise as a result of competition for water, forage, or cover" (emphasis added. This statement does not indicate that, "livestock management adjustment would be implemented…" per your comment. The statement "would be considered" provides flexibility to BLM managers.

A5-12: Because other commenter's identified concerns for risks of disease transmission from domestic sheep to bighorn sheep, additional discussion regarding risk of disease transmission between domestic sheep and bighorn sheep has been included in the PRMP/FEIS (see DRMP/EIS, Vol. I, Chapter 3, page 3-22 and Vol. II, Chapter 4, page 141).

During the fall of 2006, a panel of experts in disease transmission was convened to provide additional science –based information regarding disease transmission and its risks of occurring on the Payette National Forest that the Forest Supervisor should consider in conjunction with the risk analysis for domestic sheep transmission of disease to bighorn sheep. This information is pertinent, because BLM sheep allotments are used in conjunction with and are adjacent to Payette National Forest lands.

The following excerpts are from the panel of experts in disease transmission, and are from the Executive Summary from the following document: *Disease Transmission between Domestic*

(continued on the following page)

Responses
(Continued from Previous Page)

A5-12 (continued): *and Bighorn Sheep Payette National Forest* (USDA-FS 2006a).

- Scientific observation and field studies demonstrate that "contact" between domestic sheep and bighorn sheep is possible under range conditions. This contact increases risk of subsequent bighorn sheep mortality and reduced recruitment, primarily due to respiratory disease.
- The complete range of mechanisms/causal agents that lead to epizootic disease events cannot be conclusively proven at this point.
- Given the previous two statements, it is prudent to undertake management to prevent contact between these species.
- Not all bighorn sheep epizootic disease events can be attributed to contact with domestic sheep.
- Gregarious behavior of bighorn sheep and domestic sheep may exacerbate potential for disease introduction and transmission.
- Dispersal, migratory, and exploratory behaviors of individual bighorn sheep traveling between populations may exacerbate potential for disease introductions and transmission.
- There are factors (e.g., translocation, habitat improvement, harvest, weather, nutrition, fire, interspecies competition, and predation), some that can be managed and some that cannot, that can influence bighorn sheep population viability.
- Pasteurellaceae, other bacteria, viruses, and other agents may occur in healthy, free-ranging bighorn sheep.

In addition to the above, the BLM will also consider the following risk assessment document prepared for Payette National Forest Sheep Allotments when making evaluations of BLM sheep allotments for risk of domestic sheep transmission of disease to bighorn sheep: *Risk Analysis of Disease Transmission Between Domestic Sheep and Bighorn Sheep on the Payette National Forest* (USDA-FS 2006b). Also, see response to Comment Number A3-31.

A5-13: In response to your comment, the following text has been included in Section 4.3.2 under Effects Common to All – Effects from Wildand Fire Management "BLM policy recommends that areas burned by wildland fire and prescribed burns for fuels-reduction project sites receive a minimum of two growing seasons of rest from livestock grazing or until vegetation objectives are met. Livestock closures for less than two growing seasons may be justified on a case-by-case basis, based on sound resource data and experience."

A5-14: Alternative A in Appendix I of the DRMP/EIS has been changed to 7,204 AUMs and 168 allotments; Alternative B has been changed to 6,254 AUMs and 166 allotments; Alternative C has been changed to 6,020 AUMs and 145 allotments; and Alternative D has been changed to 8,540 AUMs and 170 allotments.

A5-15: Thank you for your comment.

Comments

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vegetative recovery and allow continued grazing to be authorized without the need for further environmental analysis.

ISDA, again, appreciates the opportunity to comment on the Draft Cottonwood Resource Management Plan and Environmental Impact Statement. If you have any questions about these comments, feel free to contact me at (208) 332-8566.

Sincerely,

Ron Kay

Ron Kay
Range Program Manager
Idaho State Department of Agriculture

Attachments:
Comment Letter to Payette FS, Forest Planner, July 14, 2006, from Dr. Alton Ward
Comment Letter to Payette FS, Forest Planner, 2006, from Dr. Marie Bulgin
Comment Letter to Payette FS, Forest Planner, July 12, 2006, from Dr. Glen Weiser
Comment Letter to Payette FS, 2006, from Dr. Anette Rink
Letter to Deputy Assistant Secretary of the Interior, Julie McDonald, September, 27, 2006, from Dr. Anette Rink

4

Responses

Comments

July 14, 2006

Ms. Pattie Soucek, Forest Planner
Payette National Forest
P.O. Box 1026
McCall, Idaho 83638

Dear Ms. Soucek,

I have read the February 6, 2006 ***Risk Analysis of Disease Transmission Between Domestic Sheep and Bighorn Sheep on the Payette National Forest*** document and am enclosing comments regarding this issue which has been a matter of concern to me for many years.

To provide some background, I served as head of the bacteriology section of the Washington Animal Diagnostic Disease Laboratory (WADDL) from 1980 to 1988. I then transferred to the Caine Veterinary Teaching Center in August of 1988 where I continued to direct and conduct diagnostic bacteriology. During my years at WADDL, I also conducted research to improve detection and identification of multiple bacterial species including those in the Pasteurellaceae family which includes *Pasteurella* listed, in the Risk Analysis document, as a primary concern regarding disease transmission from domestic to bighorn sheep.

In December of 1988, I was given the challenge to determine if two bighorn sheep ewes captured near Challis,Idaho carried *Pasteurella* species. It was confirmed that the ewes did carry the biotype T of *Pasteurella haemolytica*, the naming of which has since been changed to *Pasteurella trehalosi*. Bighorn sheep in central Idaho were experiencing a pneumonic epizootic at that time and numerous samples were subsequently collected from the bighorn sheep in that area during the following years and submitted to CVTC, thus beginning extensive research on organisms isolated from bighorn sheep and other wild ruminants sampled in 13 of the lower western United States, Alaska, and British Columbia and Alberta, Canada. During the past 17 years over 6000 of those genetically diverse Pasteurellaceae isolates have been archived for disease potential evaluation. Since my retirement in 2003, Dr. Glen Weiser and staff have continuing to provide valuable services to wildlife biologists monitoring bighorn sheep populations for potentially pathogenic microorganisms and testing for compatibility of herds based on the organisms that they carry. In addition, Dr. Weiser and his staff are currently conduction exciting research to identify and characterize virulence factors possessed by wildlife isolates.

I hope that you will find my comments on the Risk Analysis document to be meaningful and helpful for further consideration of potential risks on the national forest.

Sincerely,

Alton C. S. Ward, PhD
Professor emeritus

1

Responses

Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments

Comments from Alton C. S. Ward regarding the 2006 Risk Analysis of Disease Transmission Between Domestic Sheep and Bighorn Sheep on the Payette National Forest.

Bacteria identified as *Pasteurella* and *Mannheimia* species, which the authors of the ***"Risk Analysis of Disease Transmission Between Domestic Sheep and Bighorn Sheep on the Payette National Forest"*** state are of major concern as bacteria that may be transmitted from domestic sheep to bighorn sheep and cause disease, are members of the very large and diverse bacterial family, Pasteurellaceae. This family includes bacteria identified in the genera; *Actinobacillus, Haemophilus (Histophilus), Mannheimia* and *Pasteurella*.. Members of this family are normal commensal organisms that colonize the mucosa of the upper respiratory tracts of the vast majority, if not all, land mammals as well as many avian and reptile species. As commensals, the organisms are identified in the 25th edition of Dorland's Medical Dictionary as those, "*living on or within an other, but not causing injury to the host.*" That is in the normal state; however, many commensal bacteria can (and do) cause disease in their host as opportunistic pathogens when natural host barriers to disease are compromised. For example, *Staphylococcus aureus* is vary common in the environment and colonizes the skin of 90% of human infants by 10 days of age and continues to exist as a commensal on the skin and/or in nasal passages of approximately 60% of adults without causing disease. However this same organism is capable of causing serious and often, fatal infections when skin or mucosal surfaces are compromised and the bacteria and/or toxins penetrate.

During more than 20 years of personal experience with processing thousands of samples from multiple animal species for pathogenic bacteria, the critical aspects of proper sample collection, handling and culturing procedures became increasingly evident. Erroneous conclusions may be made when proper materials and procedures are not used. This becomes particularly evident when inexperienced individuals collect samples, e.g. samples from the upper respiratory tract of bighorn sheep, in the field and do not have the necessary means for temperature control and rapid transit of samples to a laboratory. Much has been learned in the past 20 years concerning epidemiological techniques and has been applied to processing samples and bacterial isolates, including those from North American native wildlife species. Much of that work has been conducted by or in collaboration with University of Idaho Caine Veterinary Teaching Center personnel. In summary some of these advances include

- It was demonstrated that oropharyngeal swab or tissue samples were superior to nasal swab samples for detection of Pasteurellaceae organisms (Dunbar et al., 1990; Wild and Miller, 1991; Queen et al., 1994).
- It was recognized that Pasteurellaceae organisms were quite fastidious and viability was rapidly lost when samples were exposed to temperatures below or above the tolerable range. This was confirmed by Wild and Miller (1991).
- It was also recognized that the viability of Pasteurellaceae organisms were markedly reduced as samples aged and that the type of collection system and transport medium was critical (Ward et al., 1990; Wild and Miller, 1991; Ward et al., 1997).
- Evidence was accumulated indicating that *Pasteurella* species can be isolated from essential 100% of appropriate samples collected from the upper respiratory tract of bighorn sheep and guidelines for sample collection and submission were distributed.

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- Since multiple genera of bacteria colonize upper respiratory mucosa, some of which are inhibitory to the growth of Pasteurellaceae, different types of media were developed,
- tested and finally adopted to enhance isolation of these organisms from the upper respiratory tract (Ward et al., 1986; Jaworski et al., 1998).
- Serotyping procedures previously used to identify and differentiate types of Pasteurellaceae, e.g. *Pasteurella haemolytica* and *P. trehalosi* from domestic livestock were found to be inadequate for differentiation of most isolates from wild ruminants (Ward et al., 1990, Ward et al., 1997).
- Procedures were developed and applied to differentiate isolates by biochemical utilization procedures into >100 different biovariants thus greatly increasing the ability of other test systems, such as serotyping, to detect differences between and similarities of isolates (Jaworski et al., 1998).
- In addition DNA fingerprinting procedures used in human epidemiological studies were developed and applied to detect transmission of specific strains of *Pasteurella* species (Snipes et al., 1992; Jaworski et al., 1993; Ward et al., 1997; Rudolph et al., 2003; Weiser et al., 2003).

The common concept that disease in free-ranging bighorn sheep populations has resulted from contact with or close proximity to domestic sheep is based largely on circumstantial evidence which is the basis of the dogma evident throughout the ***"Risk Analysis of Disease Transmission Between Domestic Sheep and Bighorn Sheep on the Payette National Forest"*** document.

Many of the articles cited in the Risk Analysis document lack scientific merit. One of the most frequently cited articles (cited in the Risk Analysis document and other publications concerning respiratory disease in bighorn sheep) used to support the concept that die-offs in bighorn sheep populations is because of transmission of *Pasteurella* sp from domestic sheep is that of Foreyt and Jessup (1982). In that article it is clearly stated that the assumption of transmission was based on circumstantial evidence. No bacteria were isolated from the bighorn sheep that died in the Washington group of bighorn sheep discussed in that article and *Pasteurella multocida* was isolated from **one** and a nonspecieated *Pasteurella* organism was isolated from another of the California bighorn sheep that died in that enclosure. The authors did not indicate that tests of samples from any of the domestic sheep had been done and provided **no scientific evidence** that the domestic sheep were the source of those bacteria. In addition, *P. multocida* strains are ubiquitous in both wild and domestic animal populations;(including mule deer [Jaworski et al., 1998; and pronghorn [Dunbar et al., 2000]), therefore it is naive to assume that isolation from lung, bronchial lymph node and serum of one bighorn sheep resulted from presence of domestic sheep. Such a claim was not and cannot be substantiated. Multiple strains of *P. multocida,* differentiated by biochemical utilization tests and DNA fingerprinting, were isolated from the lungs of bighorn sheep that died during the 1995-96 Hells Canyon pneumonic epizootic (Weiser et al., 2003; Rudolph et al, accepted for publication). There was no evidence that any one of those strains had been transmitted from domestic livestock. Such organisms may be carried as commensals and cause disease in their host and become opportunistic pathogens when the host's disease defenses are compromised.

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Experimental exposure of bighorn sheep to domestic and exotic sheep breeds and inoculation of bighorn sheep with *Pasteurella* strains isolated from domestic sheep have been reported to result in respiratory disease and death of bighorn sheep (Foreyt, 1989; Onderka and Wishart, 1988; Onderka et al., 1988; Callan et al., 1991). In some of those studies it was concluded that the bighorn sheep used in the experiments were free of *Pasteurella* because cultures conducted on nasal swab samples were negative for those organisms. Nasal swab samples have been demonstrated to be less reliable for detection of *Pasteurella* species than oropharyngeal swab samples. Another common cause for failing to isolate Pasteurella species from nasal samples is excessive ageing of the samples prior to inoculation of bacterial culture media.. In another of the studies a beta-hemolytic *P. haemolytica* biotype T (currently identified as *P. trehalosi*) was isolated from tissues of a bighorn that died after contact with domestic sheep. Like organisms were subsequently isolated from tonsil samples of domestic sheep which had not tested positive for these organisms prior to contact with the bighorn sheep. Considering that information, it could have been concluded that the beta hemolytic strain was transmitted from the bighorn to the domestic sheep. However it was concluded that transmission from domestic sheep to bighorn sheep had occurred although it was not scientifically validated.

We have also isolated beta-hemolytic *P. trehalosi*, like that described by Onderka and Wishart (1988), from samples collected from free-ranging bighorn sheep in central Idaho. Using biochemical utilization and DNA fingerprinting test procedures it was demonstrated that the organism isolated from transtracheal samples collected from caesarian derived lambs that developed pneumonia following exposure to their dams was identical to that previously isolated from adult sheep at the time of capture (Jaworski et al., 1993). *Pasteurella trehalosi* with the identical biochemical and DNA fingerprints have subsequently been isolated from samples collected a decade later from bighorn sheep in Central Idaho (unpublished laboratory records) and bighorn sheep in Hells Canyon (Rudolph et al., in print). It is this kind of testing based on genetic markers that is required for scientific validation of transmission.

Although cited articles were replete with assumptions based on circumstantial evidence that disease was transmitted from domestic to free-ranging bighorn sheep, **none of the cited articles provided scientific evidence of such transmission.** Die-offs in bighorn sheep populations without exposure to domestic sheep have been documented. Onderka and Wishart (1984) reported a major die-off of bighorn sheep not associated with domestic sheep. They attributed the disease to a strain of *P. haemolytica* unique to bighorn sheep. Buechner (1960), Spraker et al., 1984 and Bailey (1986) also reported die-offs in bighorn sheep populations without known exposure to domestic sheep. There was no known exposure of Hells Canyon bighorn sheep to domestic sheep associate with the 1995-96 pneumonic epizootic (Cassirer et al., 1996; Rudolph et al., 2003; Rudolph et al., in press). The great diversity of *Pasteurella* species isolated from the bighorn sheep in Hells Canyon was not indicative of a single point source but was more indicative of involvement of multiple opportunistic pathogens present in that bighorn sheep population. Although a feral goat was detected with a small group of bighorn sheep in the early phase of that epizootic, strains of *Pasteurella* sp. isolated from the goat were not isolated from any of the bighorn sheep that subsequently died due to the disease (Rudolph et al., 2003). A *P. multocida* strain and a *Pasteurella (Mannheimia) haemolytica* strain isolated from that goat were also cultured from samples of two and one bighorn sheep, respectively, that were in contact with the goat but not from any of the other bighorn sheep associated with the epizootic. Although Rudolph et

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al. (2003) state that "evidence suggests transmission …from goats to bighorn sheep.." "direction of transmission could not be established." Note that transmission was not "demonstrated" as is stated in the Risk Analysis document.

The wording of the ***"Risk Analysis of Disease Transmission Between Domestic Sheep and Bighorn Sheep on the Payette National Forest"*** document indicates that the objective of the analysis is to justify closing domestic sheep allotments to prevent disease in bighorn sheep and enhance growth of bighorn sheep populations in the Payette National Forest. Such action would result in great economic impact on livestock producers who use those allotments, their employees and have a trickle down effect on the Idaho economy. In addition, the implementation of the objectives of **The Hells Canyon Initiative** published in 1997 and evident in the Risk Analysis document would be at great expense with no assurance of greater success than indicated in the data gathered by Goodson (1982) and cited in the Risk Analysis document. In that publication Goodson provided data for bighorn sheep population trends in areas of Colorado without domestic sheep grazing. Trends during the 10-year period evaluated indicated that the number of bighorn sheep in some herds remained essential stable while some increased and others decreased. Obviously some bighorn sheep populations fail to thrive in the absence of domestic sheep grazing. Wildlife biologists need to consider how they are managing bighorn populations with or without the presence of domestic sheep rather than to always look to elimination of domestic sheep as a remedy for failure of bighorn sheep populations to thrive.

In **The Hells Canyon Initiative,** provides record of 21 translocations involving 329 bighorn sheep moved from nine different sources into Hells Canyon, since 1971. In our evaluation of samples from bighorn sheep populations, from north to south (Alaska to Arizona) and west to east (California to the Dakotas), during the past 17 years, multiple strains of *Pasteurella* and *Pasteurella/Mannheimia* species have been isolated and found to differ between populations. The greatest concern regarding contact of bighorn sheep with domestic sheep is that strains of *Pasteurella* and other potential pathogens that are new to the bighorn sheep will be introduced and cause disease. By numerous translocations of bighorn sheep into Hells Canyon from multiple sources, some of which had previously experienced die-offs (Buechner 1960), the probability that a variety of bacteria and viruses with the potential of contributing to disease, were introduced and intermingled is extremely high. However the future objectives published in **The Hells Canyon Initiative** is for more translocations to "fill unoccupied habitat and augment existing herds." Prior to intermingling bighorn sheep from different sources, biologists need to conduct tests to evaluate compatibility of populations on the bases of disease histories and potential disease agents present in each population.

Guidelines for management of domestic sheep and goats in native wild sheep habitats revised in 1998 provides directives which if implemented will indeed minimize potential for disease transmission from domestic animals to bighorn sheep. The ***Risk Analysis of Disease Transmission Between Domestic Sheep and Bighorn Sheep on the Payette National Forest"*** document does not document justification for closure of the domestic sheep allotments.

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To: **Pattie Soucek, Forest Planner**
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Re: Comment Concerning the Risk Analysis of Disease Transmission Between Domestic Sheep and Bighorn Sheep on the Payette National Forest (2006).

Myth, defined as a notion based more on tradition or convenience than on fact, (American Heritage Dictionary) seems to fit the Wildlife Biologists' clinging to the notion that contact with or the nearby presence of domestic sheep on the range will automatically result in the demise of bighorn sheep. Seventeen years plus of research by numerous researcher has not been able to prove that such is the case.

The whole risk analysis of disease transmission between domestic sheep and bighorn sheep (BHS) on the Payette National Forest (PNF) is based on the premise that domestic sheep transmit disease to BHS on the range. There is just **NO** scientific basis for this premise.

First it was scabies, ear ticks and lungworms blamed on domestic sheep that caused severe problems in bighorns all over the west. Then slowly, scientists discovered that the 3 disease organisms were host specific and BHS had their very own species of these particular pathogens. Scabies has been eradicated from domestic flocks for a number of years, but it is still found in BHS. Fortunately for the domestics, it is a host specific species. Now, *Pasteurella (Mannheimia)* is the bad bug, leaping from the supposedly disease resistant domestics to the fragile BHS and causing huge die-offs. The trouble is, the only evidence is circumstantial. There is **NO** hard evidence of any such thing happening after at least 16 years of looking. As a matter of fact, it is looking very much like the *Pasteurella-Manheimia spp.* is somewhat host specific, too.

There is no doubt that the BHS is a fragile creature, isolated as it has been by its favored habitat of high crags during the summer, separated from other not so agile wildlife and predators, and lower alpine areas in the winter. Liu, et. al., have shown that their immunity is less robust than other animals, due, in part at least, to the fact that the white cells of the bighorn sheep are 4-8 fold more susceptible to leukotoxin secreted by *Pasteurella (Mannheimia) haemolytica*, (one of the most important virulence factors of this organism) than domestic sheep, cattle, humans and mice. This simple fact makes the bighorn extremely susceptible to it own diseases.

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(Liu W. Brayton KA, Lagerquist J, et al. Cloning and comparison of bighorn sheep CD18 with that of domestic sheep goats cattle humans and mice. Vet Immun and Immunopath. 2006; 110:11-16.) The myth of the disease transmission from domestic sheep has been strengthened by the circumstantial evidence of loss of total numbers of BHS documented since the 1800, when domestic sheep first began to populate the west. Die-offs have been recorded on numerous occasions since this period; however, very little attention has been placed on other events happening at the same time—events as incriminating as the circumstantial evidence of domestic sheep being nearby. Flocks of domestic sheep were brought into mining camp areas to provide food after deer, elk, and BHS populations were decimated by over hunting. The fact that numbers have not bounced back is blamed on disease transmitted by domestic sheep, contaminating pastures and mountain slopes that BHS now have to graze. However, in spite of many people researching the problem, this theory has not been backed up by fact. Overgrazing by sheep and cattle did take away the winter feed in the lower elevations during the summer that BHS depended on during the winter. It is common knowledge that nutritionally stressed livestock are at high risk of disease—not from the pathogens of other animals but by commensal organisms of their own. An attempt to evaluate the importance of different factors contributing to BHS disease was made by Monello, Murray and Cassierer. (Ecological correlates of pneumonia epizootics in bighorn sheep herds. *Can. J. Zool.* 2001; 79: 1423-1432.) . This article is quoted by many biologists and also in the PNF Risk Assessment (RA). They report that herds found in proximity to domestic sheep tended to be more susceptible to die-off; however, the most striking finding their analysis revealed was that **88% of pneumonia-induced die-offs occurred at or within 3 years of peak population numbers.** They suggest that density-dependent forces such as food shortage or stress is the principal contribution to BHS susceptibility to pneumonia. Since there is no evidence for disease being actually transmitted from BHS to domestic, I would suggest that nutritional shortages are a good part of the problem. However, this observation was overlooked by the biologists in the risk analysis. Presently, overgrazing isn't the problem that it was in the early 1900s due to present BLM and Forest Service grazing oversight, but elk numbers are high in the PNF and graze the bighorn's winter range. A fact not mentioned in the RA. This situation could certainly be addressed by better management of elk numbers. Predation is never mentioned as a problem either even though it is the number one cause of domestic sheep demise on the range. This, despite the fact they are protected by a herder and guard dogs. In the PNF RA, it was mentioned that a BHS was caught in a wolf trap on the PNF so it is obvious that they are sharing habitat. Wolves were responsible for the death of over 500 mature domestic ewes and lambs belonging to one permittee on the PNF over the last 2 years. Cougar numbers, too, have been documented to be increasing and coyotes are an eternal problem. Bighorns in the vicinity of domestic	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

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sheep may even be safer due to the permittees efforts at predator control and the wolves preference for the less agile domestic sheep.

The disease presently causing so much contention is *Pasteurella* pneumonia, a common disease of domestic livestock. *Pasteurella* spp. contains a huge group of bacteria that has been associated with disease in cats, pigs, all ruminants, rabbits and rodents. The group has been divided into several genera, a number of species, then further into strains, genotypes and biotypes and still further into DNA types. In early reports of die-offs, the ability to differentiate between different strains and biotypes of *Pasteurella* had not been developed. *Pasteurella* was just *Pasteurella.* Science, however, has reached the point now, where the movement of a specific *Pasteurella* organism can be followed in a disease outbreak by "fingerprinting" or DNA testing the *Pasteurella spp.* strain and biotype, isolated from animals in a group or in contact with one another. If a *Pasteurella*-caused disease originated from a domestic sheep or goat, it can be followed back and the domestic animal at fault can be specifically identified.

The scientist that has made this possible is Dr. A. C. S. Ward, a microbiologist located at the University of Idaho, Caine Center. He has been involved in the disease problems of BHS for over 16 years and published over 15 reports in refereed journals concerning *Pasteurella spp.* isolated from Bighorn, domestic sheep and other wild species. In spite of this, none of his work was mentioned in the PNF RA. (See list of publications and presentations from the University of Idaho, Caine Center below.) Between 1991 and 1993, for example, Ward worked with the Nevada Division of Wildlife to capture bighorn and domestic sheep that had been observed jointly occupying portions of four different mountain ranges. Nasal and pharynx samples were taken and analyzed for identical organisms. In only one case, one domestic and 3 bighorns shared an organism with the same biotype. None of the other domestic and bighorn sheep had a *Pasteurella* in common. There were no sick or dying animals observed either then or later.

(Ward, ACS, Hunter DL, Jaworski MD, et al: 1997. *Pasteurella* spp. in sympatric bighorn and domestic sheep. *Journal of Wildlife Diseases* 33: 544-557.)

Dr Ward and his associate Dr. Glen Weiser have isolated, identified and fingerprinted thousands of *Pasteurella spp.* from normal, sick, dead and dying bighorn sheep in natural conditions and during die-offs. **In no case have organisms isolated from dead and dying BHS in a die-off been found in a domestic sheep in the vicinity.** In the Hell's Canyon outbreak of 1995-96, a feral goat was implicated, (see page 7, paragraph 2, PNF RA), as an identical *Pasteurella* was isolated from three BHS in close contact. However, the die-off stretched across the Hells Canyon area of Oregon, Washington and Idaho, encompassing an 1800 km^2 area, and other than those BHS in that one small spot, the *Pasteurella spp.* isolated from the others were different. There is actually the possibility that the *Pasteurella* could have gone from bighorn to goat, but if not, only a handful of BHS were involved. Transmission of organism from goat to BHS was not responsible for the massive die-off across the 3 state area.

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Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments	Responses
Foryet's report, (Foreyt, WJ. 1989, Fatal *Pasteurella haemolytica* pneumonia in bighorn sheep after direct contact with clinically normal domestic sheep. *AJVR* 50:341-344), detailed death of wild BHS confined in a small pasture with domestic sheep. There are several other similar reports. The *Pasteurella haemolytica* isolated in these instances, although not specified in this article because the work was not done, are usually group A2, a group known to be quite pathogenic to domestic sheep as well. This group of *Pasteurella* has not been isolated from any free ranging bighorn die-offs. However, many die-offs have not been followed with cultures. For example, in the die-off in South Dakota in 2005, neither the BHS nor the domestic sheep were sampled or cultured. Those folks were happy just blaming the outbreak on the fact that there were nearby domestic sheep. Furthermore, there are many documentations of pneumonia and die-offs in BHS that have no reported contact with domestic sheep. Attempts to confine bighorns, even in large areas, have not been particularly successful as disease appears to cause large losses. For example, 18 of 20 desert BHS were lost within a 3 month period in 1971 in the Black Gap area in Texas from severe pneumonia. No domestic sheep contact was reported. (Hailey, Marburger, Robinson and Clark. Disease Losses in desert bighorn sheep in the Black Gap Area, *Desert Bighorn Council, 1972 Transactions*) In Nevada, The Dutch Creek enclosure was established in 1967-1968 to hold desert BHS for the purpose of providing progeny for transplanting. Sheep numbers in the enclosure did not increased despite additions to the original stocking. Most losses were considered to be caused by disease. No contact with domestic sheep was reported. (Taylor, Disease losses in Nevada Bighorn, *Desert bighorn Council Transactions 1973).* California bighorns were returned to the lava beds of California. Two rams and 8 ewes were introduced in 1972 and increased to 22 head by 1975. Then the herd was suddenly reduced to 15 due to bluetongue virus (and most likely *Pasteurella*, a squeala of Bluetongue) that fall. No contact with domestic sheep was reported. (Blaisdell, Lava Beds Bighorn Project—So who Worries?, *Desert Bighorn Council Transactiosn, 1976.*) These are just a few examples. There are many more. **Thus, it is fairly obvious that the lack of domestic sheep does not affect the disease problems in the BHS.** Dr. Tom McDonnell, another scientist ignored by the PNF RA panel, authored an article concerning BHS and domestic sheep entitled "Bighorn Sheep and Domestic Livestock Conflict, March 16, 2000. It was submitted as an attachment to the California Woolgrower' comments to the Federal Wildlife Service for a similar situation. He points out the inconsistencies in many of the studies cited by the biologists and the authors of the PNF RA. He points out that almost all wildlife carries *Pasteurella haemolytica* and that fact is consistently overlooked by biologists. The incidence of isolation of *Pasteurella spp.* from normal bighorns is 90%, from elk 68%, moose 100%, mountain goats 83% and white tailed deer 100%. These are animals the bighorn sheep probably come into contact far more often than domestic sheep.	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments	Responses
Another reference absent in the PNF RA was the Final Report and Recommendation of the Wyoming State-wide Bighorn/Domestic Sheep Interaction Working Group of August 2004. This document included a report by Cat Urbigkit, one of the working group, entitled "A critical look at the Sheep Compatibility Review: 2000". She went back to original sources quoted from the literature reviews cited by agency employees in "The Sheep Compatibility Review" and found that many of the studies did not support the conclusion carried from paper to paper and used as evidence against the domestic sheep. Her study substantiated Tom McDonnell's review of the literature. Her critique included many of the references cited in the PNF RA. According to the account of the PNF RA, in Hells Canyon, "the metapopulation has exhibited positive annual population growth since 1971 even though domestic sheep grazing throughout the range of the metapopulation was much more extensive during the 1970's 1980's and early 1990s than it is currently." Yet, it is still believed the domestic sheep are a ticking bomb. The recommendation remains to remove domestic sheep from the area. This is the area where numerous transplants were made into the various parts of the PNF. We are informed by the PNF RA that "between 1971 and 2004, 474 bighorn sheep were transplanted into the Hells Canyon area and 126 were relocated within the area." We are not told how many individual transplants were made but we have to believe there must have been at least 25. It further informs us, "Seven bighorn die-off have been reported since reintroduction began. Five of these were *circumstantially* (italics are mine) linked to domestic sheep." Easy to do since we were told domestic sheep grazing was extensive during the 1970, 80s and 90s. . However, this population is one of the most studied of any population of BHS in the U. S. Presently research work in the area is being supported by a 5 year grant from the Foundation for North American Wild Sheep (FNAWS). Bighorns have been closely monitored, sick and dead BHS have been sampled and cultured. AND there was never any evidence found to support allegations that domestic sheep are responsible for die-offs. The die-off *circumstantially* linked to the feral goat was later shown to be false. (See above). The major question here is: What new organisms were introduced with each BHS transplant and what effect did the stress of transplantation have on the transplants and the stress of the new introductions have on the old population? It was shown by Colorado researchers and later substantiated by Ward and Weiser that some bighorn isolates are much more pathogenic than others and are much more likely to be associated with disease. Green AL, DuTeau NM, Miller MW, et al. Polymerase chain reaction techniques for differentiating cytotoxic and noncytotoxic *Pasteurella trehalosi* from Rocky Mountain bighorn sheep. *Am J Vet Res*. 1999, 60:583-588.	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments	Responses
Fisher MA, Weiser GC, Hunter DL Ward AC. Use of a polymerase chain reaction method to detect the leukotoxin gene IktA in biogroup and biovariant isolates of *Pasteurella haemolytica* and *P. trehalosi. Am J vet Res*. 1999; 60:1402-1406. This has led some States to send nasal and tracheal cultures taken from potential transplants to the Caine Center for identification and typing of the organisms isolated and checked against the list of known pathogenic strains. Certain sheep are left behind due to their colonization by known disease related strains of BHS *Pasteurella spp*. Idaho F &G has yet to take advantage of this service. In domestic animals, stress is a well known common factor in disease, especially for pneumonia caused by *Pasteurella.* Transportation is recognized as a major stress. So much so that the disease in cattle is called "shipping fever". Feedlot cattle are put on antibiotics, electrolytes and vitamins in their water for a week or two after shipping to minimize disease and they are kept separate from other animals in the feedlot. No such stress ameliorators are available to the fragile BHS. Imagine, if you will, a giant, noisy bird coming out of the sky, causing you to truly run for your life, a net dropping on you, causing you to become entangled and fall, then a large predator jumps on you, blindfolding you and restraining you while samples of your blood, feces and swabs of your nose are taken. Later, you are dragged into a trailer and hauled for hours over hot, dusty, bumpy roads, and finally you are freed in a place with strange new feeds and totally new topography. I think this might fit the definition of stress. The effects of the stress don't have an immediate visible effect. A die-off is not likely to happen imminently. Multiplication of the more aggressive or pathogenic organisms among the normal flora would definitely occur in the stressed animal due to the depression of the immune system. It gets the equivalent of a sore throat with an accompanying population explosion of pathogenic organisms in their pharynx and nasal passages. *Pasteurella haemolytica* does not fly on the wind (*Pasteurella multocida,* the more hardy of the *Pasteurellas*, has been shown to be able to travel up to 200 ft) but in fact lives a very short time in the environment or in drinking water. So, nose to nose contact is essentially necessary for its spread. A lot of nose to nose contact would be taking place between new transplants and the local population, transferring aggressive *Pasteurella* strains and leading to more stress as pecking orders are established. Animals unfamiliar with the organism, stressed by the newcomers, lactation, lungworms, predators, nutrition or social order may very well go ahead and develop clinical disease several weeks to months later. So, why is it that we think the domestic sheep had to be involved? Dr. Foryet has shown that transmission appears to occur when BHS and domestics have constant, direct contact, but there is no evidence that it has occurred in the wild. Certainly, it is not impossible if the two populations have frequent nose to nose contact, but they don't. Since domestic sheep are always with a herder and are under his control, contact is definitely unlikely and preventable. No sheep producer wants to endanger bighorns, nor do they want to be held responsible for a die-off. They fully understand the negative implication when contact occurs between the two species of sheep.	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments	Responses
Furthermore, in Idaho, permittees have agreed to notify Idaho Fish and Game immediately if, indeed, a bighorn is discovered with a flock of sheep. Fish and Game personnel will then capture or destroy it so that it does not return to it own species—or if a BHS is found nearby, herders can sic the dogs on it and run it off. No doubt, separation between the species during the domestic sheep' breeding season which starts the middle of August would be prudent. It has been well documented that young lone bighorn rams will enter domestic flocks lured by the domestic ewes in estrous. However, the mere act of trailing domestic sheep through an area that has a BHS population is not much of a risk. *Pasteurella haemolytica* will not survive outside of the body for longer than 5-20 minutes and bighorn sheep are not known to be camp followers. Nose to nose contact isn't going to happen on the trail. These are all situations that can be handled without removing domestic sheep from the range. The major problem with the reluctance of biologist to accept that domestic sheep are not the major cause of disease and die-offs of BHS is that it excuses them from looking for any other causes. They feel their present management is adequate and changes in management other than removing domestic sheep from the range isn't necessary. Unfortunately, it will be too late for the range sheep producer when it becomes obvious, that even without the presence of the domestic sheep, the BHS are still very fragile, will still experience nutritional and environmental stresses and will still die-off.	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments	Responses
PUBLICATIONS AND PRESENTATIONS (past 16 years) **REGARDING ORGANISMS ASSOCIATED WITH RESPIRATORY DISEASE IN BIGHORN SHEEP.** **ALTON C. S. WARD, GLEN C. WEISER** University of Idaho, Caine Veterinary Teaching and Research Center The Caine Pasteurella Research Laboratory Caldwell, Idaho **(References in bold type are those in refereed scientific journals.)** **Safaee, S, G. C. Weiser, E. F. Cassirer, R. R. Ramey, and S. T. Kelley. (2006). Microbial diversity in bighorn sheep revealed by culture-independent methods. J. Wildl. Dis. accepted for publication, 2006.** **Rudolph, K.M., D.L. Hunter, R.B. Rimler, E.F. Cassirer, W.J. Foreyt, W.J. DeLong G.C. Weiser and A.C.S. Ward. (2006). Microorganisms associated with a bighorn sheep pneumonia epizootic in Hells Canyon, USA. J. Wildl. Dis. accepted for publication, 2006.** **Kelley, S. T., E. F. Cassirer, G. C. Weiser and S. Safaee. Phylogenetic diversity of Pasteurellaceae and horizontal gene transfer of leukotoxin in wild and domestic sheep. Infect. Genet. Evol. (Epub ahead of print, April 22, 2006).** **Ward, A.C.S., G.C. Weiser, B.C. Anderson, P.J. Cummings, K.F. Arnold and L.B. Corbeil. *Haemophilus somnus* in Bighorn Sheep. Can. J. Vet. Res. 70:34-42, 2006.** Pierce, A. E., B. H. Gray and G. C. Weiser. Genetics of virulence in bacteria. 47th Annual Meeting and Symposium of the Idaho Academy of Science, Nampa, Idaho, April 8, 2005. (Invited paper). England, J. J., G. C. Weiser, B. E. Mamer, et al., Incidence of *Pasteurella trehalosi* in Cattle. Committee on Infectious Diseases of Cattle, Bison and Lamas. U.S. Animal Health Association Proceedings, Greensboro, North Carolina, October 21-27, 2004. Kelley, S. T., E. F. Cassier, G. C. Weiser, and S. SafaeePylogenetic Diversity of Pasteurellaceae. 117 gene sequence submissions, National Institutes of Health, GenBank, Washington DC, 2004-2005. Gray, B.H., G.C. Weiser, M. Serrano and A.C.S. Ward. 2003. Variability of the [Cu,Zn]superoxide dismutase gene, *sodC*, in bacteria of the family Pasteurellaceae. In Proceedings, 84th Annual Meeting of the Conference of Research Workers in Animal Diseases, Chicago, Il, November 9-11, 2003	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments	Responses
Rudolph, K.M., D.L. Hunter, W.J. Foreyt, E.F. Cassirer, R.B. Rimler, A.C.S. Ward. Sharing of *Pasteurella* spp between Free-ranging bighorn sheep and feral goats. J. Wildl Dis. 39:897-903, 2003. **Weiser, G.C., W.J. DeLong, J.L. Paz, B. Shafii, W.J. Price and A.C.S. Ward. Characterization of *Pasteurella multocida* associated with pneumonia in bighorn sheep. J. Wildl. Dis. 39:536-544, 2003.** **Ward, A.C.S., Weiser, G.C., DeLong, W. J., and Frank, G. H. Characterization of Pasteurella spp isolated from healthy domestic pack goats and evaluation of the effects of a commercial Pasteurella vaccine. *Am. J. Vet. Res.* 63:1,119-123, 2002.** Ward, A.C.S., G.C. Weiser, Diversity of bacteria in the Pasteurellaceae family and factors associated with disease potentials. Proceedings of the 51st Annual Wildlife Disease Association Conference, Humboldt State University, Arcata, California, July 28-August 1, 2002 Weiser, G.C., N. Nguyen, J.A. Edmonds, N.L. Miller, A.C.S. Ward. *Pasteurella* and *Mannheimia* leukotoxin structural gene variations associated with respiratory disease in bighorn sheep. Proceedings of the Conference of Research Workers in Animal Disease, St. Louis, Missouri, November 10-12, 2002. Weiser, G.C., N.L. Miller, M.R. McKay, A.C.S. Ward. Selective enrichment of *Pasteurella* spp. for rapid *lktA* gene detection by polymerase chain reaction. Proceedings of the Conference of Research Workers in Animal Disease, St. Louis, Missouri, November 11-13, 2001. **Dyer, N.W., Ward, A.C.S., Weiser, G.C., and White, D.G.: Seasonal incidence and antibiotic susceptibility patterns of Pasteurellaceae isolated from American Bison (*Bison bison*). *Can. J. Vet. Res.* 65:7-14, 2001.** Weiser, G.C., N.L. Miller, C.M. Sestero, S.D. Woods, A.C.S. Ward. *Pasteurella* spp. Isolated from elk (*Cervus elaphus*) in Idaho and North Dakota: Restriction fragment length polymorphism and toxin analysis. Proceedings of the Conference of Research Workers in Animal Disease, Chicago, Illinois, November 12-14, 2000. **DeLong, W.J., Hunter, D.L., and Ward, A.C.S.: Susceptibility of two bighorn cell cultures to selected common ruminant viruses. *J. Vet. Diagn. Invest.* 12:261-262, 2000.** **Fisher, M.A., Weiser, G.C., Hunter, D.L., and Ward, A.C.S.: Use of a polymerase chain reaction method to detect the leukotoxin gene lktA in biogroup and biovariant isolates *Pasteurella haemolytica* and *P. trehalosi*. *Am. J. Vet. Res.* 60:1402-1406, 1999.**	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments	Responses
Ward, A.C.S., Dyer, N.W., and Fenwick, B.W.: Pasteurellaceae isolated from tonsillar samples of commercially-reared American bison (*Bison bison*). *Can. J. Vet. Res.* 63:166-169, 1999. **Ward, A.C.S., Hunter, D.L. Rudolph, K.M., Bulgin, J.M., Cowan, L.M., McNeil, H.J., and Miller, M.W.: Immunologic responses of domestic and bighorn sheep to a multivalent *Pasteurella haemolytica* vaccine. *J. Wildl. Dis.* 35:285-296, 1999.** Weiser, G.C., W.J. DeLong, J.L. Paz, A.C.S. Ward. Characterization of *Pasteurella multocida* isolates from bighorn sheep (*Ovis canadensis canadensis*) using biochemical utilization, restriction endonuclease profiles, *toxA* gene PCR and an immunoblot assay for dermonecrotoxin production. Proceedings of the Conference of Research Workers in Animal Disease, Chicago, Illinois, November 7-9, 1999. **Dyer, N.W., and Ward, A.C.S.: Pneumonic Pasteurellosis associated with *Pasteurella haemolytica* serotype A6 in American bison (*Bison bison*). *J. Vet. Diagn. Invest.* 10:360-362, 1998.** **Jaworski, M.D., Hunter, D.L., and Ward, A.C.S.: Biovariants of isolates of *Pasteurella* from domestic and wild ruminants. *J. Vet. Diag. Invest.* 10:49-55, 1998.** Weiser, G.C., M.A. Fisher, D.L. Hunter, A.C.S. Ward. Presence or absence of the leukotoxin gene, lktA, in Pasteurella haemolytica and P. trehalosi biogroup or biovariant isolates determined by polymerase chain reaction. Proceedings of the Conference of Research Workers in Animal Disease, Chicago, Illinois, November 8-10, 1998. **Miller, M.W., Conlon, J.A., McNeil, H.J., Bulgin, J.M., and Ward, A.C.S.: Evaluation of multivalent *Pasteurella haemolytica* vaccine in bighorn sheep: Safety and serological responses. *J. Wildl. Dis.* 33:738-648, 1997.** **Ward, A.C.S., Jaworski, M.D., Hunter, D.L. Benolkin, P.J., Dobel, M.P., Jeffress, J.B., and Tanner, G.A.: *Pasteurella* spp in sympatric bighorn and domestic sheep. *J Wildl Dis.* 33:544-557, 1997.** **Taylor, S.K., Ward, A.C.S., and Hunter, D.L.: Isolation of *Pasteurella* from American Bison (*Bison bison*). *J. Wildlife Dis.* 32:322-325, 1996.** **Ward, A.C.S., Jaworski, M.D., Eddow, J.M., and Corbeil, L.B.: A comparative study of bovine and ovine *Haemophilus somnus* isolates. *Can. J. Vet. Res.* 59:173-178, 1995.**	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments	Responses
Queen, C., Ward, A.C.S., and Hunter, D.L.: Bacteria isolated from nasal and tonsillar samples of clinically healthy Rocky Mountain big horn and domestic sheep. *J. Wildlife Dis.* 30:1-7, 1994. **Jaworski, M.D., Ward, A.C.S., Hunter, D.L., and Wesley, I.V.: DNA analysis of *Pasteurella haemolytica* biotype T isolates to monitor transmission in bighorn sheep (*Ovis canadensis canadensis*). *J. Clin. Microbiol.* 31:831-835, 1993.** Ward, A.C.S., Hunter, D.L., Jaworski, M.D., Lane, V.M., Zaugg, J.L., and Bulgin, M.S.: Naturally occurring pneumonia in caesarian derived Rocky Mountain bighorn lambs. *Bienn. Symp. North Wild Sheep and Goat Council* 8:164-173, 1992. Ward, A.C.S., Dunbar, M.R., Hunter, D.L., Bulgin, M.S., Hillman, R.H., DeLong, W.J., and Silva, E.R.: Pasteurellaceae from bighorn and domestic sheep. *Proc. Northern Wild Sheep and Goat Council*, 109-117, 1991. Dunbar, M.R., Ward, A.C.S., Eyre, K.G., and Bulgin, M.S.: Serotypes of *Pasteurella haemolytica* in free-ranging Rocky Mountain big horn sheep. *Proc. Northern Wild Sheep and Goat Council*, 102-108, 1991. **Dunbar, M.R., Ward, A.C.S., and Power, G.: Isolation of *Pasteurella haemolytica* from tonsillar biopsies of Rocky Mountain bighorn sheep. *J. Wildlife Dis.*, 26:210-213, 1990.**	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments

July 12, 2006

To: Pattie Soucek
Forest Planner
Payette National Forest
P.O. Box 1026
McCall, ID 83638

From: Glen C. Weiser, Ph.D.
Research Scientist
University of Idaho, Caine Veterinary Teaching and Research Center
1020 E. Homedale Rd.
Caldwell, ID 83607

Re: Risk Analysis of Disease Transmission Between Domestic Sheep and Bighorn Sheep on the Payette National Forest (2006).

I have been asked to review and comment on the scientific accuracy of the above referenced document.

SECTION A
OVERVIEW:
Bacteria in the family Pasteurellaceae, mainly the genera *Pasteurella,* and/or *Mannheimia*, have been found in every bighorn sheep herd tested by the Caine Veterinary Teaching Center. This includes hundreds of herds from at least 13 western US states, and Alberta and British Columbia, Canada, from 1988 to present. These organisms have been found in herds regardless of no, known, or suspected contact with domestic sheep.

The potential for transmission of bacterial pathogens or other organisms or viruses between domestic and bighorn sheep is certainly recognized. However, confirmed, large-scale die offs of free-ranging bighorn resulting from contact with livestock have not actually been documented. Documented deaths have only occurred following bighorn exposure to domestics in confined or controlled environments.

Ward et al., 1997 tested one hundred-twenty bacterial isolates from bighorn sheep in four Nevada ranges where domestic sheep had been sighted various times over a four-year period. They demonstrated sharing of only one bacterial strain (*Pasteurella haemolytica* biotype 3 biogroup 11) between the bighorn and domestic sheep. The direction of transmission, i.e. from domestic to bighorn sheep or vice versa, was not verifiable within the constraints of the study. Respiratory disease was not observed in any of these bighorn populations. Changes in populations of bighorn sheep were not found to be correlated to the presence of any one strain of bacteria.

Responses

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Comments

A study in the Hells Canyon National Recreation Area indicated possible transmission of *Pasteurella* spp. bacteria from feral goats to bighorn sheep (Rudolph et. al., 2003). The exact direction of the transmission, i.e. from goat to bighorn or vice versa, could not be determined conclusively, but the general conclusion was the former. The shared bacteria studied included strains of *Pasteurella haemolytica* biovariants 1 and U^6, and *Pasteurella multocida multocida a*. Another study of *Pasteurella multocida mult. a, mult b, mult. gallicida, and biotype P. mult.* U^6 from the same area and group of animals confirmed sharing of some strains of *P. m. mult. a* (Weiser et al., 2003). However, it is essential to note that in both studies the shared forms were found only in a small number of bighorns in immediate proximity to the goats. No evidence was found to implicate these organisms in the entire die off from which other *Pasteurella* spp. were isolated. See section D for complete citations.

The above information has been summarized from refereed journal articles, citations below. The Risk Analysis document, however, relies heavily on non-refereed sources and misinterprets much of the information. I have gone back to several references cited in the Risk Analysis and have noted significant discrepancies.

SECTION B
SOME SPECIFIC POINTS:

1. Page 2, 2nd paragraph states: "The combined effects of overharvest, habitat loss, competition for forage caused by livestock overgrazing, and diseases transmitted by domestic livestock resulted in precipitous declines in abundance and distribution of bighorn sheep during the late 1800s and early 1900s."

This is a broad generalization not fully supported by statements made in the Goodson paper, which is cited as a reference to the statement. The Goodson paper is also not peer reviewed. For example, scabies is mentioned as a disease that may have been transferred from domestic to wild sheep, but Goodson states in his paper the experimental evidence is "inconclusive." Goodson also states that uncontrolled hunting for sport and market, encroaching civilization with its associated roads, fences and settlements were factors. Goodson also states that "Changes in public and private land management have provided examples of the reduction, removal and introduction of domestic sheep on bighorn ranges and the responses of bighorn herds. Goodson further states: **"These were not experiments, however, and it is important to note that other variables were not controlled."** (direct quote from Goodson, emphasis added)

With regard to pasteurellosis, Goodson relies heavily on a paper published by Foryet and Jessup, (1982). This reference cites two case histories where domestic sheep were introduced into enclosed areas where bighorn had been placed. No experimental evidence was presented to show that pasteurellosis was transmitted, and Goodson acknowledges this fact by identifying the evidence as "circumstantial."

Goodson concludes with the statement that "Declines and die-offs have occurred in bighorn populations without any known association with domestic sheep" and discusses the bighorn's lack of tolerance to poor range conditions and competition with other wild species. Goodson recommends that domestic sheep be excluded from bighorn range "if enhancement of bighorn status is a management goal." I interpret this statement as one

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Responses

Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments

made as an insurance policy, as Goodson doesn't present any strong scientific support of his recommendation.

The other reference (Valdez and Kraussman, 1999) used to support the original statement is unavailable to this reader, although it too appears to be in a non peer-reviewed publication.

The last paragraph on page 2 contains at least two misleading assumptions.

First, Smith (1954, page 21) is cited in support of bighorn declines coinciding with the introduction of domestic sheep to the range. A plain reading of Smith (1954, page 21) shows that scabies was considered to be the main cause of decline, and competition with domestic livestock for forage and space was also involved. No mention of respiratory disease was made, probably because it was never noted.

Further, on page 53 of Smith (1954), in a section entitled "Inter-relationships with other species" a situation is described where a bighorn ram grazed and was corralled with a band of 60 domestic sheep for 10 days. The ram went back to the woods, appearing very restless, on the tenth day. But, no mention of any signs of respiratory disease was made.

This paragraph concludes with a citation to Toweill and Geist (1999) This concluding sentence is misleading, because while Toweill and Geist (pages 84-85) indicate that disease was a cause of bighorn declines, no specific cause, e.g. contact with domestic sheep, respiratory disease, etc., is mentioned.

2. On page 3, last sentence of paragraph 1, the statement is made that "Because they are so closely related, bighorn sheep are thought to be highly susceptible to diseases carried by domestic sheep."

This may be a thought, but it is not supported by any scientific reference. An equally interesting thought might be that if the two species are so closely related, the bighorn should be able to adapt readily to the pathogens that domestic sheep have been able to live with without disease development. However, this statement is preceded by a comment, unsupported by scientific reference, indicating that "Domestic sheep, an Old World species, has likely evolved resistances to important diseases as a result of domestication and intense artificial selection."

To find support for this statement, I conducted a PubMed (the National Institutes of Health scientific publication service) search of the refereed scientific literature using the key words "sheep pneumonia *Pasteurella*." There were 136 journal articles in the PubMed database, 21 dealing with bighorn sheep, leaving 115 dealing with domestic sheep pneumonia *Pasteurella*. Fifty-eight (50%) of these 115 journal articles were published from 1990 to present. Therefore, respiratory disease in domestic sheep has apparently not demonstrated many resistances or the need for these scientific studies would not exist.

I found the first full paragraph on page 5 to be extremely interesting. The statement "Schommer and Woolever (2001) presented guidelines for and examples of management solutions to domestic sheep/bighorn sheep conflicts." I looked up the Schommer and Woolever reference, and while disappointed that it was not a refereed

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Responses

Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments

report of research, the first sentence of the Introduction was exciting. It stated, "Scientific research has proven that when bighorn sheep intermingle with domestic sheep, large numbers of bighorn sheep die (Ashmanskas, 1995)."

Finally, I thought there was the experimental data to support this idea of definite transmission of disease from domestic sheep to bighorn sheep under range conditions. Unfortunately, the Ashmanskas 1995 reference is a Summary Judgment from the United States District Court in Portland, Oregon, Judge Donald Ashmanskas presiding, and not a journal article. This document was requested from the Court, and we were told that it had been archived and will not be available to us until after the comment period deadline. Therefore, this portion of my review will be supplemented when this document is received.

SECTION C
CONCLUSION:

The Payette National Forest Risk Analysis is an interesting essay on numerous aspects of bighorn sheep biology laden with misinformation. It attempts to convey the dangers of commingling domestic sheep and bighorn sheep under any conditions.

After careful scrutiny of this document and its references, I was not able to find one scientifically verifiable instance in which domestic sheep were found to be responsible for a pneumonia outbreak in bighorn sheep under range conditions. The Payette National Forest Risk Analysis seems, for the most part, to rely heavily on conjecture, theory and supposition.

The potential transmission of bacterial pathogens from domestic sheep to bighorn sheep, resulting in bighorn pneumonia, certainly exists and has been empirically determined under non-range, confined conditions. However, large-scale pneumonia episodes have not been shown experimentally under range conditions. No doubt, the reason for this lack of this data is that the risk of large-scale transmission is low. If the risks were high, more definitive examples, rather that circumstantial ones, would be available and scientific data generated from these situations would be available.

SECTION C
REFERENCES FOR SECTION A:

Rudolph, K. M., D. L. Hunter, W. J. Foreyt, E. F. Cassirer, R. B. Rimler, and A. C. S. Ward. 2003. Sharing of *Pasteurella* spp. between free-ranging bighorn sheep and feral goats. Journal of Wildlife Diseases 39:897-903.

Ward, A. C. S., D. L. Hunter, M. D. Jawarski, P. J. Benolkin, M. P. Dobel, J. B. Jeffress, and G. A. Tanner. 1997. *Pasteurella* spp. in sympatric bighorn and domestic sheep. Journal of Wildlife Diseases 33:544-557.

Weiser, G. C., W. J. DeLong, J. L. Paz, B. Shafii, W. J. Price, and A. C. S. Ward. 2003. Characterization of *Pasteurella multocida* associated with pneumonia in bighorn sheep. Journal of Wildlife Diseases 39:536-544.

Responses

Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

Comments

Comments on the 'Risk Analysis of Disease Transmission between Domestic Sheep and Bighorn Sheep on the Payette National Forest, 2006'

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Currently the main concern amongst the majority of Wildlife Biologists tasked with the management of Bighorn Sheep (BHS) populations throughout the western US is that of disease transmission from domestic livestock, primarily sheep, to BHS. The perception is that any contact between domestic sheep (DS) and BHS will invariably lead to disease and death in the BHS. For more than a century this legend was perpetuated until in the 1990s a scientific approach was attempted to rule DS in or out as a cause for BHS disease events and die-offs. To date not a single report has been published where disease transmission from DS to BHS was proven to be the cause for morbidity and mortality in BHS in their natural habitat. Both the Sierra Nevada Bighorn Sheep Recovery Plan and the Payette NF Risk Assessment completely ignore this fact. Both plans are almost identical in several sections.

In the literature review section many of the statements are very familiar, but have never been adequately documented. Where are accurate historical accounts to be found on these mass die-offs in the 1800s and early 1900 hundreds? Historical sources about wildlife in the Western US differ greatly in their statements about the abundance of wildlife. The only ever documented mass die-off of wildlife and domestic livestock took place in Southern Africa in 1898 after the introduction of Rinderpest through a shipment of cattle. Sir Arnold Theiler can be credited with documenting the event and diagnosing the cause of this disaster.

In the chapter on 'Effects of Disease in Bighorn Populations' I find another statement which even though completely hypothetical is often touted as a dogma. Against 'common' believe no domestic livestock species has ever been selected for disease resistance. Selection parameters were fertility, muscle mass, milk yield, fiber length and quality etc. Undoubtedly domestic livestock species have adapted to pathogens in their environment, and so have wildlife species. We are all familiar with the concept of natural selection. The mechanism of adaptation of mammalian immune systems should be similar if not identical for livestock and wildlife; particularly in those cases where species are closely phylogenetically related. With regard to this observation it is clearly troubling to read that BHS polymporphonuclear leukocytes are highly susceptible to leukotoxins secreted by Mannheimia haemolytica (Silflow & Foreyt, 1994; Liu et al., 2006). Even though the authors do not present conclusive evidence that one ligand (CD18) and its expression level (which was not studied) would result in the observed cellular response *in vitro*, the question arises as to when an organism/species should be considered (partially) genetically immuno-compromised. What are the consequences for BHS conservation if the BHS is indeed genetically immuno-compromised?

The authors of the Payette NF Risk assessment state that the all-age losses of BHS in the late 1800s and early 1900s coincided with the introduction of DS for grazing. The

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authors fail to mention that BHS have their own species of Psoroptic mites which they harbor until today, whereas in DS Psoroptic mange has been eradicated. The authors cite several *Pasteurella* pneumonia transmission studies and state that BHS and DS must be kept separated in order to maintain health BHS. The studies quoted used captive BHS. Bighorn Sheep do not adapt well to captivity, which is the reason they do not breed well in captivity and their stress levels should be considered to be elevated throughout captivity (Jack Ryan, USDA-WS, personal communication). One of the most frequently cited studies on disease transmission in most papers (Foreyt et al., 1994) used 5.3 x 10(8) to 8.6 x 10(11) colony forming units to inoculate BHS. Seven of eight inoculated bighorn sheep died from acute pneumonia within 48 hr of inoculation. The infectious dose for the majority of bacterial pathogens lies somewhere in the order of 1 x 10(1) to 10(4).

The chapter on 'Management of BHS disease issues' is entirely dedicated to risks associated with BHS/DS interactions. It should be reasonably clear by now that BHS carry a sufficient number of virulent *Pasteurellacea* and other pathogens in their respiratory tract to be prone to pneumonia in the absence of DS contact. It is obvious that the majority of the populations described in this document have had die-offs which were passed on to adjacent populations; which is to be expected, since a virulent *Pasteurellacea* will be passed on to susceptible individuals and populations no matter if it was contracted from or evolved in a BHS or a DS. Why does this risk assessment mention nothing about a thorough investigation into the endemic risk of disease transmission within a metapopulation even though several of these disease events are described later in this document? How much longer are wildlife managers willing to ignore the single most import risk factors for BHS population, the endemic disease risk?

In BHS/DS disease transmission studies in Nevada between 2002 and 2004 several hundred *Pasteurella* isolates were cultured from BHS (sick and healthy) and DS. To date more than 200 strains of *Pasteurella multocida* and *trehalosi*, as well as *Mannheimia hemolytica* have been genotyped using Amplified Fragment Length Polymorphism. Genetic diversity is significant in both BHS and DS derived isolates. None of the isolates were shared between BHS and DS (Rink et al, unpublished).

Pasteurella pneumonia in domestic livestock is called 'Shipping fever'. The upper respiratory tract of most domestic and wild ungulates is colonized by Pasteurella spp (Ward et al., 1997), under stressful conditions, such as shipping; the pathogen can overwhelm the host's immune system. Drs. ACS Ward and GC Weiser, Caine Veterinary Teaching and Research Center, The Caine Pasteurella Research Laboratory, Caldwell, Idaho have published widely on prevalence, phylogenetic diversity, pathogenicity, transmission and identification of *Pasteurellacea*. Just like in both versions of the Sierra Nevada BHS recovery plan their work has been ignored during the preparation of this risk assessment!

On page 8, the final paragraph in the section on the Hells Canyon metapopulation states: Disease, primarily pneumonia initiated by contact with DS, has been identified as the key factor limiting bighorn restoration in Hells Canyon. Who proved it, how and where is it published? Statements like this are not only false, but the biggest obstacle to a rational, science based approach to BHS management and restoration! Eliminating

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domestic sheep grazing will probably have zero impact on the health status of Bighorn Sheep populations in the Western United States. As to the panelists review of 'risk', it leaves me confused and bewildered. The entire risk assessment is based on one unproven and most likely false assumption, that of inevitable disease transmission on BHS/DS contact. In the 15th and early 16th century many a conclave was held and all attendees, mostly highly educated men, decided that the earth was a disk. This document is oddly reminiscent of reports from these councils. On a more positive note I have to mention that the approach to investigating the currently ongoing disease outbreak in Hells Canyon (July 2006) is a giant leap in the right direction. The outcome of this investigation will be eagerly awaited and very significant for both the Sheep Industry and Bighorn Sheep restoration. **References:** Foreyt WJ, Snipes KP, Kasten RW (1994). Fatal pneumonia following inoculation of healthy bighorn sheep with Pasteurella haemolytica from healthy domestic sheep. J Wildl Dis., 30(2):137-45. Liu W, Brayton KA, Lagerquist J, Foreyt WJ, Srikumaran S (2006). Cloning and comparison of bighorn sheep CD18 with that of domestic sheep, goats, cattle, humans and mice. Vet Immunol Immunopathol., 110(1-2): 11-6. Silflow RM, Foreyt WJ (1994). Susceptibility of phagocytes from elk, deer, bighorn sheep, and domestic sheep to Pasteurella haemolytica cytotoxins. J Wildl Dis. 30(4):529-35. Ward AC, Hunter DL, Jaworski MD, Benolkin PJ, Dobel MP, Jeffress JB, Tanner GA (1997). Pasteurella spp. in sympatric bighorn and domestic sheep. J Wildl. Dis., 33(3):544-57.	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

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of the Interior Julie McDonald
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September 27th, 2006

Re: Synopsis on Disease Transmission at the Wildlife/Livestock Interface

Dear Madam Deputy Secretary,

Currently the main concern amongst the majority of Wildlife Biologists tasked with the management of Bighorn Sheep (BHS) populations throughout the western US is that of disease transmission from domestic livestock, primarily sheep, to BHS. The perception is that any contact between domestic sheep (DS) and BHS will invariably lead to disease and death in the BHS. For more than a century this legend was perpetuated until in the 1990s a scientific approach was attempted to rule DS in or out as a cause for BHS disease events and die-offs. To date not a single report has been published where disease transmission from DS to BHS was proven to be the cause for morbidity and mortality in BHS in their natural habitat. Two recent documents, the "Sierra Nevada Bighorn Sheep Recovery Plan" and the "Payette National Forest Risk Assessment" completely ignore this fact.

Current policy and perception has led to cancellation of grazing permits on public lands for both sheep and cattle producers. Range operations in the Western United States serve a very important purpose both socio-economically and environmentally. No other livestock production system utilizes and preserves marginal land and the landscape like sheep and cattle range operators. Sheep range operators are our only environmentally sustainable tool to manage invasive species and preserve open spaces for wildlife, livestock and for recreation.

In light of this reality a task force based in the American Sheep Industry Association (ASI) and the Public Lands Council (PLC) asked qualified scientists to compile the attached synopsis which outlines the challenges which the livestock industry faces. Dr. Don Knowles' and Dr. Anette Rink's professional credentials are attached.

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The challenges are a public perception of incompatibility of livestock and wildlife. A perception perpetuated by some individuals in Divisions and Departments of Wildlife that disease transmission to wildlife is the single most relevant and scientifically proven cause of demise of wildlife, particularly BHS. A reluctance to review existing and develop new and more science based management plans for BHS and other ungulate species, and last but not least an unwillingness to analyze the inherent potential of current management practices to cause harm to the wildlife species under management; these practices include translocation of individuals which can act as 'Trojan horses' genetically and as far as infectious disease are concerned, repeated introductions of populations into unsuitable habitat with all its short and long term consequences, including repeated complete population loss. Fostering of population densities in the absence of predation which can lead to stress related disease outbreaks, just to name a few.

Farmers and ranchers in the US are the stewards of the environment and contribute more than any other group to its preservation; this is particularly true for the Western United States. Therefore they deserve that you should consider the facts as outlined in the attached synopsis.

Respectfully submitted,

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Outline of Concerns relating to the perception of disease transmission issues at the Livestock/Wildlife interface in the Western United States By Don Knowles, DVM, PhD and Anette Rink DVM, PhD. Abstract: The following document is a synopsis of opinions and data derived from the current literature addressing the risk domestic sheep represent concerning pneumonia of big horn sheep. The summary below acknowledges that domestic sheep have been shown, in some situations, including experimental mixing to share certain pathogens. What is not known is the true risk domestic sheep present to big horn sheep or the contributions of a multitude of other risk factors such as carrier big horns, other wildlife, other domestic animals and big horn sheep genetics, especially immunogenetics. Introduction: The issue is not whether the current literature provides data pointing to domestic sheep as one potential risk factor to big horn sheep under experimental conditions; the issue is that of the actual risk which domestic sheep present to big horn sheep under natural-range conditions. As is summarized below, *Pasteurella* spp. require physical contact for efficient transmission and the threshold (infectious dose and other factors) for transmission of Pasteurella under natural conditions of range are not known. Furthermore the risk of disease transmission from other animals such as wild cervids, bison, cattle, and other wildlife to big horn sheep health is present but not yet defined. Also, the contributions of big horn genetics in terms of their susceptibility to disease and or carrier status of pathogens are also not known. The current outcome of enforcing buffers between domestic and wild sheep populations is based on limited surveillance of a multitude of potential risk factors with the focus and current recommendations intended to minimize an unknown degree of risk presented by domestic sheep to bighorn sheep. These recommendations have not taken into account well-established knowledge concerning the need for extreme close contact between an infected and naïve animal for effective transmission of *Pasteurella* spp. under natural range conditions. Neither do they take into account the numerous management techniques which are applied by range sheep operations to prevent contact between domestic sheep and wildlife. Historically there are numerous examples where conclusions, based on limited data and personal bias, have been drawn concerning causal infectious disease relationships. Decisions were made and press releases issued which had significant economic and/or emotional impact only to find years later that the information used to make these decisions was incomplete and the conclusions reached did not hold up to the test of time and research. Examples include: • the conclusion that scrapie was the cause of BSE; • canine distemper virus was the cause of multiple sclerosis;	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

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- domestic sheep were the source of scabies (mites) in big horn die-offs, and
- adenovirus was the primary cause of deaths in Arabian foals.

All attempts to reproduce BSE in cattle with scrapie from domestic sheep have failed; canine distemper virus and the measles virus of humans are closely related and able to induce cross reactive antibodies (which led to the initial conclusion and confusion), however careful molecular studies have shown the presence of measles virus components in patients with multiple sclerosis, but components of canine distemper virus have not been found; attempts to transmit scabies (*Psoroptes* spp.) mites among different species have failed to show domestic sheep were the source for big horn sheep, and the true underlying cause of the susceptibility of Arabian foals to adenovirus was shown to be a genetic deficiency in immune response. Analysis of each of these examples show historical economic and/or emotional loss and pain which could have been avoided by careful examination of the basic principles of causation in infectious diseases and transmission.

The literature (some peer reviewed and some not) regarding management concerns of big horn sheep populations in the Western United States is voluminous. There are many opinions as to the cause(s) of the inability of big horn sheep to thrive in some locations. Whether a group or individual believes that domestic sheep are part of the decline experienced by some big horn sheep populations or not, a survey of the literature allows one to find a statement or statements in support of their bias. There is general agreement as summarized by the Desert Bighorn Council that the difficulties big horn sheep apparently face in enhancing their populations fall into the following areas. (1) Comparatively lower tolerance to poor range conditions; (2) Interspecific competition (competition between two or more species for limited resources); (3) Excessive hunting; (4) loss of habitat, and (5) enhanced susceptibility to diseases, especially pneumonia, relative to domestic sheep and to other wildlife species in the Bovidae family.

There is no disagreement that infectious causes of pneumonia, in particular bacteria such as *Pasteurella haemolytica* (recently renamed to *Mannheimia haemolytica*) and other bacteria such as *Pasteurella multocida* and *Pasteurella trehalosi* are isolated from diseased big horn sheep. Recent discussions call into question the frequency or epidemiological importance of *Mannheimia haemolytica*. Often left out of the discussions is that these bacteria don't form spores and are extremely labile (easily broken down or rendered non-infectious) in the environment and therefore require close contact both in terms of distance and time for transmission. In fact in Foreyt, et. al. the authors state "*Pasteurella haemolytica* is a relatively labile bacterium and generally requires direct physical contact between animals for transmission".

- While it is known that this bacterium and some related strains can be isolated from domestic sheep, the role of the domestic sheep, if any, under natural range conditions in the transmission of these bacteria to big horn sheep is not known. The importance of this point can not be over emphasized. Important to this point as quoted in references by Martin and Ward "Evaluation of samples from Idaho and Alaska bighorn sheep has conclusively demonstrated that free roaming

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bighorn sheep which have not had contact with domestic sheep are not free of *P. Haemolytica*". To date only one report has been published which found that BHS and domestic sheep shared the same *Pasteurella* isolates (Ward et al., 1997), all animals sampled in this study were healthy. In the Hell's Canyon BHS disease outbreak in 1995-6 a domestic goat was initially implicated because she shared a *Pasteurella* isolate with several BHS. This die-off involved BHS herds in 3 states and a variety of different Pasteurella were subsequently isolated, none corresponding to the very localized, goat associated Pasteurella strain. Not one single report from any disease investigation has established a direct link to domestic sheep as the origin of the pathogen, be that viral, bacterial or parasitic. ❖ Secondly, and of equal importance the possibility of other animal sources, including big horn sheep, of these bacteria or other infectious diseases for transmission to big horn sheep under natural range conditions is also not known. Research published by D. K. Onderka and colleagues in 1988 within the Canadian Journal of Veterinary Research shows this point clearly. Bighorn sheep were inoculated with *Pasteurella haemolytica* unique to wild bighorns, with *Pasteurella haemolytica* isolated from clinically normal domestic sheep or with *P. haemolytica* through a cattle vaccine. All three inoculations caused bronchopneumonia within the bighorn sheep; even the cattle vaccine. Summary: In summary it is premature and inappropriate based upon the complete body of literature and current research investigations to allow domestic sheep to be the focus as a major cause of Big Horn disease and herd decline. Critical to the point are the other parameters found in multiple documents which indicate that there are bighorn sheep die-offs due to pneumonia that have occurred without any association with domestic sheep (quoted in Martin et. al.) and other factors with potential involvement are the presence of bacteria such as *P. haemolytica* and *P. multocida*, types indigenous to bighorn sheep, the presence of stress from sources such as depleted forage or human disturbance, the presence of lungworms, and the presence of viruses. Several BHS population management practices should also come under review; 1) the practice of transferring animals from one herd to another without a complete diagnostic work-up, 2) including a genetic profile of the transplants; 3) the occurrence of BHS disease and major die-offs are often associated with BHS herds reaching peak population (Monello et al., 2001). 4) Stagnant BHS populations in the presence of other 'protected' or 'desirable' wildlife such as wolves or mountain lions. All of these factors affect BHS populations permanently, not just temporarily, like domestic sheep in an adjacent allotment. It is time to allow research to continue and to remove domestic sheep from the focus of bighorn sheep health issues and to make land use decisions based on what is really known under natural conditions and not what is believed to be true.	Attachment to Letter A5, not a comment letter on the CFO DRMP/DEIS.

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Nez Perce

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December 13, 2006

Greg Yuncevich
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RE: Nez Perce Tribe's Comments on the Cottonwood Resource Management Plan EIS

Dear Mr. Yuncevich,

Thank you for the opportunity to comment on the Draft Cottonwood Resource Management Plan (RMP) EIS. As you know, the Cottonwood Field Office boundaries are wholly within the Nez Perce Tribe's (Tribe) ceded territory as determined by the Indian Court of Claims; meaning that the Tribe has utilized this area since time immemorial. The Tribe retains Treaty reserved right fish at all usual and accustomed places, and to hunt, gather, and pasture livestock on the "open and unclaimed" lands of the United States pursuant to the Tribe's 1855 Treaty with the United States. Treaty of June 9, 1855, 12 Stat. 957 (1855). Therefore, the Tribe continues to rely on the BLM managed lands to supply the habitat necessary to support healthy populations of the fish, wildlife, and botanical resources that the Tribe relies upon.

General Comments

A6-1 Much of the land in the Tribe's ceded territory has been heavily impacted by the rapid development and industrialization of the last 150 years. Therefore, the Tribe is interested in seeing that any additional management plans for this region are developed with an eye toward restoring these damaged resources. For this reason, the Tribe supports the resource protection and enhancement focused Alternative C in the RMP. While it is not perfect, this alternative most closely mirrors the Tribe's goals of managing lands and resources to support healthy, harvestable levels of Treaty reserved resources like fish, wildlife and gathered products. In the same light, the Tribe heavily disfavors Alternative D, which would merely continue the harmful development-centric practices of the last 150 years, which have largely contributed to the poor current condition of the region's lands and resources.

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A6-1: The BLM feels that Alternative B provides a balanced level of protection and enhancement of BLM managed lands. In response to public comments received on the DRMP/EIS, Alternative B has been enhanced to include additional protective measures. See response to Comment Number O2-2.

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NEPA Focused General Comments

A6-2 While Alternative C is the Tribe's preferred alternative, it is by no means perfect. First, the Tribe believes that the alternatives developed do not contain enough variability. Specifically, Alternative C does not contain enough protection and restoration centered resource objectives and actions. This is understood when the three action alternatives are juxtaposed. Alternative B is fairly regarded as a middle ground, and Alternative D is definitely designed to maximize extractive resource production, and destructive recreation styles. The difference between alternative B and D is stark, while the difference between B and C is not nearly so dramatic. This distinction can be understood using material derived from the Executive Summary section in the following chart:

	Alternative B	Alternative C	Alternative D
Allowable Sale Quantity	3.1 MMBF	3.1 MMBF	4.8 MMBF
Nonmotorized vs. Motorized Acres	13% v. 87%	13% v. 87%	13% v. 87% (with 16% "open to cross-country travel")
Animal Unit Months	6254 on 105 k acres	6020 on 101 k acres	8540 on 135 k acres
Attainment of Fishery/Riparian Objectives	On 64,000 acres	On 68,000 acres	On 52,000 acres

This chart is a wild over-generalization of the material presented in hundreds of pages of material, however, it is useful for the purpose of stating that Alternative D truly is different from Alternative B and C, while Alternative C is only slightly (albeit importantly) different than Alternative B.

A6-3 The Tribe would like to see Alternative C incorporate additional restoration/enhancement focused provisions. Ideally, the Tribe would like to see yet another Alternative developed which incorporated these ideas, solely for the purposes of meeting the informed decision making and adequate alternative requirements of NEPA, while not making Alternative C unpalatable to the agency decision maker. Such an alternative would include significant restoration/enhancement changes; for example: identifying and closing additional acreage to motorized use, domestic animal grazing, and timber harvest; closing and obliterating significant miles of roads; propose significant stream and riparian habitat restoration; potential withdrawal applications for mining activities; etc…

Such a restoration/protection alternative is critically important to the NEPA process; as evidenced by the NEPA implementing regulations, which state that environmental analysis documents must "[r]igorously explore and objectively evaluate all reasonable alternatives" to the project. 40 C.F.R. § 1502.14(a). The Council on Environmental Quality (CEQ), which promulgated the regulations implementing NEPA, characterizes the discussion of alternatives as "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. A decision maker must explore alternatives in sufficient enough detail to "sharply defin[e] the issues and provid[e] a

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A6-2: Given our small land base and land pattern of scattered parcels (many surrounded by private lands) opportunities for large scale watershed restoration, travel management and withdrawals are limited. The alternatives represent a reasonable range of the opportunities for management presented on these lands considering both regulatory constraints and Bureau mandates for multiple resource use.

Regarding alternative variation in Potential Sale Quantity, the PSQ is the potential output resulting from applying forest treatments to the commercial land base. The variety of resource constraints, coupled with the varying forest productivity and rotation length used to determine the PSQ, resulted in these two alternatives yielding a similar PSQ.

Regarding protection and restoration, the DRMP/EIS focused on the areas where the BLM has the greatest opportunity to improve riparian and aquatic conditions. We recognized this occurs when we share ownership in watersheds with Forest Service, Fish & Game and the Tribe. Please also see Appendix C in the DRMP/EIS.

A6-3: Given our small land base and land pattern of scattered parcels (many surrounded by private lands) opportunities for large scale watershed restoration, travel management and withdrawals are limited. Alternative B in the DRMP/EIS closes all Field Office lands from cross country (motorized) travel in contrast with the existing situation with 85,308 acres (or 60% of Field Office lands) open to cross country travel. In Alternative B, much of the lands along the Salmon River Breaks are proposed to be "closed to motorized travel". This designation will require that any mining proposals provide a Plan of Operations under the 2001 3809 Mining Regulations. This gives the land manager strong control over the operations of any mining that is proposed.

(continued on the following page)

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A6-3 (continued): Under Transportation and Travel Management, Objective 3 of the DRMP/ EIS, all alternatives: future route modifications will be made as needed based on several factors including natural and cultural resource protection. Plan direction does not preclude future closing of additional acreage to motorized use.

Regarding closing additional acreage to domestic grazing, the Taylor Grazing Act requires that BLM issue Section 15 Grazing Leases on public lands outside of Grazing Districts to qualified applicants. Since the Cottonwood Field Office is outside of a designated Grazing District, the BLM is required to issue Section 15 Grazing Leases to qualified applicants; and to modify such grazing leases as needed to meet management objectives. Consequently for BLM to modify a grazing lease even though resource objectives are being met would conflict with the Taylor Grazing Act. BLM will continue to modify grazing leases to meet management objectives as prescribed under the 43 Code of Federal Regulations. In response to comments received on the DRMP, direction has been added to address the concerns regarding domestic sheep grazing and potential impacts to bighorn sheep.

Regarding forest management, new actions to protect and contribute toward the restoration of the structure and composition of old growth stands have been added to Alternative B in response to public comments.

Additional protective measures for sensitive and listed wildlife species have been added in response to public comments.

Regarding riparian habitat restoration, plan direction is intended to be flexible to provide additional protection and restoration as needs are identified. Under Alternatives B, C, and D of the DRMP/ EIS, restoration/enhancement changes identified by the commenter are not precluded and could be pursued and achieved.

The BLM believes that the alternatives provide a reasonable range of proposed management direction and that many of the Tribe's concerns have been incorporated into Alternative B in response to the Tribe's comments.

Comments

clear basis for choice among options by the decision maker and the public." *Id.* § 1502.14. All reasonable alternatives must receive a "rigorous exploration and objective evaluation . . . , particularly those that might enhance environmental quality or avoid some or all of the adverse environmental effects." *Id.* §1500.8(a)(4). The analysis of the alternatives must be "sufficiently detailed to reveal the agency's comparative evaluation of the environmental benefits, costs and risks of the proposed action and each reasonable alternative." *Id.*

The Ninth Circuit stated in *California v. Block* that "[a]s with the standard employed to evaluate the detail that NEPA requires in discussing a decision's environmental consequences, the touchstone for our inquiry is whether an EIS's selection and discussion of alternatives fosters informed decision-making and informed public participation." *California v. Block*, 690 F.2d 753, 767 (9th Cir. 1982). The purpose of the multiple alternative analysis requirement is to insist that no major federal project be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means. *Environmental Defense Fund v. Corps of Engineers*, 492 F.2d 1123, 1135 (5th Cir. 1974); *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810 (9th Cir. 1987), *rev'd on other grounds*, 490 U.S. 332 (1989) (agency must consider alternative sites for a project). The Ninth Circuit has concluded that "the existence of a viable but unexamined alternative renders an environmental impact statement inadequate." *Alaska Wilderness Recreation & Tourism v. Morrison*, 67 F.3d 723, 729 (9th Cir.1995).

A6-1 None of this should detract from the Tribe's support for Alternative C, even if implemented as currently conceived. The Tribe definitely appreciates a number of the elements proposed in this Alternative, and would be pleased if this Alternative is selected. Specifically, the Tribe appreciates: the creation and expansion of nine Areas of Critical Environmental Concern/Research Natural Areas (and 26,000 additional acres); the recommendation for inclusion of 29 additional miles to the National Wild and Scenic River system; the application of Desired Future Conditions to forest lands; and the elimination of cross-country motorized travel, among other things.

A6-4 A6-5 Another comment related to the structure of the DEIS is that there is no detailed description of what is actually being proposed in each alternative. There are repeated summaries of the actions to be taken under each alternative, but nowhere is this information presented in simple textual form. The information must be parsed from Table 2-1, 2-2 and Chapter 4. The table form for presenting this material limits the detail with which the information can be presented. It is possible that BLM considered alternative ways to present this material and settled on the table form as the most accessible, but the Tribe found this process difficult to process and evaluate. Additionally, the frequent references to material outside the RMP makes assessment of the individual measures difficult, i.e. referring to Idaho grazing standards. Due to these complexities, the Tribe may make comments about the need for additional information or actions that are addressed elsewhere in the document. If this happens, we apologize for this mistake, and attribute it to the length and complexity of the material. Please feel free to point out areas where you feel this may have occurred.

Responses

A6-4: Table 2-1 in the DRMP/EIS provides RMP direction; Table 2-2 summarizes the expected effects of this direction; and Chapter 4 discusses the expected effects in detail. The scope and volume of the direction presented in the RMP precludes a more simple presentation of the proposal. More specificity and detail is provided during implementation when actions and site-specific projects are proposed.

A6-5: These standards are included as Appendix A of the DRMP/EIS.

Comments

Additional General Comments

A6-6 The Tribe would like to briefly state its support for a few additional measures, which the Tribe believes should be incorporated into the RMP. First, the Tribe would like to see the BLM prioritize timber cutting/management in the Wildland-Urban Interface (WUI) areas. The Tribe frequently hears the cries from the region, as well as from D.C., that vegetation management is needed to protect homes and urban/rural areas. However, the Tribe frequently sees vegetation management activities justified on these grounds, but located miles and miles from the nearest WUI area. The BLM may or may not be guilty of this activity; the Tribe is simply stating a trend it has observed over the last five to ten years. In order to eliminate this risk, as well as the general outcry over this issue, the Tribe would like to see the WUI areas given priority for ecologically responsible timber management.

A6-7 Second, the Tribe would like to see the increased use, and funding, of commercial and precommercial thinning projects on second-growth forests rather than traditional timber harvest. These projects will greatly contribute to creating the desired forest health conditions and stand productivity rates desired by the region's land managers. The Tribe understands the financial constraints that the BLM finds itself in, however, given the need, these projects should be increasingly used. The clearcut logging practices widely used until recently, contributed to forest stands that do not appear natural or ecologically beneficial. Thinning projects, in conjunction with wider use of prescribed and wildland fires will return the region's forests to a more natural, and properly functioning forest ecosystem, while providing much-needed timber jobs to the region's communities. It should be noted, however, that these projects should be designed to utilize the already existing, and extensive, road network in order to avoid additional watershed impacts.

A6-8 Third, the Tribe is in the process of developing a strategy to create 8(a) businesses to take advantage of minority owned business federal contracting rules. Many of these businesses will likely be in the forest and watershed restoration and health areas, and the Tribe would like to explore opportunities for these businesses to conduct projects on the BLM lands managed in the Cottonwood Field Office management area. This is in addition to the Tribe's already existing road obliteration and watershed restoration program run out of the Department of Fisheries Resource Management, which can also work with the BLM on these types of projects.

Specific Comments

Page 1-10

A6-9 The Tribe appreciates that the BLM included a section in the RMP on Tribal Relationships and Trust Assets, and the Tribe feels this section was well written and on point. However, the section is missing a few items. First, at the end of the first paragraph, the text says that the Treaty established a reservation and "maintained the [T]ribe's right to fish, hunt and gather." The text should also mention that the Tribe retained its right to pasture its animals on open and unclaimed lands. *See Article 3*, Treaty of June 9, 1855, 12 Stat. 957 (1855).

Responses

A6-6: The DRMP/EIS did not attempt to prioritize the location of future projects (as is done with harvest scheduling) but rather it established goals and objectives for the program to accomplish. The Fuels Management direction through objectives, actions and protocols identified fuel reduction in the WUI as one of the top priorities. Where these two programs overlap, forestry actions in the WUI would be the top priority.

A6-7: Refer to the responses to Comment Numbers A6-50 and A6-53.

A6-8: Refer to Social and Economic Conditions, Objective 2 in the DRMP/EIS, which states: "Work cooperatively with business leaders, community groups and the Nez Perce Tribe to make economic opportunities available on public lands." This objective states the BLM intent to work with the Tribe to provide business opportunities on BLM managed lands.

A6-9: Additional information has been added to the PRMP/FEIS.

Comments

A6-10 Second, the Tribe thinks that this section should discuss the BLM's continued ownership and management of land on the Nez Perce Reservation. BLM obtained this land, in one way or another, because of the now repudiated Dawes Allotment Act, which removed it from Tribal ownership. That the BLM manages formerly Tribal land on the Tribe's reservation, obtained through a now repudiated and acknowledged failed Congressional policy is more than a historical quirk, it is a travesty. That the BLM is transferring much of this land back to the Tribe helps to heal these wounds. However, the BLM will still continue to manage some lands on the reservation even after the transfer, and the Tribe would like to see a closer co-management relationship for these lands due to their location on the reservation.

Page 2-7

A6-11 The Tribe is confused (or there is a misprint) over the amount of restoration/conservation watersheds provided for in Alternative C. Page 2-7 states that 68,000 acres will be protected on thirty-two restoration watersheds and one conservation watershed, while ES-19 states that the same number of acres will be protected, but on forty restoration watersheds, and three conservation watersheds.

Page 2-10

A6-12 The Tribe believes that BLM will also need to comply with the Tribe's air quality and burn regulations. The authority for this program was delegated to the Tribe from EPA's Federal Air rules for Reservations rulemaking which was finalized earlier this year. If you need information on this project, please contact Julie Simpson in the Tribe's Air Quality Program at (208) 843-7375.

Page 2-13

A6-13 Mass wasting and heavy erosion due to soil disturbing activities is a major concern to the Tribe as they heavily contribute to detrimental water quality and fish habitat impacts. Therefore, the Tribe very much supports Action 5, to identify and avoid erosion and mass wasting. The Tribe requests that the RMP include language which will direct this team to take a very precautionary approach to these areas by erring on the side of caution in not conducting soil disturbing or vegetation removal activities in these sensitive landscapes.

Page 2-14

A6-14 Monitoring is becoming more and more important as agencies move toward an adaptive management style of land management. Such an approach offers the agencies additional flexibility in making and changing decisions based on what they are seeing on the ground. However, adequate monitoring is essential to the proper functioning of an adaptive management plan. The RMP should state that the agency, when using this approach, will commit to dedicating the required resources and funding to the monitoring aspects of its proposed projects. Without this commitment, the Tribe will consistently be skeptical of projects that promise changes in management where the agency notices negative environmental impacts during the course of implementation. Obviously if you do not have the manpower on the ground, you will

Responses

A6-10: BLM will coordinate the development of an MOU addressing consultation with the Nez Perce Tribe.

A6-11: See response to Comment Number A3-39.

A6-12: The PRMP/FEIS has been changed to identify the Tribe's authority for this program. BLM will fully comply with the EPA's Federal Air Rules for Reservations, which became effective June 7, 2005.

A6-13: Land uses in landslide prone areas that have adverse impacts to slope stability will be avoided. The Soils Objective 2, Action 5 on page 2-13 of the DRMP/EIS has been modified. Also, see response to Comment Number O2-39.

A6-14: The BLM recognizes the importance of monitoring requirements and adaptive management. Please refer to Volume III, Appendix F, Aquatic and Riparian Management Strategy in the DRMP/EIS. Additionally, please note Water Resources, Objective 2, Action 2, identifies the following for monitoring requirements: "Conduct implementation and effectiveness monitoring commensurate with the level of on-the-ground activities. Adaptively change management direction to avoid adverse effects on water quality. The appropriate implementation and effectiveness monitoring will be identified during project development and assessment. For ongoing activities and programs, develop interdisciplinary monitoring plans as needed."

An implementation and effectiveness monitoring plan will also be created as part of the RMP Implementation Plan.

Comments

A6-14 not notice these effects. Please take note of this comment in all areas where adaptive management is proposed as a tool.

Page 2-15

A6-15 For 6th field HUC watershed within the Reservation, the Tribe has already conducted a fair amount of assessment work during the course of its various TMDL projects. BLM should tie in with the Tribal staff on this project to obtain this information, where it exists, in order to make implementation of Action 1 less costly.

Page 2-15/16

A6-16 The Tribe believes the RMP should contain a specific "Action" or "Objective" to cut down on sediment production from BLM lands. Many of the streams within the CFO management area are 303(d) listed for excessive sediment. This is a result of the active management and development activities that have occurred over the last 150 years. Timber harvesting, mining, road-building, grazing, OHV use, and other activities all disturb the land and contribute to elevated levels of sediment production. This is a major concern of the Tribe, and a specific Action/Objective item dealing with this issue will convey the BLM's commitment to help stem the tide of the problem on the lands it manages. Examples of provisions of such an Action include: eliminate/avoid sediment producing activities; identify and treat high sediment producing roads and lands; identify and implement restoration activities geared toward sediment reduction/flushing; etc…

Page 2-16/17, Objective 3

A6-17 Objective 3 could be furthered by including an Action that states that where any activities is identified as having possible impacts on beneficial uses of a waterway, BLM will conduct restoration activities in that area in advance of the proposed action. This has occurred in a number of individual projects on BLM and USFS lands around the region. This commitment in the RMP will show that the BLM is committed to implementing land management in a responsible manner, and with an eye toward restoration and enhancement, even where traditionally harmful activities are necessary.

Page 2-20

A6-18 In Objective 2, the Tribe is confused about what it means to define and manage old growth according to best science and local knowledge. The Tribe is concerned about any proposal to "manage" old growth. Given the lack of old growth in the management area, the Tribe feels that this Action item should be to conserve any and all identified old growth, due to the widely acknowledged and understood benefits to water quality, fish, wildlife, plants, etc… These functions, and the fact that old growth is very hard to replicate or recreate, should mandate that under very few, if any, circumstances should old growth be "managed." Rather, these areas should be left alone, and managed only by natural processes.

Responses

A6-15: Thank you for your comment.

A6-16: Water Resources, Objective 2, Action 3, Alternatives B, C, and D in Chapter 2 of the DRMP/EIS states: "If receiving waters are nonconforming (nonachievement or maintenance of designated beneficial uses, state and federal water quality standards and total maximum daily loads [TMDLs]), evaluate contributing sources on BLM land. Identify potential source reduction/remediation options, and feasibility of implementation. Determine if action is required or if no action is justified. If action is required or warranted, develop an action plan. Implement actions based on urgency, cost-effectiveness, or other criteria."

A6-17: Language has been added to Volume III, Appendix C on page C-2 of the DRMP/EIS, after paragraph 3. It addresses the need for restoration,; while not preventing advance restoration, it does not require it. The text now reads: "Vegetation management or land disturbing activities may occur concurrent (within 5 years) with soil, water, or aquatic habitat improvements. Improvement may be the result of restoration project implementation, land use restrictions/modification that improves conditions, natural recovery, or a combination of the three. "Ground disturbing activities or projects may be designed allowing measurable short-term (up to 4 years, but generally less than 1 year) sediment production where long-term (beyond 4 years) improvement toward natural levels is expected."

A6-18: See responses to Comment Numbers O2-36 and A3-14. Regarding "management actions" in old growth stands, for example, where it may be considered is if the management goal is seral ponderosa pine old growth and the stand is heavily encroached with understory Douglas-fir. The management action might be to mechanically remove the encroaching species and follow up with a prescribed fire treatment, thus reducing density, removing ladder fuels, and reintroducing fire to the site.

Responses
(Continued from Previous Page)

A6-18 (continued): Natural processes have been interrupted through human management, especially fire suppression. Current conditions rarely reflect natural systems and the response of the forest system to events is typically not natural.

Comments

Page 2-21

A6-19 BLM should utilize the Tribe's Biocontrol Center to manage weeds in sensitive or hard to reach areas. The program has had demonstrated success in a wide variety of landforms and with a wide variety of biocontrol agents.

A6-20 Additionally, the RMP should include an Action item that references the need to cut down on vehicle use in weed-prone areas. Vehicles are one of the major weed vectors, and as such, this should be addressed in the RMP.

Page 26

A6-21 The Tribe is very supportive of Alternative C's approach to Objective 1, and Objective 1's goal in general. This is a main goal of the Tribe's salmon and steelhead recovery plans. The
A6-22 Tribe suggests that the BLM include the word "all" after improve and degraded, so that all of these degraded areas are treated. The Tribe wonders, though, what does "relative to site potential mean?" Are the parameters which guide determinations of relative site potential laid out in the
A6-23 RMP, or one of the Appendices? The Tribe suggests that this phrase be replaced with an idea that sites with greater potential will be prioritized (i.e. where you will get more bang for the buck), instead of leaving it seem like sites with less potential will not receive improvement treatments.

Page 2-27/29

A6-24 Do these measures constitute the elimination of PACFISH recommendations? If so, will BLM institute consultation on this aspect of the RMP separate from the rest of the RMP due to the importance of the PACFISH recommendations. Such an important set as the finalization, modification, and elimination of the PACFISH recommendation deserves its own separate consultation, and should not be overlooked by lumping it together with the rest of the RMP.

A6-25 While the Tribe has already voiced its support for Alternative C, the Tribe would like to specifically support the measures related to riparian buffers found in Alternative C. Specifically, the Tribe supports the Category 2 and 4 approaches of having 225 ft for perennial fish bearing streams, and the 125 ft buffer for wetlands and intermittent streams. Both of these buffers should be included in the Preferred Alternative because they are critical to provide sediment filtration and temperature amelioration benefits to these waterbodies, which while small, are still cumulatively important.

A6-26 Additionally, the Tribe wonders why the RMP eliminates the 500 ft buffer around major rivers to benefit wildlife and scenic qualities of the river. This seems like an important protection, and should not be eliminated from Alternative B and C.

Responses

A6-19: The BLM is aware of the services offered by the Biocontrol Center and will continue working with the staff to develop and utilize new agents.

A6-20: The DRMP is clarifying travel management on BLM lands in the Transportation and Travel Management sections of the DRMP which will assist in managing vehicle access. The DRMP travel management plan reduces cross country in all action alternatives and eliminates cross country travel and reduces motorized use of roads and trails in alternatives B and C. BLM, along with our partners in the Cooperative Weed Management Areas, recognizes the role roads, trails, and waterways play as pathways of spread for new and established weeds. These areas are a priority in our cooperative inventory efforts to detect and treat new weeds as well as a focus of our education and awareness activities with the user publics. Prevention efforts are also aimed at reducing introduction and spread along these travel pathways. These components of Integrated Pest Management (prevention, education, inventory, and treatment) are action items that focus various strategies on all methods of weed spread including vehicle travel.

A6-21: Thank you for your comment.

A6-22: Vegetation – Riparian Wetlands, Objective 1 in the DRMP/EIS is worded as follows: "Objective 1. Strive to improve degraded riparian and wetland vegetation relative to site potential and potential natural vegetation composition and habitat diversity." Inserting the word "all" after "improve" and "degraded" would not change meaning of the objective.

A6-23: "Site potential" is relative to specific site characteristics, which include a variety of conditions such as: channel types, soils, landtypes, natural vegetation, and climatic conditions.

(continued on following page)

Responses
(Continued from Previous Page)

A6-24: Appendix F, *Aquatic and Riparian Management Strategy* in the DRMP/EIS will replace PACFISH. Also, see response to Comment Number A1-12. It is acknowledged that replacement of the interim PACFISH guidance is very important, consequently, the new strategy is included in Appendix F, which will focus review and consultation on this specific appendix.

A6-25: Thank you for your comment.

A6-26: Thank you for your comment.

Comments

Page 2-31

A6-27 What Habitat Management Plans currently exist, and where are they found? The Tribe would like to suggest an HMP be developed for Lolo Creek and Big Canyon Creek if they do not already exist.

Page 2-32

A6-28 The Tribe would like to know how the BLM defines "at risk" in relation to stream and riparian habitats. Also, is monitoring every three to five years enough to create an adequate statistical record to determine trend over the course of the RMP's life? For sites that at risk, three years should be the minimum for trend monitoring.

A6-29

Page 2-33

A6-30 Again, the Tribe wants to know what "feasible" means in Action 1 for Objective 4. It would seem that BLM should implement appropriate management activities at all nonfunctional sites at the very least, and likely at the functional-at-risk sites as well; even if it just means that BLM cuts back or eliminates grazing/timber harvest for example, not necessarily that all sites need immediate restoration treatment. Perhaps there is a justifiable reason for the use of "feasible" here, so please explain this in the FEIS.

Page 2-34

A6-31 The Tribe doesn't understand why Objective 1 exists here. If the action item is removed (reclassified), so should the Objective. It seems odd that there is an Objective that says there is no Objective.

Page 2-35

A6-32 The word "cumulative" should be added to both Actions 1 and 2. Cumulatively negative impacts are just as important to species health and recovery as direct and indirect actions. It would not make sense to authorize an action that by itself would not cause any negative impacts, but cumulatively causes severe negative impacts. This is exactly why NEPA mandates that cumulative impacts are assessed, because individual actions rarely have large negative impacts, but rather, it is the cumulative impacts that really work against species recovery.

Page 2-40

A6-33 The Tribe is skeptical of more timber management to improve habitat for a species that has been impacted, at least partially, by timber management. The EIS needs to address when timber management is acceptable and in what form/extent. Perhaps this information is contained in the *Lynx Strategy* referenced in the DEIS?

Responses

A6-27: Thank you for your comment. See Appendix T in the DRMP/EIS, for a list of existing HMPs.

A6-28: See the DRMP/EIS glossary for definition of "proper functioning condition". A definition for "functional at risk" and "non-functional" will be added to glossary (*Riparian Area Management TR 1737-15 – USDI-BLM, USDA - FS, and USDA-NRCS 1998)*.

A6-29: In response to your comment Vegetation – Riparian and Wetlands Management, Objective 3, Action 2 has been edited as follows: "Prioritize, inventory and/or monitor riparian/ wetlands sites that are "functional at risk" or "non-functional" a minimum of every 3 to 5 years (effectiveness monitoring)."

A6-30: "Feasible" means not cost prohibitive, logistically possible, and technology and methods are available to implement actions.

A6-31: Objective 1 in Alternative A is only specific to the existing management and is not identified in Alternatives B, C, and D in the DRMP/EIS.

A6-32: The PRMP/FEIS will have the word "cumulative" added to Wildlife and Special Status Wildlife, Objective 2, Actions 1 and 2.

A6-33: See Wildlife and Special Status Wildlife, Objectives 8-11 and associated actions in the DRMP/EIS. Edits to existing actions and new actions have been included in the PRMP/ FEIS. Also, see response to Comment Number A3-14.

Comments

Page 2-41/42

A6-34 The Tribe was one of the primary leads in the Idaho wolf recovery program, and still contains some of the best wolf science experts in the regions, as well as an intimate knowledge of the program's history and goals. The RMP should state that BLM will coordinate with IDFG *and* the Nez Perce Tribe.

Page 2-46

A6-35 The Tribe suggests that the RMP contain a provision to follow the recommendations put forward by the regional Elk Collaborative calling for increased use of prescribed fire to improve elk habitat in forested areas.

Page 2-48

A6-36 The Tribe suggests that Action 5 on this page contain an additional clause: "final design criteria will consider and minimize[, *or eliminate, where possible,*] adverse impacts to wildlife travel corridors. And fragmentation of habitats…"

Page 2-49

A6-37 The Tribe supports the provision in Alternative C related to striving toward decreasing roads and trails open to motorized use on BLM lands and administered trailheads. The Tribe hopes that this provision will be expanded and applied to all the alternatives given the documented adverse impacts resulting from the high road density levels in the region. See Angermeier, Paul L.; Wheeler, Andrew P.; Rosenberger, Amanda E., *A Conceptual Framework for Assessing Impacts of Roads on Aquatic Biota*, Fisheries. 29(12): 19-29 (2004) & Rowland, Mary M.; Wisdom, Michael J.; Johnson, Bruce K.; Penninger, Mark A., *Effects of Roads on Elk: Implications for Management in Forested Ecosystems*, In: Transactions of the 69th North American Wildlife and Natural Resources Conference, p. 491-508 (2004).

Page 2-50

A6-38 The Tribe strongly supports Action 8, and suggests that the BLM and the Tribe find ways to partner to achieve this goal. The Tribe also suggests that an additional Action item be

A6-39 included that addresses identifying and removing/replacing sediment producing problem culverts (beyond culverts merely posing fish passage problems).

Page 2-52/53

A6-40 The Tribe again asks that the RMP specifically state that the BLM will work with the Tribe in Object 11, Action 3 and Object 13, Action 2. Federal courts have repeatedly recognized that it "is undisputed that Indian tribes have legally protected interests within their aboriginal territory." *Idaho v. Forest Service*, No. CV 99-611-N-EJL, slip op. at 3 (D. Idaho Sept. 8, 2000).

Responses

A6-34: The Nez Perce Tribe will be added to Wildlife and Special Status Wildlife, Objective 5 Action 3 of the DRMP/EIS

A6-35: See response to Comment Number A3-17.

A6-36: Wildlife and Special Status Wildlife, Objective 9, Action 5 in the DRMP/EIS will be edited as recommended to include "or eliminate, where possible," adverse impacts to wildlife travel corridors.

A6-37: Additional language has been incorporated into Wildlife and Special Status Wildlife, Alternatives B and C, Objective 9, Action 7 in the DRMP/EIS: "In addition to above listed emphasis areas, general road management policy will be to maintain or improve wildlife security when possible and consistent with other resources within the planning area."

A6-38: Thank you for your comment.

A6-39: See Appendix F, *Roads Management*, RF-3 in the DRMP/EIS, which identifies the following:
"Avoid adverse effects on TES 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."

A6-40: "Tribes" will be included in the PRMP/FEIS's *Wildlife and Special Status Wildlife*, Objective 11, Action 3 as requested.

Comments

A6-40 By virtue of its treaty and trust obligations to the Nez Perce Tribe, the United States and its agencies, including the Forest Service, have substantive duties to consult with the Nez Perce Tribe and to implement measures necessary to protect and enhance tribal resources. *Klamath Tribes v. U.S.*, 24 Ind. Law Rep. 3017, 3020 (D.Or. 1996). This is especially true where some of the BLM's work/coordination in this area is actually done on the Tribe's reservation. Additionally, the Tribe is currently playing a leading role, along with IDFG and the USFS, in bighorn sheep recovery, and is actively pursuing funding for a bighorn sheep population study in the Salmon River canyons, where domestic sheep grazing currently occurs, and may jeopardize the continued viability of the bighorns.

Page 2-54

A6-41 The Tribe is pleased to see that BLM is prohibiting domestic sheep grazing in Hells Canyon and the Salmon River canyon up to Maloney Creek. However, the Tribe thinks the BLM
A6-42 has additional responsibilities to protect bighorn sheep, especially is areas surrounded by, or adjoining the Payette National Forest.

A6-43 The Tribe believes that using Maloney Creek as a limit for domestic sheep grazing is not sufficient to protect the bighorn sheep resource present on Craig Mountain. The Tribe believes the ban on domestic sheep grazing should be reviewed for the possibility to extend it upstream on the Salmon River, to at least Graves Creek. We are not aware if there are active domestic sheep grazing allotments or trailing routes between Graves Creek and Maloney Creek. If there are, the Tribe believes it would be prudent to extend the ban to Graves Creek, and consider closing those allotments and trailing routes.

A6-44 The Payette National Forest is in the middle of implementing a decision by the Chief of the Forest Service to eliminate grazing of domestic sheep in occupied bighorn sheep habitat. The Nez Perce Tribe believes that at least two of the permittees accessing AUM's on the Payette National Forest also have permits on the BLM managed lands. These BLM allotments adjoining Forest Service allotments need to be managed in similar manner to the Forest Service allotments to protect bighorn sheep. We believe the BLM should adopt the same direction that the Forest Service has been given, which is to eliminate domestic sheep grazing in occupied bighorn sheep ranges.

A6-45 Further, the Tribe believes that trailing domestic sheep through bighorn habitat is just as dangerous as authorized grazing. Thus, the Tribe would like to see this measure address trailing as well. Currently, the information is inexact about the level of domestic sheep-bighorn sheep interaction further up the canyon, and the Tribe is currently working to close this data gap. The RMP should contain a provision that will prohibit domestic sheep grazing on addition lands, if the study shows additional risk exists.

Page 2-56

A6-46 The BLM needs to include the Tribe in Action 9, due to the Tribe's co-management role for fish management. *See Us. V. Oregon*, Case No. 68-513 (D. Or.).

Responses

A6-41: See response to Comment Number A5-12.

A6-42: See response to Comment Number A5-12 and Comment Number O6-2.

A6-43: See response to Comment Number A5-12.

A6-44: See response to Comment Number A5-12.

A6-45: See response to Comment Number A5-12.

A6-46: "Tribe" will be included in Aquatic Resources, Fish and Special Status Fish Management, Objective 1, Action 9 of the PRMP/FEIS as requested.

Comments

Page 2-59

A6-47 An additional Action item needs to be included for Objective 3 relating to the protection and enhancement of special status fish species food sources (i.e. beyond merely protecting fish habitat, but the habitat necessary to support their food sources).

Page 2-71

A6-48 The Tribe requests that BLM evaluate adding an Action item related to fire suppression activities in riparian and wetland areas. Fire retardant dropped in or near riparian areas, or areas of actively moving water, poses serious threats to aquatic life. In fact, the Ninth Circuit has previously ruled that aerial application of materials that could be classified as pollutants requires an NPDES permit before the discharge can be legally authorized. *See* League of Wilderness Defenders v. Forsgren, No. 01-35729, (9th Cir 2002).

Page 2-73/74

A6-49 Is there a map of WUI lands available? The Tribe supports the treatment of WUI lands in close proximity to townsites and homes, and suggests that these areas be prioritized for

A6-50 treatment. However, the Tribe would like to see an Action item that states that these treatments will be designed to use the existing road system to the best of BLM's ability in order to limit potential additional impacts from new/temporary roads.

Page 2-85

A6-51 Why is Action 4 being eliminated? Is this item addressed elsewhere in the new RMP? The Tribe thinks that 60% of the cover from a specific area should not be removed, due to the extensive damage that can be incurred with large scale remove of trees, but if it must be, the retention and shaping of adequate hiding cover seems like a good idea to protect wildlife that may be affected in the harvest area.

Page 2-85, Objective 3

A6-52 The Tribe is concerned that this Objective promotes and prioritizes fire salvage logging. There have been numerous scientific studies related to the negative impacts, and lack of positive ecological benefit, from post-fire salvage logging. *See* Beschta et al. *Wildfire and Salvage Logging: recommendations for ecologically sound post-fire salvage logging and other post-fire treatments on Federal lands in the West*, Corvallis, OR: Oregon State University (1995) & *Environmental Effects of Postfire Logging: Literature Review and Annotated Bibliography*, Gen. Tech. Rep. PNW-GTR-486. Wenatchee, WA: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station (2000).

Responses

A6-47: Appendix F and Vegetation – Riparian and Wetlands objectives and actions in the DRMP/EIS provide management direction for all streams flowing across BLM lands (fish bearing and non-fishbearing).

A6-48: Appendix H, pages H-2 and H-3 in the DRMP/EIS provide a list of suppression priorities and protocols. Several of these address the concerns for riparian and aquatic habitats. Appendix F, Conservation FM-3 in the DRMP/EIS provides direction for application of retardant and other additives to surface waters.

A6-49: Wildland Fire Management, Objective 2 in the DRMP/ EIS references that WUI will be identified through community wildfire protection plans (CWPP) or other risk assessments. Each county in the planning area has a current, FEMA approved CWPP that provides a map of the WUI. They are included in the project record, available from each county or the Clearwater RC&D.

A6-50: Refer to the response to Comment Number O1-11. Additionally, Appendix F page F-10 through F-12 in the DRMP/ EIS provides Conservation Measures to minimize the impact from new as well as existing roads.

A6-51: This action was not carried into the additional alternatives because the lineal designation often is not consistent with the patch size and arrangement found on project sites. We recognize the importance of cover and it will be considered in project planning,

See response to Comment Number A3-17.

A6-52: The Beschta et al. study, often referred to as the Beschta Report, while generally discouraging post-fire salvage

(continued on the following page)

Responses
(Continued from Previous Page)

A6-52 (continued): operations, provides a framework of recommendations and considerations for use in developing salvage operations. This and other research need to be considered and evaluated during project development. To limit all salvage operations at the RMP level, would forgo opportunities for developing, evaluating and implementing socially and ecologically sound projects.

Although Alternative C in the DRMP/EIS is titled the "Conservation Alternative," it still seeks to balance ecological with social needs. Properly designed and implemented salvage sales can be implemented with minimal ecological impacts.

Comments

A6-52 The Tribe does not support post-fire salvage logging, and opposes the inclusion of this objective. At the very least, Alternative C should not include this Objective, since its goal to maximize protection of ecological resources.

Page 2-87

A6-53 The Tribe feels that the RMP should contain a provision that while clearcut treatments (regeneration harvest) are not prohibited, they should be disfavored unless it can be shown that no additional environmental harm will be caused by clearcut/regeneration harvest techniques. This provision could also be extended to harvest techniques that eliminate almost all trees in the harvest unit, i.e. shelterwood harvest. At the very least, such a provision should be included in Alternative C, or the additional alternative proposed by the Tribe above.

Page 2-93

A6-50 The RMP should contain an additional Action item stating that logging projects should be designed so as to maximize use of the existing road system, and avoid/minimize the creation of new permanent roads; and even disfavor new temporary roads, which can still have lasting environmental impacts.

Page 2-94/95

A6-54 The Tribe supports the retirement of the allotments identified in Alternatives B & C. The Tribe further requests an action item be added to the RMP that calls for the examination and prioritization of additional grazing allotments for retirement. This action item will look for allotments having the greatest environmental impact and the best likelihood for successful retirement.

Page 2-97 – Action 11

A6-43 The Tribe repeats its call for the extension of the Lower Salmon exclusion zone up to at least Graves Creek, with the possibility of extending it further based on the findings of the Salmon River population study.

Page 2-97 – Action 12 & 13

A6-55 The Tribe specifically opposes extending the American River 36173 allotment and creating a new "Whiskey South" allotment. The South Fork Clearwater River, which includes the American River sub-basin, has been heavily impacted by grazing, mining and timber harvest, and is struggling to recover. The Tribe, and, it should be noted, the BLM, have been working to restore this ecosystem, and additional grazing in this watershed will be counterproductive to this recovery effort. This is especially true given the four recent "vegetation management" actions that the BLM and the USFS have planned and/or implemented in these watersheds; all of which included road building and timber harvest. For a discussion of grazing impacts in riparian and aquatic systems, see Belsky, A.J., A. Matzke, and S. Uselman. 1999. *Survey of livestock*

Responses

A6-53: There are three primary evenaged silvicultural systems for completing the regeneration of the stand: clearcut, seedtree and shelterwood. Several forest species evolved and are ecologically suited to evenaged management. Lodgepole pine is a classic example. The mature stand is typically replaced by a fire which also provides for stand initiation. Forest Products, Objective 4, Action 2 of the DRMP/EIS recognizes that various systems are needed to meet the varied resource objectives and allows the interdisciplinary team the flexibility to adapt the silvicultural system to the stand and the management objectives.

A6-54: The Tribe's concerns regarding grazing have been addressed in Livestock Grazing, Objective 4, Action 3and Objective 5, Actions 7 and 8 of the DRMP/EIS.

A6-55: Thank you for your comment.

Comments

influences on stream and riparian ecosystems in the western United States. J. Soil and Water Cons. 54:419-431

A6-55 Page 2-97 – Action 14

The same comments can be made for the Lolo Creek allotment extension.

Page 2-98 – Objective 2

A6-56 The Tribe does not understand why the RMP eliminates this Objective and Action item. Fencing, off-site watering, cattle guards, stream protections and weed control are all elements of proper grazing management, and while the Tribe applauds the BLM for completing a number of these projects under the old RMP, there are still plenty of grazing improvements on BLM lands in the planning area. The RMP should still contain a goal of continuing to implement these improvements. Additionally, the BLM should seek partners for this endeavor, including the Tribe and the regional Soil and Water Conservation Districts, who are active in this area.

Page 2-98 – Objective 3, Action 1

A6-57 Has the BLM identified appropriate stubble heights for riparian and upland forage based on forage type? Based on recent trends in grazing management, stubble height is increasingly being used as the measure of forage utilization. However, in order for this program to work, the appropriate stubble heights must be used, and the managing agency must commit to monitoring the allotments and adjusting the season of use/end of season based on these utilization standards.

Page 2-100

A6-58 The RMP should contain an action item that calls for the completion of at least 50% of the outstanding Allotment Management Plans within the CFO management area. Congress has repeatedly called for the completion of AMP's for grazing on federal lands. Without these plans, most grazing allotments on federal land will continue without having undergone NEPA analysis in violation of federal law. Recently, the Ninth Circuit ruled that even Annual Operating Instructions must go through the NEPA analysis. *See ONDA v. USFS*, 2006 WL 2711934 (9th Cir. 2006). Therefore, completion of the environmental analysis for the remaining Allotment Management Plans should be a priority.

Page 2-102

A6-59 The Tribe specifically supports the provisions of Alternative C, removing 68,854 acres of public land from surface occupancy for mining. This is one area where Alternative C truly embodies a restoration focus. Mining over the last 100 years has heavily impacted the BLM lands, and other public lands, within the CFO management area. The protection afforded by this management alternative, combined with active restoration projects, like the ones currently being implemented by the BLM, will greatly contribute to the restoration of the riparian and aquatic resource in the region. The Tribe urges the adoption of this provision regardless of which alterative is actually selected.

Responses

A6-56: Appendix A, Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management, have incorporated all of the actions (fencing, off-site watering, etc.) as standard operating procedures in the DRMP/EIS. Therefore mentioning this type of objective in the RMP would be redundant.

A6-57: BLM Idaho has established a protocol for conducting stubble height monitoring in riparian areas that the CFO is following. Our protocol is called "Grazing Implementation Monitoring Module."

A6-58: BLM has different regulatory requirements for administering grazing use than the Forest Service as cited in your comment. BLM has been able to manage for multiple use objectives through terms and conditions of the grazing lease. Grazing use is reviewed on each allotment through the rangeland health assessment process (Livestock Grazing, Objective 4 and 5 Action 1 in the DRMP/EIS) to see if multiple use objectives are being met. The action of re-issuing the lease is then reviewed through the NEPA process. Due to the scattered land pattern of the CFO, very few allotments contain the management complexity consistent with the need for AMPs.

A6-59: Thank you for your comment.

Comments

Page 2-111

A6-60 The Tribe recommends the addition of an Objective/Action that addresses the monitoring, evaluation, and remediation of abandoned mines sites on BLM land. Analysis should focus on heavy metal and acid mine discharges from these sites.

Page 2-112

A6-61 As stated above, the Tribe urges that Alternative C, or a newly created Alternative, include more non-motorized designated lands based on the impacts associated with roads. See *supra*.

Page 2-116 – Action 3.4

A6-62 As the Clearwater River almost entirely runs through the Nez Perce Tribe's reservation, the Tribe requests that the BLM include the Tribe in the cooperative management provisions of this action item. The Tribe currently participates in the co-management of the Clearwater by issuing non-Indian fishing licenses. By not working with the Tribe, coordinated management of the Clearwater River will be lacking.

Conclusion

A6-1 The Tribe strongly supports Alternative C as a means to protect and restore the resources on and off BLM lands within the CFO management area. Neither Alternative B nor D will provide the level of protection and enhancement necessary to support and restore the Tribe's Treaty trust resources.

The Tribe is very appreciative of the BLM's effort to seek Tribal input, and even accept and incorporate Tribal comments received past the official comment deadline. This effort by the BLM fosters a positive and collegial working relationship between the Tribal staff and the BLM staff, and fosters the government-to-government relationship and the trust responsibility that exists between the Tribe and the federal agencies. Hopefully these comments will contribute to a meaningful discussion on the future management direction of the Cottonwood Field Office. The Tribe looks forward to continuing this relationship on the projects implemented pursuant to this plan. If you have any questions, comments or concerns related to the material presented in this letter, please contact the Tribe's point of contact for this project, Ryan Sudbury, in the Tribe's Office of Legal Counsel at (208) 843-7355.

Sincerely,

Rebecca A. Miles
Chairman
Nez Perce Tribal Executive Committee

Responses

A6-60: See DRMP/EIS Public Safety - Abandoned Mines and Hazardous Materials, Objective 1, Actions 1-6; Objective 3, Actions 1-3; and Objective 4, Actions 1-6.

A6-61: Thank you for your comment.

A6-62: Refer to the response to Comment Number A6-10. Both the Tribe and the BLM are currently part of the Clearwater Management Council which continues to implement cooperative management of the Clearwater River. We have clarified the wording in Recreation, Objective 2, Action 3.4 of the DRMP/EIS.

Comments

Nov-27-2006 12:44pm From- T-931 P.002 F-341

11/27/2006 11:20 2089623275 BLM COTTONWOOD PAGE 0

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

825 NE Multnomah
Portland, Oregon 97232

RECEIVED
NOV 22 2006
BLM Cottonwood
Idaho 83522

November 20, 2006

Ms. Carrie Christman
Bureau of Land Management
Cottonwood Field Office
1 Butte Drive
Cottonwood, ID 83522-5200

Re: Comments on the Draft Resource Management Plan and
Environmental Impact Statement for the Cottonwood Field Office Territory

Dear Ms. Christman:

A7-1 PacifiCorp appreciates the opportunity to provide comments on the draft Resource Management Plan (RMP) and Environmental Impact Statement (EIS) for the Cottonwood Field Office Territory. Although we do not have any facilities within the Cottonwood planning area, we want to ensure that the Bureau of Land Management (BLM) understands the issues that could potentially impact a Utility that has Rights of Way on federal land which these issues are considered when you finalize the EIS and RMP for Cottonwood.

PacifiCorp appreciates the opportunity to submit these comments. We have long recognized the need to develop business practices, both on public and private lands, which are in harmony with valid and appropriate land use requirements. We are confident that our record of stewardship on BLM lands and our comments concerning the Draft EIS will allow BLM to produce a final RMP that offers suitable protections to the variety of issues affecting the lands while accommodating both existing and future electrical facilities used to provide critical electric services to the people of Idaho and throughout the west.

If you have any questions on the comments, please feel free to contact Maggie Hodny in PacifiCorp's Portland office. Maggie can be reached at 503-813-5889.

Sincerely,

Jeff Richards - Attorney
PacifiCorp
Office of General Counsel

Enclosures

Responses

A7-1: Refer to the DRMP/EIS, Section 1.6, Planning Criteria and Legislative Constraints, which states: "BLM will recognize all valid existing rights."

Comments

A7-2

A7-3

A7-4

Nov-27-2006 12:45pm From- T-931 P.003/007 F-341

11/27/2006 11:20 2089623275 BLM COTTONWOOD PAGE 03

PacifiCorp Comments on the DRAFT Environmental Impact Statement (EIS)
For Cottonwood, Idaho
Resource Management Plan (RMP)

Reference	Description of Issue	Suggested Revision/Action
General		
Energy Development	As part of their strategic goals, BLM must help meet existing and future energy resource needs. The draft RMP appears to under-emphasize the energy development needs of electrical generation and transmission.	As a general matter, PacifiCorp believes that the EIS and RMP should better emphasize and promote issues related to electrical energy development.
Sustainable Development	Many federal land management agencies, including the BLM and the Forest Service, have issued policy statements regarding support of sustainable energy concepts, which include provision for development of renewable energy resources. The joint federal agency document that explains this concept is entitled "*Sustainable Development and its Influence on Mining Operations on Federal Lands*", April 2002. This document describes resource planning and sustainable development in addressing social, economic and environmental interests.	PacifiCorp urges the BLM to use these principles and this terminology when evaluating alternatives and support sustainable resource development. This is consistent with PacifiCorp's own vision of sustainability as reflected in our environmental RESPECT policy. , PacifiCorp would like to encourage the BLM to be willing to consider and review any future proposals based on the current technology and potential resource impacts.
Energy Corridors	Section 368 of the Energy Policy Act of 2005 provides for the designation of "Energy Corridors" in 11 western states, and will be incorporated into the respective agencies RMPs/Forest Management Plans in those states. In November 2005, PacifiCorp prepared and submitted a map to the Department of Energy of its identified or proposed energy corridors as part of the West-Wide Energy Corridor Programmatic Environmental Impact Statement (PEIS). PacifiCorp also submitted GIS data and maps of its current high voltage transmission line locations within the study area. A copy of the map is attached.	PacifiCorp recommends that the BLM take active steps to work with stakeholders at the federal, state, and local level to expand the concept of federal Energy Corridors to state-wide utility corridors that include state and local government lands. These corridors should be identified in RMPs as they are updated or renewed. In addition to addressing existing energy needs, the establishment of state-wide utility corridors must take into consideration reasonable foreseeable development. Engaging electrical utilities and state land management agencies in the energy corridor planning process will improve communication and avoid unnecessary delays in the country's efforts to meet current and future demands for electricity.

1

Responses

A7-2: The BLM scoping process did not find that energy development was a major issue in the CFO planning area. However, the topic is addressed in various sections (e.g. Minerals, Renewable Energy, and Lands and Realty) of the DRMP/EIS.

A7-3: The BLM reviewed and considered "Sustainable Development and its Influence on Mining Operations on Federal Lands" during development of the RMP.

A7-4: The BLM is currently conducting a west-wide study of this document. When the final document is completed, details from that study will be incorporated into the Cottonwood RMP. This would be accomplished through an RMP amendment should the completion occur after the PRMP/FEIS is complete. Copies of the maps you reference were not attached to your letter.

Comments

Nov-27-2006 12:46pm From- T-331 P.004/007 F-341
11/27/2006 11:20 2089523275 BLM COTTONWOOD PAGE 04

Reference	Description of Issue	Suggested Revision/Action
		PacifiCorp recommends that the BLM designate any areas that are currently occupied by high voltage electric transmission lines as energy corridors. A quarter to half mile wide area on either side of the line should be designated as an energy corridor for future uses. This designation would be in addition to the other energy corridor alternatives proposed in the RMP. We recommend that the Agency designate energy corridors in areas where PacifiCorp has submitted proposed future corridors as part of the West-Wide Energy Corridor PEIS as shown on the attached map. It should be noted that the conceptual future corridors depicted on the map are lines connecting two end points (energy resource areas and areas of energy demand). We did not apply engineering design or environmental analysis when developing these options.
Guidelines for ROW Clearance	PacifiCorp has concerns about the potential for conflict and overlap when a new ROW is issued within a utility corridor. Placement of energy facilities adjacent to each other or other activities may result in safety or incompatibility issues. It is not always possible for multiple electrical lines to be located in the same ROW corridor and still maintain adequate separation from other lines or utilities (such as gas pipelines). All utilities must be placed so as to meet reliability and safety standards, particularly with an eye toward reducing the risk of losing all lines due to a common disaster (lighting strike, earthquake, etc.) within a single corridor. WECC recommends that that interconnected transmission systems should be planned to avoid outages due to the loss of any two-transmission circuits in a common corridor.	PacifiCorp recommends that the EIS and final RMP include guidelines for ROW clearances within designated corridors. For transmission lines we recommend a ROW width of at least 100 feet. For distribution lines we recommend a ROW width of at least 50 feet. To avoid conflicts and overlaps, BLM should adopt procedures that require all owners of existing facilities within a corridor to be notified when there are plans for an applicant to install a new ROW within the utility corridor. The RMP should include a specific provision stating that ROW facilities will not be placed adjacent to each other if issues with safety or incompatibility or resource conflicts are identified. The Western Electric Coordinating Council (WECC), a regional coordinating council for western utility groups, also supports this position.

2

A7-4

A7-5

Responses

A7-5: Compatibility of right-of-ways is always a concern. This type of issue would be addressed in a site-specific analysis but not in this land use plan. By regulation, the BLM notifies grant holders in writing when it receives an application for a right-of-way. More detailed information can be found at 43 CFR 2807.14, Rights-of-Way.

Comments

A7-5

A7-6

Nov-27-2006 12:47pm From- T-431 P.005/007 F-341

11/27/2006 11:28 2089523275 BLM COTTONWOOD PAGE 05

Reference	Description of Issue	Suggested Revision/Action
	Activities generally excluded from transmission (high voltage) utility corridors include mining, materials storage and disposal, range and wildlife habitat improvements involving facility construction, non-linear energy project development, blasting, excavation, and high profile (tall) facility development.	
Wildlife and Fisheries Visual Resource Management (VRM) Off-Highway Vehicle Management AccessGuidelines for Avoidance Areas	Timing and spatial stipulations for sensitive biological resources should be regarded as guidelines only and not as definitive dates and distances. A one-size fits all approach puts an undo burden on the applicant. By the nature of its business, PacifiCorp constructs large and highly visible electrical transmission towers, power generating stations, support roads, and other facilities. To some segments of the population, such facilities may be considered as impairing the quality of scenic (visual) values. PacifiCorp generally supports using VRM tools to manage visual values within the planning area. Our support, however, is offered within the context that the placement of certain electrical facilities within the area is both necessary and consistent with the multiple use concepts embodied within the RMP/Forest Plan. It is unclear whether an Electrical Utility's use of Off-Highway Vehicles (OHV's) to maintain power transmission and distribution lines is expressly authorized or otherwise officially approved. Under certain circumstances, the Agency must allow for the placement of utility and energy facilities, transportation systems and communication sites within avoidance areas. Objectives and guidelines for these circumstances must be clear. PacifiCorp has concerns that BLM's Surface Disturbance Mitigation Guidelines do not explain how BLM will intensively manage these areas nor do they provide any guidance on developing plans that will be acceptable to a Surface Management Agency (SMA).	Although PacifiCorp understands the need for developing guidelines to protect sensitive biological receptors, site and project specific information must be taken into consideration. The Agency should present the conditions for controlling surface disturbing and disruptive activities as guidelines, not as mandates. Reclassification of a VRM from Class III to Class IIrestrictive should not require modification of existing facilities or structures, relocation of existing facilities or structures, or a substantial change to existing utility corridors or reasonably foreseeable future facilities. Electrical Utilities must be allowed access to inspect or repair its structures and facilities without vehicle access restrictions. In most situations this is accomplished by using a 4-wheel drive service truck or an all terrain vehicle (ATV). If repairs are necessary, the use of a high range boom truck may be required. These vehicles typically use existing roads and trails but in some cases, the use of overland travel may be required. The definition of administrative tasks should be expanded to include power delivery operation and maintenance (O&M) activities and include emergency actions necessary to restore power. BLM should develop and issue clear objectives and guidelines for minimizing surface disturbances near existing facilities with adequate opportunity for stakeholder input. Most RMP's restrict the use of off road vehicles, including over the snow, in areas of sensitive resources or special management areas. PacifiCorp does have power lines that provide power to facilities within some special management areas or has power lines that run through or adjacent to them. PacifiCorp must be allowed access to inspect or repair its structures and facilities in these sensitive areas.

3

Responses

A7-6: This RMP is not intended to prescribe specific decisions for implementation-level projects. Rather, it is intended to prescribe a range of actions that may occur and is flexible enough to account for the range of variables that will be encountered during the life of the plan. The mineral leasing stipulations are consistent with BLM policy. The stipulations include exceptions and waivers to allow for adaptive management.

Expressly authorized uses are exempted from OHV restrictions. The specific terms contained in individual right-of-way grants would govern whether there is an exemption or not. In the case of utility rights-of-way, an accompanying road right-of-way (to provide for maintenance access) is generally requested and granted. Some existing right-of-way grants may have to be amended in order to authorize the OHV exemption.

Comments

Reference	Description of Issue	Suggested Revision/Action
Wildlife and Fisheries Visual Resource Management (VRM) Off-Highway Vehicle Management Access	Timing and spatial stipulations for sensitive biological resources should be regarded as guidelines only and not as definitive dates and distances. A one-size fits all approach puts an undo burden on the applicant. By the nature of its business, PacifiCorp constructs large and highly visible electrical transmission towers, power generating stations, support roads, and other facilities. To some segments of the population, such facilities may be considered as impairing the quality of scenic (visual) values. PacifiCorp generally supports using VRM tools to manage visual values within the planning area. Our support, however, is offered within the context that the placement of certain electrical facilities within the area is both necessary and consistent with the multiple use concepts embodied within the RMP/Forest Plan. It is unclear whether an Electrical Utility's use of Off-Highway Vehicles (OHV's) to maintain power transmission and distribution lines is expressly authorized or otherwise officially approved.	Although PacifiCorp understands the need for developing guidelines to protect sensitive biological receptors, site and project specific information must be taken into consideration. The Agency should present the conditions for controlling surface disturbing and disruptive activities as guidelines, not as mandates. Reclassification of a VRM from Class III to Class IIrestrictive should not require modification of existing facilities or structures, relocation of existing facilities or structures, or a substantial change to existing utility corridors or reasonably foreseeable future facilities. Electrical Utilities must be allowed access to inspect or repair its structures and facilities without vehicle access restrictions. In most situations this is accomplished by using a 4-wheel drive service truck or an all terrain vehicle (ATV). If repairs are necessary, the use of a high range boom truck may be required. These vehicles typically use existing roads and trails but in some cases, the use of overland travel may be required. The definition of administrative tasks should be expanded to include power delivery operation and maintenance (O&M) activities and include emergency actions necessary to restore power.
Wildlife and Fisheries Visual Resource Management (VRM)	Timing and spatial stipulations for sensitive biological resources should be regarded as guidelines only and not as definitive dates and distances. A one-size fits all approach puts an undo burden on the applicant. By the nature of its business, PacifiCorp constructs large and highly visible electrical transmission towers, power generating stations, support roads, and other facilities. To some segments of the population, such facilities may be considered as impairing the quality of scenic (visual) values. PacifiCorp generally supports using VRM tools to manage visual values within the planning area. Our support, however, is offered within the context that the placement of certain electrical facilities within the area is both necessary and consistent with the multiple use concepts embodied within the RMP/Forest Plan.	Although PacifiCorp understands the need for developing guidelines to protect sensitive biological receptors, site and project specific information must be taken into consideration. The Agency should present the conditions for controlling surface disturbing and disruptive activities as guidelines, not as mandates. Reclassification of a VRM from Class III to Class IIrestrictive should not require modification of existing facilities or structures, relocation of existing facilities or structures, or a substantial change to existing utility corridors or reasonably foreseeable future facilities.

4

Responses

Comments

Nov-27-2006 12:50am From- T-431 P.007/007 F-341

11/27/2006 11:20 2089623275 BLM COTTONWOOD PAGE 07

Reference	Description of Issue	Suggested Revision/Action
Wildlife and Fisheries	Timing and spatial stipulations for sensitive biological resources should be regarded as guidelines only and not as definitive dates and distances. A one-size fits all approach puts an undo burden on the applicant.	Although PacifiCorp understands the need for developing guidelines to protect sensitive biological receptors, site and project specific information must be taken into consideration. The Agency should present the conditions for controlling surface disturbing and disruptive activities as guidelines, not as mandates.

5

Responses

Comments

United States Department of the Interior

U. S. GEOLOGICAL SURVEY

Reston, VA 20192

In Reply Refer To:
Mail Stop 423
1610 (420)

October 12, 2006

Mr. Greg M. Yuncevich, Field Manager
Bureau of Land Management
Cottonwood Field Office
1 Butte Drive
Cottonwood, ID 83522-5200

RE: Review of the Draft Resource Management Plan and Environmental Impact Statement Proposes and Analyzes four Alternatives for Future Management Approximately 143,800 Acres of Federal Land in North-Central Idaho

Dear Mr. Yuncevich:

A8-1 The U.S. Geological Survey has reviewed the draft plan and environmental impact statement, and has no comments.

Sincerely,

/Signed/
Lloyd H. Woosley, Jr., P.E.
Chief, Environmental Affairs Program

Cc: EAP Chron, MS 423
USGS:WRD:LWOOSLEY:bjjohnso:x6832:10/12/06

Responses

A8-1: Thank you for your review and feedback.

ORGANIZATION COMMENTS

Comments

Kevin Colburn
National Stewardship Director
American Whitewater
1035 Van Buren St.
Missoula, MT 59802
406-543-1802
Kevin@amwhitewater.org

BLM Cottonwood Field Office
ATTN: Draft RMP/EIS
1 Butte Drive
Cottonwood , ID 83522

Submitted Via Email to: comments@cottonwoodrmp.com

Re: Draft RMP/EIS

I have reviewed the Bureau of Land Management - Cottonwood Field Office's Draft Resource Management Plan and Environmental Impact Statement on behalf of American Whitewater. American Whitewater is a national nonprofit organization dedicated to protecting and restoring our nation's whitewater resources while enhancing opportunities to enjoy them safely. We have approximately 6,800 members and over 110 affiliate clubs. Most of our members are conservation oriented, non-commercial whitewater boaters, and a significant portion of our membership lives and/or recreates on lands and waters managed by the CFO. The actions recommended in the Draft RMP/EIS therefore will directly affect our members.

I have personally lived very near the CFO for the past two years in Moscow Idaho, and have lived within a day's drive of the CFO for three additional years. My current residence is in Missoula, Montana. In these years, I have had the pleasure of paddling and otherwise visiting many rivers in the CFO. Based on these experiences and 10-years of experience in restoration ecology, I offer the following comments on behalf of American Whitewater.

Wild and Scenic Rivers:

O1-1 We fully support the finding that Lolo Creek, Hard Creek, Hazard Creek, and Lake Creek are suitable for designation as Wild and Scenic Rivers. Each of these streams fully deserve designation as Wild and Scenic.

The beauty, remoteness, and uniqueness of Lolo Creek cannot be overstated. Having personally paddled the lower reach of the Creek, I fully agree that Lolo Creek and its canyon are a national treasure worthy of protection. Lolo Creek is among the finest creek boating opportunities in Idaho and the entire region. Its long length, countless rapids, lack of portages, stunning scenery, good water quality, fish and wildlife viewing opportunities, and inaccessibility between access points all contribute to its value as a whitewater boating resource. In addition, the canyon offers a diverse landscape of

Responses

O1-1: Thank you for your comment.

Comments

mature ponderosa pine forests, massive cedar trees, moss covered cliffs, canyon grasslands, and areas of lush deciduous riparian trees.

Protection as a Wild and Scenic River (or a W&S suitable river) may help protect Lolo Creek from additional impacts to water quantity, water quality, housing development, and logging. Furthermore, protecting the Creek from any future dams will provide a great benefit to the American public. We strongly encourage the BLM to pursue the purchase of additional lands in the Lolo Creek canyon. O1-2

Hard Creek and Hazard Creek are also widely known as high quality whitewater runs; a fact left out of the Draft EIS. Hard Creek and Hazard Creek together comprise a short (roughly 1 mile) popular Class IV roadside run that most often is done in concert with the Little Salmon. Both Creeks also have Class V, seldom-tackled remote sections accessible only from roads far upstream. Upper Hard Creek is listed on our website as a 2 mile long class V run. Less is known about Upper Hazard Creek. We request that the recreational value of these resources be described in the final EIS. O1-3 O1-3

A recent visit to a campsite at the confluence of Hard and Hazard creeks revealed scattered human waste, a group cathole, litter, nails in trees, hung poles with rope hanging from them, elk guts, and an elk head. This treatment of otherwise beautiful public natural resources should be managed and curtailed. Wild and Scenic designation would provide the BLM with some of the management resources needed to manage this area for all Americans.

American Whitewater fully supports the finding of Lolo, Hard, and Hazard creeks as suitable for Wild and Scenic designation. While we have little knowledge of Lake Creek, the information we do have suggests that it too is suitable for designation and we fully support that finding. In addition, while not part of the CFO RMP/EIS, we support inclusion of the Lower Salmon, Lolo Creek, Hard Creek, Hazard Creek, and Lake Creek in the Wild and Scenic system, and will be pursuing opportunities to have these streams designated by Congress. O1-1 O1-4

Overlooked Unique Natural Areas:

Within the CFO are the *Canyons of the Palouse*: numerous creeks that have cut massive canyons into the surrounding palouse prairie to join the Clearwater River system. These rivers and streams have a very early high flow period driven by snowmelt and rain, lasting from January through March. Outside of this timeframe, flows dwindle from hundreds or thousands of cubic feet per second to very low flows in the single or double digits. Because they drain prairie regions that have been intensely converted to agricultural lands, uplands intensely converted to timberlands, and valleys used for grazing or feedlots, and often from small towns with sewage treatment plants, these rivers and streams are in dire condition. Unlike most of Idaho's rivers, the intensive development and population centers are upstream of these small whitewater canyons rather than downstream.

Responses

O1-2: Thank you for your comment.

O1-3: There are a multitude of recreational values throughout the CFO, so many, in fact, that a discussion of them all would be extremely extensive. As such, Chapter 3 (Affected Environment) in the DRMP/EIS does not specifically call out all recreational aspects, including whitewater boating, of all areas managed by the CFO.

O1-4: Thank you for your comment.

Comments

The canyons cut through basalt and granite gorges and hide some of the last remnants of native palouse prairie, wildlife habitat, and pockets of mature ponderosa pine and cedar forests in a very disturbed region. These streams share geological, ecological, and hydrological characteristics with one another and no other regional streams.

They also share recreational characteristics. They are generally inaccessible except by whitewater kayak, contain both basalt and granite based rapids, support whitewater boating only in early spring when the rest of the region's water is locked up in snow, and are generally breathtakingly beautiful. The BLM owns land on many of these rivers, ranging from single small blocks of land, to extensive riparian tracts. While BLM may not be able to control the many impacts to these overlooked treasures, BLM is a landowner and thus a stakeholder in their management.

The primary Canyons of the Palouse with significant value as recreational boating resources on which BLM owns land are: Potlatch River, Big Bear Creek, Middle Potlatch River, Little Potlatch River, Lolo Creek, and Lawyer Creek.

O1-5 We ask that the BLM consider providing the highest level of protection to their land parcels in these watersheds, and that you retain ownership of these parcels. These canyons are not well understood and are in variable condition. Anything that can be done to assure water quality standards are met, fisheries resources protected, public access provided, and forested steep slopes not cut, will be greatly appreciated and will greatly benefit the fish and wildlife that rely on these last vestiges of intact habitat in a very disturbed area.

Conservation and Restoration Watersheds

O1-6 We are heartened to see that the BLM has selected specific watersheds for conservation and restoration priority. In general, the streams you have selected are very deserving of conservation and restoration activities – however Alternative C provides protection for additional streams that we deem highly worthy. We ask that you select

O1-7 Alternative C with regards to Conservation and Restoration Watersheds, add at least Lawyer Creek and the Potlatch River to the list of Restoration Watersheds, and also that you consider the other Canyons of the Palouse mentioned above.

Riparian Management Areas

O1-8 We prefer additional riparian protection, above and beyond what is provided by the BLM preferred alternative. Specifically we would like to see the BLM select the riparian management prescriptions in Alternative C. Limiting riparian protections to 150 feet for non-fish bearing streams and small wetlands, and to 80 feet for intermittent streams does not adequately protect these headwater areas from overland flow of sediment, from reduced wood inputs from natural forces including wind-throw, and from aesthetic impacts to recreation.

Responses

O1-5: Thank you for your comment.

O1-6: Please see response to Comment Number A3-15.

O1-7: Because of the large amount of private lands and very small amount of BLM lands occurring in the Lawyer Creek and Potlatch River watersheds or subwatersheds, these drainages did not meet land ownership requirements for conservation or restoration watersheds. See DRMP/EIS, Appendix C, *Conservation and Restoration Watersheds.*

O1-8: Thank you for your comment.

Comments

O1-9 Whitewater paddlers regularly enjoy intermittent streams. In fact, some of the Canyons of the Palouse could be called intermittent and perhaps even non-fish bearing even through at times each year they have many hundreds or even several thousand cfs of flow. Buffers of only 80 feet do little to protect the recreational experience of paddlers visiting these high quality whitewater streams. Similarly, these streams are large in size for portions of the year and are ecologically very different than small intermittent headwater streams. They need significant buffers to protect the already impacted water quality and limited wood inputs. We would argue that due to the unusual if not unique ecological and hydrological characteristics of many of the streams on the CFO lands, intermittent streams deserve the protection of more robust buffers.

Reduced buffer protection for non-fish bearing streams likewise ignores the benefits that wider buffers would have onsite for recreationists and downstream in fish bearing streams. There is more to stream life than fish – and many ecological and social values that buffers protect are not related to fish. For many reasons, protecting significant riparian buffers simply make sense. We request that the BLM consider increasing the riparian buffers along intermittent streams to at least 150 feet, and along non fish bearing streams to 300 feet. More preferable would be 300 foot buffers on all streams.

Fuel Treatments:

O1-10 Applying fuel treatments to 40% of the CFO over a 5 year period seems excessive and appears to exceed natural fire regime return intervals for many areas. We prefer Alternative C, in which 20% of the CFO will receive treatment. This will allow the focus of efforts to be on human interface areas and limited areas in which the natural or augmented fire regime has not provided fire in an unusually long period of time.

O1-11 Regardless we ask that no such treatments be implemented in roadless areas and that no new roads be constructed to facilitate these efforts. We suggest that the ecological, economic, and social impacts of new road construction outweigh any benefits of fuel treatments in remote areas.

Cross Country Vehicular Travel

O1-12 We agree with the limits set forth in the RMP for off road vehicles. Specifically, we agree that such vehicular use should be limited to designated routes and when appropriate (ie: roadless areas, Wilderness areas, riparian areas, and other sensitive areas) excluded entirely. These measures protect water quality, fish and wildlife habitat, and non-motorized backcountry recreational experiences.

Conclusion:

Thank you for considering these comments. We support the many elements of the CFO RMP/EIS that seek to protect the rivers, lands, and recreational opportunities that are so important to our members. The CFO plays a stewardship role on some of the most spectacular whitewater rivers in the Nation. We are encouraged by your recognition of

Responses

O1-9: See response to Comment Number A3-37; and response to Comment Number O2-39.

O1-10: Refer to the response to Comment Number I7-4.

O1-11: The decision to develop or augment the transportation system for a given project proposal can only be determined during project development. Constraints and limitations on the development of new roads are contained in Appendices B and K of the DRMP/EIS, as well as specific limitations for some ACECs.

Project specific analysis will address the ecological, social, and economic aspect of road construction and fuel treatments.

O1-12: Thank you for your comment.

Comments	Responses
several of these rivers as eligible for Wild and Scenic status, and by your commitment to protect riparian corridors and restore key watersheds. We ask that you recognize the value of some overlooked streams, that you consider expanding riparian buffers, and that you continue to support Wild and Scenic designation on the streams you have found eligible. Sincerely, Kevin Colburn National Stewardship Director	

Comments

From: Friends of the Clearwater [foc@wildrockies.org]
Posted At: Monday, November 27, 2006 5:00 PM
Conversation: Draft RMP/EIS
Posted To: e-mail comments
Subject: Draft RMP/EIS

Pasted below and attached are comments with proper subject heading.

November 27, 2006

BLM Cottonwood Field Office
Attn: Draft RMP/EIS
1 Butte Drive
Cottonwood, ID 83522
Sent Via Email to: comments@cottonwoodrmp.com

Dear Field Manager:

Enclosed are comments from Friends of the Clearwater, the WildWest Institute, Alliance for the Wild Rockies, and The Lands Council on the Cottonwood RMP DEIS.

1. Issues and planning Criteria NEPA

O2-1 The DEIS erroneously dismisses criteria such as water quality for TES fish habitat (page 1-6) and a reinventory of roadless areas with wilderness potential under sections 201 and 202 of FLPMA (page 1-7, not to be confused with the one-time section 603 inventory). BLM states that water quality was not selected because there are existing standards and laws that protect water quality. Yet ORVs are an issue (rightly so) and their management on public lands is also guided by existing laws and regulations (including two executive orders).

2. Alternatives and Range of Alternatives in Accordance with NEPA Requirements

O2-2 O2-3 The alternatives in the DEIS are confusing. Almost every alternative is identical and the variance between them is minimal. (See chapter 2). There are also some incongruities. Why do alternatives B and D have more conservation watersheds around Elk City (such as Lick Creek) than alternative C?

O2-4 Alternative C has almost all large contiguous blocks as commercial forest including sensitive watersheds in the South Fork Clearwater and tributaries to the Salmon. These areas should not be classified as commercial forests. They are not productive and citizens pay to have them logged.

O2-5 Alternative B and C apparently allow more grazing in the East Fork of the American than the current situation (if the maps are indeed accurate). There is no rang eof alternatives when it comes to grazing. Almost all the crucial anadromous watersheds are open for grazing in every alternative (American River, Lolo Creek, and tributaries to the Salmon such as French Creek).

O2-6 There are apparently no differences in salable and locatable minerals under various alternatives. The

Responses

O2-1: There is neither an occurrence on page 1-6 of the DRMP/EIS that "dismisses criteria such as water quality for threatened and endangered species fish habitat," nor is there an occurrence on page 1-7 that "dismisses criteria such as … reinventory of roadless areas with wilderness potential under sections 201 and 202 of FLPMA."

O2-2: The BLM was careful to ensure that all of the alternatives were reasonable. The variation in emphasis of each alternative provides for the range. If each alternative equally balanced use and protection, then there would be no range. For many resources and uses, the CFO has a very restricted decision space due to governing laws, regulations, policies, and standing agreements. The result is little to no variation among alternatives for some objectives and actions. An example of this is management direction proposed for invasive species and noxious weeds. In addition, for resources or uses for which current management was deemed adequate, or somewhat adequate, the BLM carried such management forward, with little or no change.

As stated in Section 1.2, Purpose of and Need for the Resource Management Plan:

> "The Cottonwood RMP is needed because regulatory and resource conditions have changed, as well as public demands, which warrant revisiting decisions in the 1981 MFP and its amendments. Many new laws, regulations, and policies have created additional public land management considerations. As a result, some of the decisions in the MFP and amendments are no longer valid or have been superseded by requirements that did not exist when they were prepared. Likewise, user demands and impacts have evolved, requiring new management direction.
>
> "The purpose of the RMP is to respond to resource conditions that have changed, to respond to new issues, and to

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Responses
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O2-2 (continued): provide a comprehensive framework to guide management of public lands and interests administered by the CFO with a focus on maintaining or restoring resource conditions and helping provide community stability through resource use and enjoyment. The RMP provides objectives, land use allocations, and management direction to maintain, improve, or restore resource conditions over the long term. The RMP incorporates new data, addresses land use issues and conflicts, and specifies where and under what circumstances particular activities will be allowed on BLM-administered public lands. Public lands addressed in the RMP will be managed on the basis of multiple use and sustained yield, in accordance with the FLPMA. The RMP generally does not include a description of how particular programs or projects would be implemented or prioritized; those decisions are deferred to implementation-level planning."

This need for and purpose of the RMP do not define the specific issues that preclude a reasonable array of alternatives. To the contrary, this purpose and need statement does not define the exact issues and, instead, results in a broader range of alternatives (and associated objectives and actions) that meet its definition.

Regarding an alternative that includes not logging in South Fork Clearwater watersheds, refer to the response to Comment Number O2-4.

Regarding closing some watersheds to mineral entry, the RMP recommendations on closures to mineral entry are based on the various studies and evaluations conducted prior to developing alternatives (WSR Eligibility, ACEC Nominations, etc.). These are provided in the Appendices. The results of these studies and evaluations indicated that no additional lands require closure to mineral entry at this time, only specific management direction in specific environmental settings. Alternatives highlight protection of resources in critical areas based on special designations, cultural concerns, visual concerns, and/or special status species and their habitat. This management approach allows protection of critical areas and flexibility to respond to future, unforeseen conditions. This approach is consistent with BLM's multiple use mandate.

Regarding roadless areas, please see response to Comment Number O2-49.

O2-3: See response to Comment Number A3- 39.

O2-4: For purposes of the DRMP/EIS, commercial forest land was defined as those sites having greater than 10% stocking of commercial forest species. This broad area was then reduced by visual resource management area I and II, riparian conservation areas, ACECs, RNAs and other resources which limit intensive timber production. The unconstrained lands remained as the commercial forest land from which the potential sale quantity was derived. The constrained lands were classified as custodial forest lands.

O2-5: The BLM is not proposing additional grazing in the East Fork of the American River in either Alternative B or C. Volume IV-Maps, Grazing Allotment Alternative Maps 16 and 17 are correctly displayed in the DRMP/EIS.

All of the grazing allotments have gone through the consultation process concerning threatened and endangered fisheries and approved grazing use is not contrary to our mandates under the ESA for protecting special status species.

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Responses
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O2-5 (continued): The range of alternatives were developed with consideration of resource issues, land ownership and BLMs multiple use mandate to provide a level of available livestock grazing opportunities across all alternatives.

O2-6: The potential for leasable minerals occurrence (fluid and solid) is very low in the CFO (Tetra Tech, Inc. and Silverfields Inc. 2005). Leasing is a discretionary act; therefore, the need to recommend closure of specific areas to leasing is not considered imperative. Alternatives B, C, and D show a range of lands withdrawn from mineral entry and lands subject to leasing stipulations (NSOs and CSUs). Alternatives highlight protection of resources in critical areas via NSOs and CSUs based on special designations, cultural concerns, visual concerns, and/or special status species and their habitat. This management approach allows protection of critical areas and flexibility to respond to future, unforeseen conditions.

Comments

O2-6 leasable minerals (least likely to be developed because of geology) do have a tiny range of alternatives.

O2-5 Grazing between t he alternatives is almost identical. There is no analysis of changing grazing or eliminating it in crucial areas such as anadromous and endangered fish habitat.

O2-7 The alternatives for B and C are identical with regard to ORVs. Both violate the proposed action in the Eastside Township timber sale draft EIS for the route down the American River to be closed to full-size vehicles.

O2-8 BLM misunderstands multiple-use and FLPMA. This area is crucial anadromous fish. Closing crucial areas to grazing, logging, or mining makes sense and may better meet treaty obligations. The South Fork Clearwater is a water quality limited stream and should be protected.

O2-2 Real alternatives would have had standards that are enforceable and have specific targets. For example, if the South Fork still is below its objective of reducing sediment 25% then logging entries and new road building will have to be prohibited until recovery. If fish habitat standards are not being met in these important anadromous watersheds, then logging entries, new road building, and grazing should be eliminated. This idea is similar to Appendix A in the current Nez Perce National Forest plan.

O2-2 A basic requirement of NEPA is that federal agencies must consider a reasonable range of alternative actions in an EIS. 42 U.S.C. 4332(2)(c)(iii); 40 C.F.R. 1502.14; Bob Marshall Alliance v. Hodel, 852 F.2d 1223 (9th Cir. 1988), cert. denied, 489 U.S. 1066 (1988). The range of alternatives should "sharply [define] the issues and [provide] a clear basis for choice among options by the decisionmaker and the public." Id. Under NEPA, alternatives analysis must:

(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated. ...

(c) Include reasonable alternatives not within the jurisdiction of the lead agency.

40 C.F.R. ß 1502.14 (a), (c). See California v. Block, 690 F.2d 753, 765-69 (9th Cir. 1982) (reversing EIS for failure to address reasonable range of alternatives); see also Muckleshoot Indian Tribe v. USFS, 177 F.3d 800 (9th Cir. 1999) (reversing EIS for failure to address reasonable range of alternatives).

O2-2 In the proposed RMP there is a lack of a range of alternatives--or any alternative--that suggests not logging in crucial South Fork Clearwater watersheds, that closes trails in uninventoried roadless areas, that close crucial watershed to mineral entry, and etc.

The Seventh Circuit recently explained:

No decision is more important than delimiting what these "reasonable alternatives" are. . . . One obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing "reasonable alternatives" out of consideration (and even out of existence). . . . If the agency constricts the definition of the project's purpose and thereby excludes what truly are reasonable alternatives, the EIS cannot fulfill its role. Simmons, 120 F.3d at 660.

This RMP DEIS follows that pattern mentioned by the Court. In coming up with the purpose and need, the agency has defined the issues to preclude a reasonable array of alternatives.

3. Forest Vegetation/Fire/HRV

Responses

O2-7: Both Alternatives B and C of the DRMP/ EIS identify no areas open for cross-country wheeled vehicle travel (exception over-snow vehicles). The selected action in regards to the primitive roads at north and south ends of the project area (Eastside Township project) have been changed to be the same as in the RMP. Both of these roads will be restricted to ATV travel (vehicles less than 50 inches in width).

O2-8: Thank you for your comment.

Comments

O2-9 The RMP DEIS is based largely upon a flimsy premise that the forested areas, in particular, need massive and extensive human intervention to make them healthy again. The overriding theme seems to be the forests are out of whack because of fire suppression. Of course, the changes that have taken place from logging, mining and grazing are not emphasized.

O2-10 The DEIS and associated documents are not precise in how to define forest health. Is it merely an expression of being within historical range of variability (HRV) or does it include human economic concerns as well? If the latter is the case, how can science define what is healthy since the economic values are simply that, expressions of a value system, and not based in value-neutral science? (see Walder 1995)

It becomes very difficult to subscribe to the DEIS arguments when the definitions are not precise.

The DEIS's apparent definition of HRV seems very narrow, without conclusive justification and focusing mainly on ponderosa pine types yet it would seem the DEIS maintains that the big fires of the early 1900s, natural events as far as we know, put this area outside the HRV. Thus, it would appear the HRV ought to be able to account for these events.

O2-10 What range of time is being used to determine HRV and is it long enough to be accurate? What proof is there to refute scientific findings that forest conditions in 1850 or 1900 were only a few frames and not representative of an ecological perspective that should be from two to three thousand years in length (see Walder 1995 and Johnson et. al 1994)?

The steady-state theory of ecology is inappropriate for time scales more than 200 years in length. (Webb and Bartlein 1992) Certainly, the goal is to have BLM-managed public forests in perpetuity. A time frame of 200 years only takes us back to Lewis and Clark, a time not so distant when this area was considered part of the public domain of the USA by the federal government (though disputed with the British) just as it is today.

In the mid-1800s, the event known as the Little Ice Age was ending. It may be that climatic change allowed conditions for fires like those in the early 1900s to occur and become the major determinants of the landscape of today. It is also possible that fires like those in the past century occurred on more than one occasion since the retreat of the glaciers. Paleoecological research shows the importance of climate change in governing vegetation (Webb and Bartlein 1992).

Vegetation changes seem to lag behind climate change (Johnson et al. 1994). When looking at the bigger picture that takes into account climatic shifts, and not some narrow, snapshot-in-time view, the concept of a normal fire frequency may not be valid. (Walder 1995). Research being conducted by Jennifer Pierce and others on the Boise National Forest shows this to be the case. In that case, it appears big stand-replacing events occurred in ponderosa pine forests between 900 and 1200 due to climatic conditions. (See Pierce et al. 2004)

O2-10 Given climate change and the very real possibility that site potential for various types have changed (soil pH and chemistry, moisture, soil temperature) because of it, the view of HRV on anything less than a time scale that takes into account climate shifts may be inadequate. That is especially true given the dramatic and scientifically documented increases in global temperature over the past few years. The

O2-10 past decade was the warmest on record. Again, the DEIS does not adequately define the HRV so it is impossible to assess the assumptions behind the HRV.

O2-11 Questions need to be asked about the effects of climate change, logging, and fire suppression in this

Responses

O2-9: Research indicates that logging, roads, and other human disturbances can promote the spread of diseases and insect infestations (BLM and Forest Service 1997). The ICBEMP also concludes that the exclusion of fire combined with the harvesting of shade-intolerant trees has resulted in a shift of forest dominance to smaller shade-tolerant trees that are more susceptible to insects, disease, stress, and wildfire. Refer to DRMP/EIS Table 3-16 which describes the current status of the CFOs lands relative to their departure from historic conditions. This indicates that the current conditions are moderately to highly departed from historic conditions. For the forested areas, this departure is quantified in the DRMP/EIS Table 3-4 where forest inventories measured a 1,545% increase in suppressed trees per acre and greater than 90% increase in understory stocking and mortality trees per acre. The design of the RMP is to return resiliency to forest stands. Given the current departure, intervention is a tool available to achieve this goal.

O2-10: Definitions for "Forest Health" and "Historic Range of Variability (HRV)" have been added to the Glossary of the PRMP/FEIS. HRV was determined from the ICBEMP science finding, which has scientific research supporting its conclusions.

Walder 1995 includes many discussions of vegetation conditions for the last 10,000 years and tries to explain HRV in terms of "evolutionary time." This information is irrelevant to the timeframe the CFO RMP uses for "pre-settlement" conditions.

The conclusion of the Johnson et al. 1994 paper is that "large-fire years" defined by the total acres burned is related to weather systems and their effects on drying of forest fuels over large areas. The article mentions that there was a large-scale shift in fire frequencies in the mid-1700s related to climate change associated with the Little Ice Age. There is no mention

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Responses
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O2-10 (continued): of HRV. The article would appear to support the concept that 1850 or 1900 would be a better representation of historic conditions than those of 2,000 to 3,000 years ago given the Little Ice Age climate change.

O2-11: Refer to the response to Comment Number O2-22.

Comments

O2-11 area. It is possible that all have irrevocably altered site potential.

For example, Tiedemann et. al. (2000) challenge the use of historic range of conditions and call into question the whole notion that we can, or even should, try to replicate such conditions by stating:

Nearly 100 years of fire exclusion, possible climate changes, and past management practices may have caused these communities to cross thresholds and to reside now in different steady states.

It may be impossible to differentiate between the roles played by climate change and fire suppression. Some research suggests that the effects of both may be similar.

O2-12 The BLM must not misplace the threats to clean water onto vegetative conditions instead of correctly identifying the true threats to watershed health. The Western Montana Level I Bull Trout Team (see Riggers et al. 2001) cites important research on the topic of fish habitat and fires notes:
(T)he real risk to fisheries is not the direct effects of fire itself, but rather the existing condition of our watersheds, fish communities, and stream networks, and the impacts we impart as a result of fighting fires. Therefore, attempting to reduce fire risk as a way to reduce risks to native fish populations is really subverting the issue. If we are sincere about wanting to reduce risks to fisheries associated with future fires, we ought to be removing barriers, reducing road densities, reducing exotic fish populations, and re-assessing how we fight fires. At the same time, we should recognize the vital role that fires play in stream systems, and attempt to get to a point where we can let fire play a more natural role in these ecosystems.

The biologists emphasize, the importance of wildfire, including large-scale, intense wildfire, in creating and maintaining stream systems and stream habitat. The biologists continue in most cases, proposed projects that involve large-scale thinning, construction of large fuel breaks, or salvage logging as tools to reduce fuel loading with the intent of reducing negative effects to watersheds and the aquatic system are largely unsubstantiated. The biologists point out that logging, thinning and fire suppression can have harmful effects on watersheds (Id.). We ask that the FS explicitly consider Riggers et al., 2001 in the FEIS.

O2-12 Simply put, the assumption that fuel build-up threatens watershed integrity is not supported by the facts. There are incredible differences between press and pulse disturbances (see the USFSs South Fork Landscape Assessment) in these watersheds that the agency must not ignore. Furthermore, the

O2-13 assumptions that fuel build-ups are the main determinant of fire severity (based on another assumption that posits more severe fires have greater impacts on watersheds) is also suspect. Research suggests that climate rather than fuel is the main determinant of fire severity and that fire suppression, as a reason for fuel build-up in certain forest types, may not be valid. (See Turner M. et al 1994 and 1994a).

O2-14 Any forest condition that is maintained through intense mechanical manipulation is not maintaining ecosystem function. We request site-specific disclosure of the historical data used to arrive at any assumption of desired conditions. We do not believe the proposed management activities are designed to foster the *processes* that naturally shaped the ecosystem and resulted in a range of natural structural conditions, they are merely designed to recreate what the agency believes were structural *conditions in a single point* in time that the FS considers natural. Generally, past process regimes are better understood than past forest structure. How are you factoring in fire, insects, tree diseases, and other natural disturbances in specifying the structural conditions you assume to be representative of the historic

Responses

O2-12: The DRMP/EIS does not imply that fire risk and fuel build-up is the primary risk to native fish populations. The DRMP/EIS identifies the following on page 3-28: "Historic aquatic and watershed conditions ranged from highly disturbed to highly stable. It is assumed that the landscape is constantly changing, either by natural or human caused events, or both. The influence of human activities on natural watershed processes and recognition of the natural range of variability is critical for evaluation of watershed conditions. Insect/disease impact on forests, drought, large fires, floods, and debris torrents interact with human-caused disturbances such as timber harvest, roads, mining, livestock grazing, and development to either accentuate or lessen the intensity and duration of natural disturbance (Lee et al. 1997)."

O2-13: As noted in Section 3.2.12 in the DRMP/EIS, fire suppression efforts and resource management activities have influenced the structure and composition of these forest woodland vegetation types. Table 3-4 in the DRMP/EIS shows that between 1974 and 1992 there has been substantial increases in number of live trees per acre, suppressed trees per acre (both are fuel ladders), and number of dead trees per acre. ICBEMP shows that continuing current management would lead to a decline in ecological integrity. The function and process of the ecological process has changed. The risk and severity of fire continues to grow. Whereas lethal fires played a lesser role in the past on the landscape, lethal fires now exceed non-lethal fires.

BLM agrees that weather does play a role in stand replacing or severe fires especially with drought conditions that have persisted; however, research suggests that there is still uncertainty to impacts from global warming. Research also suggests that wildfire behavior is influenced by physical setting (local to regional topography and terrain features) and fuels

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O2-13 (continued): (composition, structure, moisture content of dead and live vegetation and detritus) (Rothermel 1983, Chandler and others 1991, Debano and others 1998, Graham and others 1999 In Graham, McCaffrey and Jain, 2004).

Also refer to the responses to Comment Numbers O2-15 and O2-22.

O2-14: The data used during development of the DRMP/EIS is in the administrative record and is available for review. Please refer to response to Comment Number O2-10. Fire, insects, disease and other natural disturbances are considered in HRV. The alternatives presented would attempt to put the forest in a condition where the effects from natural disturbances are less damaging.

Comments

O2-14 range?

O2-15

In attempting to replicate some as yet to be defined HRV, the DEIS adopts a strategy nearly identical to the logging of the past which resulted in forest fragmentation and the conditions of today. It rejects natural fire as a component of the landscape in many areas and offers little opportunity for the BLM to cooperate with the Forest Service on natural fire plans.

The irony is this: BLM in the RMP DEIS apparently blames fire suppression as the reason for vegetation change yet wants to continue along that same fire suppression path. While the agency may need to be careful in areas immediately adjacent to structures (see Cohen 1999), some of the more remote areas, including land east of Elk City and possibly even Lolo Creek, can allow natural processes to shape their character. BLM has completely rejected this alternative.

Regarding fire, Hutto (1995) states:
Fire (and its aftermath) should be seen for what it is: a natural process that creates and maintains much of the variety and biological diversity of the Northern Rockies.

This statement, carefully considered, calls into question the whole BLM rationale for managing wildfire as it has historically managed it. Rather than trusting nature to right the wrongs perpetrated by past misguided BLM policies, the BLM now insists upon managing itself out of the supposed unnatural conditions created by its own mismanagement, a kind of administrative hubris specifically addressed by Hutto (1995):
Fire is such an important creator of the ecological variety in Rocky Mountain landscapes that ***the conservation of biological diversity*** [a goal in the RMP and of FLPMA] ***is likely to be accomplished only through the conservation of fire as a process***ŠEfforts to meet legal mandates to maintain biodiversity should, therefore, be directed toward maintaining processes like fire, which create the variety of vegetative cover types upon which the great variety of wildlife species depend.

Unfortunately, we are not currently managing the land to maintain the kind of early successional seral stages that follow stand-replacement fires and, hence, many fire-dependent plant and animal species. . . . Most of the forested landscape in the northern Rockies evolved under a regime of high-intensity, large fires every 50-100 years, **not under a regime of low-intensity, frequent understory burns.** (emphasis added)

O2-15

That last point is crucial. BLM is trying to apply a model that does not fit the landscape. BLM further errs in suggesting that fire suppression has been effective for decades. That is completely inaccurate, the huge 1910 fires occurred 94 years ago. The huge fires in 1934 occurred just over 70 years ago. Indeed, agency figures--figures no longer posted on agency websites--suggest fire suppression, in terms of acreage burned, did not become effective until about 1950.

The assumptions about vegetation, pre-1900s and fire frequency may be incongruous. In other words, it seems a bit of a stretch for the landscape and seral stages to be what they supposedly were pre-1900 under the fire regimes and other physical factors supposedly present in this area. Stochastic modeling could give an idea if that is indeed the case.

O2-16

The same kind of modeling could also give us an idea of the time frames it would take, under the various alternatives, for the FO area to regain the HRV the agency says the ecosystem previously operated within (again, that HRV would have to be defined). In other words, will the proposed treatments indeed emulate natural processes prevent stand-replacing fire when natural processes didnt do so in the early 1900s (long before massive logging or so-called fire suppression), the very events that created the stands of lodgepole that are quite prevalent in the area?

Responses

O2-15: The DRMP/EIS is different than the Chief Joseph Management Framework Plan (BLM 1981a) under which the BLM CFO is currently operating. The Management Framework Plan places emphasis on meeting an allowable sale quantity. The DRMP places emphasis on returning the forest to historic species composition, structure, and function (see the Goal for Vegetation – Forests). Removal of forest products would be a result of the treatment applications applied, not the purpose for applying the treatment.

Use of natural fire (WFU) is not rejected and is, in fact, considered in all Alternatives (see Wildland Fire Management, Objective 1, Action 3 in the DRMP/EIS). Prior to applying fire use to a wildland fire, an implementation plan must be developed and approved.

The BLM's fire suppression strategy is to use the appropriate management response to each wildfire in accordance with the priorities and protocols described in Appendix H of the DRMP/EIS. This includes direct and indirect attack, as well as containment strategies.

The fuels management program described in the DRMP/EIS is designed to achieve forest characteristics more representative of historic conditions, as long as they support protection of human, cultural, and natural resources. At the same time, the BLM must preserve and restore listed species habitat. The fire management actions described in the alternatives were developed to give BLM staff the flexibility needed to respond to an altered landscape, evolving resource needs, and a changing regulatory environment.

The BLM agrees that natural fire regimes are the objective outside the wildland urban interface and, where feasible, plans to use fire, prescribed and natural, as well as other tools to achieve this goal (DRMP/EIS Wildland Fire Management,

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Responses
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O2-15 (continued): Objective 3, Action 3). The issue is complicated by landownership patterns, human habitation, current forest species composition, past management actions, and public sentiment. Alternatives A and C (DRMP/EIS Wildland Fire Management Objective 1, Action 3) provide for all wildland fires to be considered for WFU. The remaining Alternatives provide for WFU in specific areas.

O2-16: The timeframe analyzed for the DRMP in the DEIS is approximately 15 years, and the effects on HRV (as measured by FRCC) are indicated in the analysis at the end of the 15-year analysis period. Assuming the anticipated treatments are fully implemented, the effectiveness or restoring FRCC 1 varies from 12% of the area to 40% of the area (see Table 4-20 in the DRMP/EIS). Across the field office, it is unlikely that HRV will be fully restored, although the RMP provides direction to attempt to restore and maintain some large areas in FRCC 1.

Comments

The fact that areas may have missed some fire cycles may not be important at all for a couple of reasons. First, is the predominance of lethal fire in the area like in 1910 which sets the successional stages at levels far different than those the agency claims are historic. This is true for ponderosa pine types as well in this area which tend to be a bit wetter than the more typical ponderosa pine types further south. Second, is the fact that these cycles are not hard and fast This second question is addressed briefly below.

O2-17 Other models of fire regimes need to be considered. Some research suggests, even in the most studied ponderosa pine fire types that fire return intervals are far from certain and may be far different (if valid at all) than previously believed. Baker and Ehle (2001) note in the abstract of their recent peer-reviewed paper note:

Present understanding of fire ecology in forests subject to surface fires is based on fire-scar evidence. We present theory and empirical results that suggest that fire-history data have uncertainties and biases when used to estimate the population mean fire interval (FI) or other parameters of the fire regime. First, the population mean FI is difficult to estimate precisely because of unrecorded fires and can only be shown to lie in a broad range. Second, the interval between tree origin and first fire scar estimates a real fire-free interval that warrants inclusion in mean-FI calculations. Finally, inadequate sampling and targeting of multiple-scarred trees and high scar densities bias mean FIs toward shorter intervals. In ponderosa pine (Pinus ponderosa Dougl. ex P. & C. Laws.) forests of the western United States, these uncertainties and biases suggest that reported mean FIs of 225 years significantly underestimate population mean FIs, which instead may be between 22 and 308 years. We suggest that uncertainty be explicitly stated in fire-history results by bracketing the range of possible population mean FIs. Research and improved methods may narrow the range, but there is no statistical or other method that can eliminate all uncertainty. Longer mean FIs in ponderosa pine forests suggest that (i) surface fire is still important, but less so in maintaining forest structure, and (ii) some dense patches of trees may have occurred in the pre-Euro-American landscape. Creation of low-density forest structure across all parts of ponderosa pine landscapes, particularly in valuable parks and reserves, is not supported by these results.

O2-18 Given this research, the concept of HRV may not be valid. In fact, the agency needs to take a look at all the assumptions behind the HRV and compare them with the differences in the scientific literature.

The Baker and Ehle paper calls into question the use of fire scars in establishing mean fire intervals and suggests that previous reports based upon fire scars may be biased. Most research is based upon fire scars.

More recent research supports this finding. (See Baker et al. 2006). This research suggests the opposite of what BLM is suggesting by treating (logging) 40% of the FO in five years. This research suggests that restoration is best accomplished by fire, that tree increased tree densities are not necessarily unnatural, that logging and grazing are mostly to blame for any changes in forest structure in the ponderosa/Douglas fir types, ORIGINAL
ARTICLE

O2-18 Regardless of whether the plethora of research we have provided you is right, simplistic views of fire regimes presented in the DEIS are right about fire regimes, or none are right, or all have validity, the fact remains these scientists appear to have a considerably different view of ponderosa pine and Douglas fir systems, than does BLM. The same questions need to be asked about other forest types as well. This should have been fully recognized and evaluated in the RMP DEIS.

Responses

O2-17: The analysis and management actions are not based solely on fire regimes, but also include species composition, stand density, structure, and available fuels. The alternatives and actions in the DRMP/ EIS are based on the best information available to BLM staff, as well as their institutional knowledge of on-the-ground conditions. The DRMP/EIS also allows for incorporating evolving research and technology to make these determinations.

O2-18: Regarding HRV, please refer to the response to Comment Number O2-10. Also, see the response to Comment Number O2- 17. The analysis and management actions are not based solely on fire regimes, but also include species composition, structure, stand density, and available fuels. Additionally, logging is not proposed on 40% of the CFO. Please refer to the response to Comment Number I7-4.

Comments

What peer-reviewed scientific studies refute a plethora of scientific studies and papers, including studies by the your sister agency, the Forest Service, which note that most northern Rocky forests, including most of the types found in this analysis area are within healthy HRV? (see Turner and Romme 1994, Hutto 1995, Barrett et al. 1991, Weir et al. 1995, Ament 1997). What scientific evidence refutes the findings in Ament (1997) where he quotes from Hutto (1995), that, the origin of most Rocky Mountain forest stands can be traced to stand-replacement fires instead of mild understory burns? What evidence is there that refutes the plethora of studies, including the Forest Services fire categories, that stand-replacement fire is normal for many forest types?

Many timber sales in the past few years in the interior West have claimed a need to return conditions to a "pre-settlement" status. We question the authenticity of this model and cite two references that seem to refute the idea that our forests were far more open. The John Lieberg reports from 1897-9, part of the US Geological Surveys of the 1890's indicate stand densities, species by type and size, and contain photographs and descriptions of forest reserves in North Idaho, including the Priest River, Bitterroot and Coeur d'Alene areas. They clearly show high stem densities, many snags and burnt areas and few open stands. The Skovlin and Thomas report Interpreting Long-Term Trends in Blue Mountain Ecosystems from Repeat Photography, Pacific Northwest Research Station PNW GTR-315, June 1995, shows many photos from 60-80 years ago with stands that are very dense, as well as many stands that appear to be recently burned. In the case of both the USGS John Lieberg reports and the Blue Mountain report there is little evidence of the widely spaced forest that current BLM timber sales are trying to attain. We believe the bias toward logging has unduly influenced forest management and that an honest appraisal of
O2-19 stand succession, historic processes and desired future condition must be made.

The DEIS indicates that large stand-replacing fires are not desired. Yet, they were in the range of variability and the DEIS seeks to replay the lodgepole pine cycle.

The attempts at breaking up the landscape to prevent or reduce large, stand-replacing fires may be useless. If not, there is no real need to create anymore breaks in the landscape as any aerial photograph or satellite imagery will attest much has already occurred, especially in the South Fork Clearwater River drainage. In any case, Cohen (1999) suggests that to protect buildings and structures, anything beyond
O2-20 100 meters is not efficient. His research suggests that for purposes of community structure protection, the WUI is only 100 meters or so wide.

The DEIS fails to analyze some important findings about logging and fire. Both the Sierra Nevada and Interior Columbia Basin Ecosystem Management Projects found that logging was a major reason for
O2-21 increased intensity and severity of wildland fire. Della Sala et al (1995 and 1995a) and Henjum et al. (1994) agree that scientific evidence does not support the hypothesis that logging, thinning, minimize the effects of fire.

That leads to another issue. Lodgepole pine (in fire groups three and four, see Smith and Fischer 1997) are in stand-replacing fire regimes (Cooper et al. 1991, Barrett 1982 and Green 1994 in Smith and
O2-22 Fischer 1997). Research from lodgepole pine in Yellowstone found stand-replacing or severe fires are a function of weather, not fuel load (Turner et al. 1994). This contradicts the main assumption in the DEIS based upon forest structure and VRUs.

The DEIS, in one of its schizophrenic incarnations, presents a version of history that is speculative, at best, given the information--the science is not definitive on historical conditions, though the DEIS
O2-23 pretends it is. The belief that small, cool fires shaped the landscape of North Idaho is not consistent with the data, especially the events on the early 1900s. The belief that fire suppression everywhere has led to hotter fires currently is not consistent with the burn intensity and severity of recent fires (see for example, the Beaver Lakes complex fire BAER report of 2003 from the adjacent Clearwater National

Responses

O2-19: Large stand-replacing fires are not desired in the WUI or in vegetation types where stand-replacing fire is not the historic fire regime (regardless of the fire return interval). Although within the HRV, stand replacing fire may result in severe impacts to other resources including habitat for endangered fish species.

O2-20: Refer to the response to Comment Number I2-2.

O2-21: Research does show that thinning can minimize the effects of fire. Thinning from below and possibly free thinning can most effectively alter fire behavior by reducing crown bulk density, increasing crown base height, and changing species composition to lighter, crown-fire adapted species. Such intermediated treatments can reduce the severity and intensity of wildfires for a given set of physical and weather variables (Graham, Harvey, Jain, and Tonn 1999).

While it is reasonable to agree that fires will spread through managed forests, and that extreme weather conditions can overshadow benefits of fuel reduction, the evidence provided does not make the case that salvage, thinning, and logging, when designed to reduce fuel hazards and implemented as planned, do not reduce the risk of unnaturally large or severe wildland fires. It is standard practice and knowledge in the wildland firefighting community that containment opportunities and efforts are generally far more successful and safer for both the public and firefighters in areas that have been managed in the past. When management activities reduce fuel load and continuity, they can alter existing fire behavior. This is dramatically illustrated in the Moose Fire Progression maps from 2001. This fire, in the course of making major runs of 15,000 plus acres, split at the head and burned around both sides of an area that was burned in the 1980's (http://www.nps.gov/glac/resources/fires_2001/moose/index.htm).

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Responses
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O2-21 (continued): Henjum et al. 1994 is a "Report to Congress" about old growth forest management in forests east of the Cascade crest in Washington and Oregon. In the summary of the report, the statement is made that, "Many ecologists believe that the combined effects of logging old growth and fire prevention have significantly increased the vulnerability of Eastside landscapes to catastrophic disturbances…." The report states that, "Salvage (removing dead, fallen woody materials) and thinning (cutting small live trees) are two legitimate techniques – but not the only ones – for lowering risk from such disturbances..." (referring to drought, fire, insects, and pathogens) and states that "no consensus exists on silvicultural practices for minimizing effects… on the conditions under which LS/OG (late-successional/old growth) should be entered…." The report challenges that "scientific evidence does not support the hypothesis that logging, thinning, minimize the effects of fire."

O2-22: The BLM agrees that weather does play a role in stand-replacing or severe fires; however, research also suggests that wildfire behavior is influenced by physical setting (local to regional topography and terrain features) and fuels (composition, structure, moisture content of dead and live vegetation and detritus) (Rothermel 1983, Chandler and others 1991, Debano and others 1998, Graham and others 1999 *In* Graham, McCaffrey and Jain 2004).

The subject of Turner et al. 1994 is the relationship between crown fire and landscape pattern. You are correct about what this paper says about Yellowstone fire return intervals (200 to 400 years from Romme 1982, and Romme and Despain 1989). The paper also indicates that the fire return interval for western Montana and northern Idaho (the CFO RMP planning area) is 90 to 150-plus years based on Arno 1980. The implication in the paper regarding the effect of weather on fire regime is specifically related to New Mexico, Arizona, and Colorado. The "research in Yellowstone" concerning altered fire regimes was attributed to a "non-equilibrium landscape." In the article, a landscape in equilibrium is one where "…distributions of stand age classes or successional stages that show little or no change over time." The paper does not discuss the condition of northern Idaho's lodgepole pine forest as being in equilibrium or not. A critical element to the understanding and use of information in this article is to remember that "crown fire" can not be directly translated to mean "high intensity" or "stand replacing." Stand-replacing fires are often low intensity, and stand-replacing fires are not always crown fires.

O2-23: The HRV was determined from the ICBEMP science finding, which has scientific research supporting its conclusions. The ICEBMP uses local and regional information.

The information presented in Section 3.2.12 of the DRMP/EIS uses information provided by GAP, ICBEMP, BLM, and US Forest Service.

Table 3-16 in the DRMP/EIS shows that the Dry Conifer comprises approximately 46% of the two major forest vegetation types and is in a Historic Fire Regime I that generally has low-severity fires (small cool fires). The Wet/Cold Conifer comprises approximately the remaining 24% of the two major forest vegetation types and is in Historic Fire Regime IV that has stand-replacement severity fires.

From GAP analysis, Table 3-16 also shows that the Dry Conifer vegetation is in a Fire Regime Condition Class 3 and the Wet/Cold Conifer type is in a Fire Regime Condition Class 2. Neither are in Fire Regime Condition Class I but instead are considered to be unhealthy, nonfunctioning, and at risk for losing key ecosystem components.

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Responses
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O2-23 (continued): Refer also to the response to Comment Number O2-13.

The BAER report provides estimates of burn severity on National Forest and Plum Creek Timber Company. The report indicates that Plum Creek lands had a higher percentage of moderate and high burn severity than the National Forest. The report authors attribute the outcome to "the presence of red logging slash on portions of their [Plum Creek] land." The report goes on to say that "slope, aspect, fuel loadings, and the type of vegetative cover present when the fire burned influenced the severity of the burn." The report does not address fire suppression effect on fire severity. The report also does not indicate whether National Forest lands were logged.

Comments

O2-23 Forest that showed the logged private lands burned much hotter than the unlogged national forest). Even if it were true fires are burning hotter now, there is considerable evidence it is because of climate change, not fuel amounts.

O2-24 It is difficult to evaluate the impacts on vegetation because of the confusing array of habitat or vegetation typing. VRUs dont correlate well with other methods and dont fit in with the habitat types found in Forest Service literature on fire regimes (see Smith and Fischer 1997).

In any case our knowledge of past conditions is limited. Hayward indirectly addresses these topics (Hayward 1994):
Despite increased interest in historical ecology, scientific understanding of the historic abundance and distribution of montane conifer forests in the western United States is not sufficient to indicate how current patterns compare to the past. In particular, knowledge of patterns in distribution and abundance of older age classes of these forests in not available. ŠCurrent efforts to put management impacts into a historic context seem to focus almost exclusively on what amounts to a snapshot of vegetation historya documentation of forest conditions near the time when European settlers first began to impact forest structure. ŠThe value of the historic information lies in the perspective it can provide on the potential variationŠ I do not believe that historical ecology, emphasizing static conditions in recent times, say 100 years ago, will provide the complete picture needed to place present conditions in a proper historic context. Conditions immediately prior to industrial development may have been extraordinary compared to the past 1,000 years or more. Using forest conditions in the 1800s as a baseline, then, could provide a false impression if the baseline is considered a goal to strive toward.

O2-25 Some species of trees, native insects, and disease organisms are often described by the agency as invasive or somehow bad for the ecosystem. Such contentions that conditions are somehow unnatural runs counter to more enlightened thinking on such matters. For example, Harvey et al., 1994 state:

Although usually viewed as pests at the tree and stand scale, insects and disease organisms perform functions on a broader scale.

ŠPests are a part of even the healthiest eastside ecosystems. Pest roles such as the removal of poorly adapted individuals, accelerated decomposition, and reduced stand density may be critical to rapid ecosystem adjustment

ŠIn some areas of the eastside and Blue Mountain forests, at least, the ecosystem has been altered, setting the stage for high pest activity (Gast and others, 1991). This increased activity does not mean tha the ecosystem is broken or dying; rather, it is demonstrating functionality, as programmed during its developmental (evolutionary) history.

O2-26 The vegetation section seems to suggest logging as a way to reduce insect and disease damage to timber stands. As far as we are aware, the BLM has no empirical evidence to indicate its treatments for forest health decrease, rather than increase, the incidence of insects and diseases in the forest. Since the BLM doesnt cite research that proves otherwise in this RMP DEIS we can only conclude that forest health discussions are unscientific and biased toward logging as a solution. Please consider the large body of research that indicates logging, roads, and other human caused disturbance promote the spread of tree diseases and insect infestation.

For example, multiple studies have shown that annosus root disease (Heterobasidion annosum, formerly named Fomes annosus), a fungal root pathogen that is often fatal or damaging for pine, fir, and hemlock in western forests, has increased in western forests as a result of logging (Smith 1989). And researchers have noted that the incidence of annosus root disease in true fir and ponderosa pine stands increased

Responses

O2-24: VRU (vegetation response units) are not used in the Cottonwood DRMP/EIS. Table 3-5 of the DRMP/EIS shows the crosswalk between vegetation types and cover types.

O2-25: Native forest vegetation (which does not include weeds), insects, and diseases are not referred to as “invasive,” “pests,” or “bad” in the DRMP/EIS.

Reference is made to terms such as “generally poor” and “poor” to describe forest condition.

O2-26: There is research that suggests human disturbances can promote the spread of some diseases and insect infestations (BLM and Forest Service 1997). Logging is not meant as an equivalent to land treatment actions. Rather, logging may be part of the land treatment action to recover commercial forest products (e.g., hew wood, sawlogs, hog fuel). Under Alternatives B, C, and D, the BLM proposes a variety of silvicultural treatments including thinning and prescribed fire to reduce insect and disease damage to timber stands.

Treatments could be designed to reduce the number of trees that are susceptible to insect and disease mortality. Also, stress from overstocking and drought is a known contributor to insect and disease mortality, and reducing stand density has been shown to reduce stress from nutrient and water competition. As an example, research has shown that thinning overly dense forests before rather than after an outbreak has started is one of the best methods of reducing infestation and preventing mortality caused by bark beetles on residual trees (Sartwell and Stevens 1975; Cole and Cahill 1976; McDowell et al. 2003).

Comments

with the number of logging entries (Goheen and Goheen 1989). Large stumps served as infection foci for the stands, although significant mortality was not obvious until 10 to 15 years after logging (Id.).

The proportion of western hemlock trees infected by annosus root disease increased after precommercial thinning, due to infection of stumps and logging equipment wounds (Edmonds et al. 1989, Chavez, et al. 1980).

Armillaria, a primary, aggressive root pathogen of pines, true firs, and Douglas-fir in western interior forests, spreads into healthy stands from the stumps and roots of cut trees (Wargo and Shaw 1985). The fungus colonizes stumps and roots of cut trees, then spreads to adjacent healthy trees. Roots of large trees in particular can support the fungus for many years because they are moist and large enough for the fungus to survive, and disease centers can expand to several hectares in size, with greater than 25% of the trees affected in a stand (id.). Roth et al. (1980) also noted that Armillaria was present in stumps of old-growth ponderosa pine logged up to 35 years earlier, with the oldest stumps having the highest rate of infection.

Filip (1979) observed that mortality of saplings was significantly correlated to the number of Douglas-fir stumps infected with Armillaria mellea and laminated root rot (Phellinus weirii). McDonald, et al. (1987) concluded the pathogenic fungus Armillaria had a threefold higher occurrence on disturbed plots compared to pristine plots at high productivity sites in the Northern Rockies. Those authors also reviewed past studies on Armillaria, noting a clear link between management and the severity of Armillaria-caused disease.

Morrison and Mallett (1996) observed that infection and mortality from the root disease Armillaria ostoyae was several times higher in forest stands with logging disturbance than in undisturbed stands, and that adjacent residual trees as well as new regeneration became infected when their roots came into contact with roots from infected stumps.

Pre-commercial thinning and soil disturbance led to an increased risk of infection and mortality by black-stain root disease (Leptographium wageneri) in Douglas-fir, with the majority of infection centers being close to roads and skid trails (Hansen et al. 1988). Also another Black-stain root disease (Verticicladiella wagenerii) occurred at a greater frequency in Douglas-fir trees close to roads than in trees located 25 m or more from roads (Hansen 1978). Witcosky et al. (1986) also noted that precommercially thinned stands attracted a greater number of black-stain root disease insect vectors.

Complex interactions involve mechanical damage from logging, infestation by root diseases, and attacks by insects. Aho et al. (1987) saw that mechanical wounding of grand fir and white fir by logging equipment activated dormant decay fungi, including the Indian paint fungus (Echinodontium tinctorium).

Trees stressed by logging, and therefore more susceptible to root diseases are, in turn, more susceptible to attack by insects. Goheen and Hansen (1993) reviewed the association between pathogenic fungi and bark beetles in coniferous forests, noting that root disease fungi predispose some conifer species to bark beetle attack and/or help maintain endemic populations of bark beetles.

Goheen and Hansen (1993) observed that live trees infected with Laminated root rot (Phellinus weirii) have a greater likelihood of attack by Douglas-fir beetles (Dendroctonus pseudotsugae). Also, Douglas-fir trees weakened by Black-stain root disease (Leptographium wageneri var. pseudotsugae) are attacked and killed by a variety of bark beetle species, including the Douglas-fir bark beetle (D. pseudotsugae) and the Douglas-fir engraver (Scolytus unispinosis) (id.).

Responses

Comments

The root disease Leptographium wageneri var. ponderosum predisposes ponderosa pine to several bark beetle species, including the mountain pine beetle (D. ponderosae) and the western pine beetle (D. brevicomis) (Goheen and Hansen 1993).

A variety of root diseases, including black-stain, Armillaria, and brown cubical butt rot (Phaeolus schweinitzii), predispose lodgepole pine to attack by mountain pine beetles in the interior west. The diseases are also believed to provide stressed host trees that help maintain endemic populations of mountain pine beetle or trigger population increases at the start of an outbreak (Goheen and Hansen 1993).

Grand and white fir trees in interior mixed-conifer forests have been found to have a high likelihood of attack by the fir engraver (Scolytus ventralis) when they are infected by root diseases, such as laminated root rot, Armillaria, and annosus (Goheen and Hansen 1993).

More western pine beetles (Dendroctonus breviformis) and mountain pine beetles (D. ponderosae) were captured on trees infected by black-stain root disease (Ceratocystis wageneri) than on uninfected trees (Goheen et al. 1985). The two species of beetle were more frequently attracted to wounds on trees that were also diseased than to uninfected trees. They also noted that the red turpentine beetle (Dendroctonus valens) attacked trees at wounds, with attack rates seven-to-eight times higher on trees infected with black-stain root disease than uninfected trees. Spondylis upiformis attacked only wounded trees, not unwounded trees (Id.).

3. Minerals

O2-27 None of the alternatives propose a no-leasing option for any sensitive areas other than the existing areas. Rather, BLM proposed a no surface-occupancy lease. However, lease stipulations do not always hold. NSO stipulations can be chanced and amended. At a very minimum, one alternative that closed off sensitive areas like roadless areas and anadromous fish habitat around Elk City, Lolo Creek, all of the Salmon and Little Salmon River corridors, Marshall Mountain and crucial winter range areas to leasing should have been considered.

O2-28 Similarly, few areas are proposed to be segregated or withdrawn from mineral entry. There are no alternatives. Given the ecological importance, wildness, and recreation values of areas like Marshall Mountain, riparian habitat in and around the upper South Fork (American River), roadless areas, the entire Little Salmon and Salmon River corridors, and Lolo Creek, at a minimum should be withdrawn from leasing, location and sale.

4. Travel Planning

O2-29 The RMP DEIS offers little alternative for non-motorized users. Closures for Lolo Creek are positive but should be expanded.

O2-30 No alternatives look at closing routes that have significant resource damage. Around Elk City, many of the routes used are not roads under the FLPMA designation yet open to use. This violates FLPMA, NEPA, and the Executive Orders on ORV use.

O2-31 There should be an alternative that closes the non formal routes East of Elk City (Telephone Creek, Queen Creek, American below Box Sing Creek), the Marshall mountain area except designated roads.

O2-32 The DEIS/RMP is not clear regarding snowmobiles. Contrary to what is stated in the document, snowmobiles cause vegetation and other damage though snow compaction. Also, snowmobile impacts

Responses

O2-27: The DRMP/EIS is intended not to propose actions specific to any particular project, but to propose and evaluate actions that encompass the range of possible projects that could occur throughout the life of the RMP. The DRMP/EIS is intended to be flexible and provide a framework for a range of project-specific options.

The leasing of minerals on public lands is a discretionary act; thus, the BLM will determine prior to issuing any exploration license if an area needs special protection, hence the NSOs and CSUs developed during the RMP process. Areas designated as WSAs are closed to leasing (H-8550-1, Interim Management Policy for Lands Under Wilderness Review) until Congress makes a determination on its status. If an area achieves Wilderness status, then it remains withdrawn from the leasing laws. If Congress does not designate the area as Wilderness, then the RMP recommends specific management prescriptions for each of these areas. In the case of Snowhole Rapids WSA, it would be closed to mineral location and leasing. In the case of Marshall Mountain WSA, it would be open to mineral location and open to mineral leasing with NSO restrictions (on all acres) and CSU restrictions (on 74 acres). See Chapter 2, Wilderness and Wilderness Study Areas Management, Objective 2 and its accompanying actions. It is true that these stipulations can be excepted or waived, but that is a determination made at the project level.

O2-28: The fact that a specific action is not mentioned in the DRMP/EIS does not preclude it from happening. If Congress designates the Snowhole Rapids or Marshall Mountain WSAs as Wilderness, they will be withdrawn from mineral entry, leasing, and sale. The RMP's focus is to prescribe management direction to ensure the area retains its wilderness values until Congress determines its status (H-8550-1, Interim Management Policy for Lands Under Wilderness Review). If Congress does not designate the area as Wilderness, then the RMP provides management direction that will protect identified special

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Responses
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O2-28 (continued): status species and unique environments while balancing the BLM's mission of multiple use of the public lands. Please also see response to Comment Number O2-27.

O2-29: All areas designated under the ROS system as non-motorized were developed from internal and external scoping during the planning process. The areas designated as non-motorized are deemed to be the areas where a reasonable amount of solitude and remoteness are physically possible. The areas designated as motorized are generally those areas which have general public motorized use on routes which are not controlled by BLM.

O2-30: Under the agency preferred alternative in the DRMP/EIS, Alternative B, the lands around Elk City would be designated as "Motorized Vehicle Travel Limited to Designated Routes" (see Figure 33 in the DRMP/EIS). By designating the areas as "Motorized Travel Limited to Designated Routes," the BLM retains the opportunity to change route designations in the future should the BLM determine that particular routes have significant resource damage. See criteria in Transportation and Travel Management, Objective 3 and all accompanying actions under Alternatives B, C, and D in the DRMP/EIS.

O2-31: Additional routes can be closed or have additional vehicle restrictions as a result of project specific analysis, as stated by the RMP travel management direction.

O2-32: Transportation and Travel Management, Objective 1, Actions 6 and 7 in the DRMP/ EIS prescribe management of over-snow motorized use, including snowmobiles. In summary, 100,861 acres would be open to over-snow motorized travel under all alternatives, and the 24,884-acre Craig Mountain WMA would limit over-snow motorized travel be to designated routes and areas. Under no alternatives are we proposing an increase in groomed snowmobile trails. Please refer to the response to Comment Number O2-34.

Wildlife and Special Status Wildlife, Objective 8, Actions 1 through 5 in the DRMP/EIS and site specific project analysis for wolverine would be conducted for BLM discretionary actions involving snowmobile use.

Comments

O2-32 on TES species like wolverine and lynx are well documented in the literature (see LCAS). The failure to address impacts to lynx and other species violates NEPA, the ESA and FLPMA.

5. Wildlife

The RMP DEIS does a poor job in protecting wildlife. A couple of examples illustrate this point.

O2-33 First, the elk guidelines are removed under all action alternatives. Thus, it would appear there will no longer be any enforceable standard to keep specific miles of road or motorized trail per square mile of land or a similar habitat effective measure for various areas.

O2-34 The RMP DEIS offers little protection for sensitive and listed wildlife species like lynx, wolverine, fisher and cavity nesters. In the case of lynx and wolverine, two species that are negatively affected by snowmobiles (see LCAS and Ruggerio et al. 1994. USDA Forest Service GTR RM-254 and updates), and no alternative addresses this issue.

O2-35 O2-36 Snag standards are inadequate. Emerging science suggests that even the higher numbers (10 per acre) may not be adequate. Similarly, old growth needs to be set aside and protected. The plan does not provide for a comprehensive way to do this. It also uses region IV rather than region I old growth definitions. Why was this done?

6. Water Quality/Fish Habitat/Soils

O2-37 The adoption of new standards (appendix F) that replace PACFISH and INFISH weaken existing protection with words that are too qualified. The standards that allow logging and other activities in RHCAs are too weak in that they are allowed to occur for purposes other than attainment of RMOs.

O2-38 Regarding RHCAs or RCAs, the standards should require that, at a minimum, default buffers be adopted. In instances where larger buffers are justified (and there are places they need to be implemented such as steep areas which characterize much of this area) then those should apply.

O2-37 PACFISH and INFISH were intended as temporary, stop-gap measures. The DEIS/RMP weakens them instead of strengthens them and that is contrary to the ESA.

O2-39 Soils BMPs dont have a very good track record in landslide prone areas. A 100 foot zone not enough, riparian RHCAs are greater 300 and even they have been shown not to work in the Clearwater basin.

7. Weed Control

O2-40 The RMP DEIS does little to help the spread of noxious weeds. Spraying herbicides and importation of exotic weed pests (bio-control) are Band-Aids that have their own problems. Prevention is the best tool for weed spread and the DEIS does not adequately address this issue. For example the following measures could be considered:

O2-41 1- In conjunction with the USFS, require an inspection of all vehicles before entering BLM-administered public lands.

O2-42 2- Prohibit livestock and packstock grazing and/or use in areas that currently contain weeds until the weeds are eliminated. Stock grazing on weeds along trails or in meadows carry and deposit those weed seeds into other places. Even if livestock are free of weeds when entering public lands, they can still

Responses

O2-33: See response to Comment Number A3-17.

O2-34: Wildlife and Special Status Wildlife, Objective 4, Actions 1 through 6 in the DRMP/EIS are specifically designed for Canada lynx and are derived from the *Canada Lynx Conservation Assessment and Strategy* (Ruediger et al. 2000) and/or Recovery Plan for Canada lynx. The BLM submitted a Biological Assessment to US Fish and Wildlife Service and National Oceanic and Atmospheric Administration, National Marine Fisheries Service for consultation regarding the Cottonwood RMP project. Wildlife and Special Status Wildlife, Objective 8, Actions 1 – 5 in the DRMP/EIS, provide for project specific review to minimize or eliminate adverse impacts to sensitive species such as the wolverine and fisher. Appendix D in the DRMP/EIS provides management direction for snag management.

The PRMP/FEIS is not proposing to designate additional snowmobile trails in suitable lynx habitat.

O2-35: See Appendix D in the DRMP/EIS and response to Comment Number A3-17.

O2-36: See response to Comment Number A3-14. Also, see the additions to Appendix D, Tables D-2 and D-5 of the DRMP/EIS. Each Regional criterion will be used as appropriate. Existing and/or updated research and science may be used to further define old-growth/old forest characteristics if applicable to site and landscape characteristics.

O2-37: Appendix F, *Aquatic and Riparian Management Strategy* and Appendix C, *Conservation and Restoration Watersheds* in the DRMP/EIS replaces PACFISH. The goals, objectives, guidance, and standards are very similar to PACFISH. Watershed and Aquatic Condition Indicators (WACIs) have been identified to provide management direction and objectives (see

(continued on the following page)

Responses
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O2-37 (continued): Appendix U, *Watershed and Aquatic Condition Indicators* in the DRMP/EIS).

Appendix F, Standard TM-1 in the DRMP/EIS, identifies the following: "Vegetation treatments will be allowed only to restore or enhance physical and biological characteristics of the RCA. Implemented treatments will, at a minimum, maintain WACIs." Actions that occur within RCAs (Riparian Conservation Areas) which "may affect" a listed species are subject to Section 7 consultation in accordance with ESA.

O2-38: See response to Comment Number O2-39.

O2-39: Action 6 identifies that a 100-foot slope distance buffer for landslide prone areas will be increased where warranted. Also, see amendments to Soils, Objective 2, Action 2 of the DRMP/EIS.

The PRMP/FEIS identifies that RCA buffer widths (specific to each alternative) would be the designated distance (e.g., 100 feet, 150 feet, 300 feet) or the width of riparian area, whichever is greatest. If resource conditions warrant increasing an RCA width, it can be modified in accord with Appendix F, Aquatic and Riparian Management Strategy, which states:

"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. In all cases, the rationale supporting RCA widths and their effect would be documented. Refer to previous listed goals, values, and WACIs that should be considered for managing RCAs. In addition to pertinent resource values; specific RCA watershed, reach, or site characteristics should be addressed in supporting rationale for modifying RCAs."

O2-40: BLM feels that a regional approach to weed control combined with prevention of the types of disturbance that commonly promote weed infestation is the best option to reduce the spread of noxious weeds. By continuing the BLM's participation in Cooperative Weeds Management Areas, eliminating cross-country off-highway-vehicle travel, implementing BMPs to minimize and mitigate for ground-disturbing activities, reducing vectors for weed seed transport, and closing unnecessary roads, the BLM is actively addressing the problem of invasive species in the CFO. These BLM prevention measures, along with education efforts designed to inform the public of weed-prevention issues, will help reduce the spread of noxious weeds on BLM lands. The BLM does feel that prevention is a vital part of any successful weed management strategy.

O2-41: The BLM feels that a regional approach to weed control combined with prevention of the types of disturbance that commonly promote weed infestation is the best option. By continuing the BLM's participation in CWMAs, eliminating cross-country OHV travel, implementing BMPs to minimize and mitigate for ground-disturbing activities, reducing vectors for weed seed transport, and closing unnecessary roads, the BLM is actively addressing the problem of invasive species in the CFO. These BLM prevention measures, along with education efforts designed to inform the public of weed prevention issues, will help reduce the spread of noxious weeds on BLM lands. The BLM does feel that prevention is a vital part of any successful weed management strategy.

O2-42: The suggestion is a prevention item and as such is covered in Objective 1, Action 5 page 2-22 and Objective 3 Action 2 page 2-23.

Comments

O2-42 spread weeds if allowed to graze in areas that contain weeds.

O2-43 3- Prohibit ORVs from trails that contain weeds and close all backcountry trails to ORV use. Travel planning is essential in helping to prevent weed spread. Vehicles are the vectors that have spread weeds seeds throughout the North Idaho. Closing the WSAs and areas contiguous to national Forest roadless areas to vehicles, closing unneeded roads, and requiring vehicle inspection are all potential measures.

O2-44 4- Close all roads that have weeds until weeds are eliminated, perhaps on a rotating basis. While this measure may not be popular, if the agency is truly committed to weed eradication, this should be considered.

O2-45 5- Close all administrative sites, campgrounds (formal and informal) unless and until they are certified as weed free.

O2-46 6- Quarantine all animals for at least 48 hours prior to entering backcountry trails. Having a quarantine corral established at all stock trailheads and have the trailheads staffed (especially during hunting season) and stocked with pelletized feed (weed-free hay isnt, people would be required to either bring in pelletized feed for the quarantine or purchase it from the campground host at the trailhead) is a start.

O2-47 7- Require pelletized feed. There is a great deal of doubt that all certified feed is in fact weed free. Pellets are a simple and proven-effective remedy. Individuals visiting the national forests should be responsible to change the diet of their stock gradually to pelletized feed.

O2-48 8- Where possible, consider establishing a mandatory permit system for visitors. This way, visitor use can be better monitored a problems avoided.

8. Wilderness Study Area/Special Management Areas/Wild and Scenic Rivers

O2-49 The RMP fails to even consider sections 201 and 202 of FLPMA in evaluating wilderness potential of areas missed during the wilderness review. Only Congress, not the Secretary of Interior, has the constitutional power to exempt BLM from the requirements of FLPMA. The failure of BLM to analyze additional wilderness under these sections is a fatal flaw. This is particularly important for the roadless areas contiguous with the meadow Creek Roadless Area on the nez perce national Forest. This includes all or portions of sections 1, 2, 3, 11, 12, 13, 23 (the route down the American River does not meet the FLPMA definition of a road), 24, 25 and 26 in the township. Roadless land contiguous with the French Creek and Patrick Butte roadless areas on the Payette National Forest should also have been evaluated.

O2-50 ACEC protection should be extended to all BLM holdings in the Elk City Township, Marshall Moutain, the French Creek, Elkhorn Creek and Partridge Creek watersheds.

O2-51 O2-52 O2-53 The DEIS/RMP is unclear why the Salmon River, from Vinegar Creek to the confluence with the Snake should, has been have been excluded from wild and scenic study status. The South Fork Clearwater ahs been missed even though the Forest Service has recognized its portion on the Nez Perce national Forest. Lower Lolo Creek is inaccessible by motor and should be classified as a wild river.

O2-54 Protection for ACECs and wild and scenic river candidates are inadequate. They are open to logging and mining, among other uses, that would destroy the unique values that are supposed to be protected.

9. Public Lands/Management

O2-55 Working with the Forest Service to consolidate land may be more efficient than the current situation.

Responses

O2-43: Transportation and Travel Management, Objective 3 and all accompanying actions in the DRMP/EIS address closing unneeded roads, etc. Please also see response to letter O2-41 regarding weeds.

O2-44: Most or all roads in the CFO have weeds of some sort. All such sites are subject to weed-control measures designed to contain their spread and eliminate new occurrences.

O2-45: Most or all recreational and administrative sites have weed populations to a certain degree. All such sites are subject to weed-control measures designed to contain their spread and eliminate new occurrences.

O2-46: The BLM Idaho State Office is currently proposing actions that would require the use of certified weed-free hay, straw, and mulch on BLM-administered public land in Idaho. This proposed action would require all visitors, permittees, and operators to use certified weed-free hay, straw, and mulch when visiting or conducting authorized activities on BLM-administered public land in Idaho. This measure is needed to prevent and slow the continued spread of noxious and invasive weeds on public land. This policy is similar to the US Forest Service weed-free hay order and would provide consistency for users of both BLM public land and National Forest land in Idaho.

O2-47: Refer to the response to Comment Numbers O2- 42 and O2-46.

O2-48: Site-specific recreation management actions are analyzed, evaluated, and determined at the activity planning level that follows Special Recreation Management Area designations made in the DRMP/EIS. Some of the DRMP/EIS proposed actions do describe a “framework” for the activity planning that will follow.

(continued on the following page)

Responses
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O2-49: In Section 3.5 of the Cottonwood RMP Scoping Report (BLM 2005b) provides a comprehensive list of issues outside the scope of the RMP. It indicates that roadless area inventories and wilderness suitability determinations are beyond the scope of the RMP. The Scoping Report has been available at the BLM in Cottonwood, Idaho, and via the public web site at www.cottonwood.com since it was completed in February 2005.

The BLM's recommendations on WSAs were forwarded to the President in 1991. Those recommendations were later forwarded to Congress, and continue to await Congressional action. BLM Instruction Memorandum No. 2003-275 states, "the BLM's authority to conduct wilderness reviews, including the establishment of new WSAs, expired no later then October 21, 1993, with the submission of the wilderness suitability recommendations to Congress pursuant to Section 603 of the FLPMA" and also, "that the BLM is without authority to establish new WSAs." The two BLM WSAs (Snowhole Rapids and Marshall Mountain) within the CFO planning area were recommended nonsuitable for wilderness designation. As such, managing these nonsuitable WSAs as if they were wilderness is inconsistent with and contrary to the recommendations before Congress.

The BLM does have the responsibility to manage WSAs in accordance with BLM Handbook H-8550-1, Interim Management Policy for Lands Under Wilderness Review (IMP) until such time as Congress acts to designate them as wilderness or release them from further consideration. The basic interim management standard is termed the "non-impairment" standard and says WSAs shall be managed "in a manner so as <u>not to impair the suitability of such areas for preservation as wilderness</u>...Management to the non-impairment standard does not mean that the lands will be managed as though they had already been designated as wilderness."

The BLM used "roadless" as a criterion during the wilderness inventory process in accordance with FLPMA. However, the BLM carries out no "roadless area" management outside of designated WSAs. Consequently, the BLM does not use the term "roadless area" as a land use classification or as a specific designation similar to how the US Forest Service does.

In accordance with the BLM's Land Use Planning Handbook, H-1601-1 and Instruction Memorandum No. 2003-275, characteristics may be considered in the land use planning process. "The BLM can make a variety of land use plan decisions to protect wilderness characteristics, such as establishing Visual Resource Management (VRM) class objectives to guide placement of roads, trails, and other facilities; establishing conditions of use to be attached to permits, leases and other authorizations to achieve the desired level of resource protection; and designating lands as open, closed or limited to Off Highway Vehicles (OHV) to achieve a desired visitor experience." Actions in all these areas and more are proposed in the DRMP/EIS. In addition, the DRMP/EIS outlines management direction for WSAs should they be released from wilderness consideration by Congress.

O2-50: Thank you for your comment.

O2-51: This portion of the Salmon River was evaluated previously and is described as the Lower Salmon River in the DRMP/EIS. The Lower Salmon River has been found eligible and suitable under the Recreational classification in the National Wild and Scenic Rivers System, has been recommended to Congress for designation, and is managed under interim management guidelines until congressional action is taken. See DRMP/EIS Appendix K, pages K-1 and K-2.

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Responses
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O2-52: The South Fork Clearwater River was evaluated for eligibility (see DRMP/EIS Appendix K, Table K-4-1), but did not meet the free-flowing criteria. The BLM manages 5.9 miles of the river, all of which has been severely channelized as a result of mining activities. Free flowing means existing or flowing in a natural condition without impoundment, diversion, straightening, riprapping, or other modification of the water.

O2-53: Lower Lolo Creek does not meet the criteria for a Wild river due to water quality issues. This segment is listed on the US Environmental Protection Agency's 303(d) list (see DRMP/EIS Appendix K, page K-32). In order to be classified Wild, the segment must meet or exceed federal criteria or federally approved state standards for aesthetics, for propagation of fish and wildlife normally adapted to the habitat of the river, and for primary contact recreation, except where exceeded by natural conditions (see DRMP/EIS Appendix K, page K-38).

O2-54: In Chapter 2, Areas of Critical Environmental Concern and Research Natural Areas of the DRMP/EIS, all Objectives and all Actions for the various ACECs and ACEC/ RNAs prescribe special management direction to protect the relevant and important values of these areas.

As stated in DRMP/EIS Appendix K, *Wild and Scienic Rivers Eligibility and Suitatiliby Study*, page K-11, "BLM guidance requires that interim management be developed and followed to protect the free-flowing nature, outstandingly remarkable values, and recommended classification of suitable segments until congressional action regarding designation is taken." Interim management is also outlined in Appendix K on page K-3 of the DRMP/EIS.

O2-55: A number of options for land adjustments will be considered on a project-level basis.

Comments

O2-55 Given that BLM manages less than 200,000 acres in all of this FO, much of which is contiguous or surrounded by the Nez Perce, Payette, and Clearwater National Forests it may make sense to reach an agreement with the USFS to manage those areas.

O2-56 There is no reason that so much acreage is identified for non-retention. Much of it is crucial winter range and adjacent to other public ownership. Rather than looking at disposal, BLM should consider the bold move of transferring management of the CFO to the US Forest Service. This would save tax dollars and result in more efficient management.

Conclusion

O2-57 The DEIS/RMP needs to be drastically improved and revised. The effects analysis is based upon standards that are not enforceable. As such, the assumptions are incorrect. There is not an adequate range between alternatives.

We conclude with this passage from Frissell and Bayles (1996):

Most philosophies and approaches for ecosystem management put forward to date are limited (perhaps doomed) by a failure to acknowledge and rationally address the overriding problems of uncertainty and ignorance about the mechanisms by which complex ecosystems respond to human actions. They lack humility and historical perspective about science and about our past failures in management. They still implicitly subscribe to the scientifically discredited illusion that humans are fully in control of an ecosystemic machine and can foresee and manipulate all the possible consequences of particular actions while deliberately altering the ecosystem to produce only predictable, optimized and socially desirable outputs. Moreover, despite our well-demonstrated inability to prescribe and forge institutional arrangements capable of successfully implementing the principles and practice of integrated ecosystem management over a sustained time frame an at sufficiently large spatial scales, would-be ecosystem managers have neglected to acknowledge and critically analyze past institutional and policy failures. They say we need ecosystem management because public opinion has changed, neglecting the obvious point that public opinion has been shaped by the glowing promises of past managers and by their clear and spectacular failure to deliver on such promises.

Sincerely,

Gary Macfarlane
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PO Box 9241
Moscow, ID 83843
(208)882-9755
--and
board member
Alliance for the Wild Rockies

Mike Peterson
Executive Director
The Lands Council
423 W. First Street, Suite 240
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Responses

O2-56: No lands are identified for "non-retention." Those lands not included in designated management blocks lack public access, offer limited (if any) public benefits, and are isolated, i.e. not adjacent to other public lands. These small tracts may be considered for future disposal actions as long as there would be sufficient public benefits. The lands outside of management blocks are not adjacent to Forest Service boundaries and of no interest to the Forest Service. Transfer of BLM managed public lands in the CFO to the Forest Service would take special legislation and has been proposed in the past.

O2-57: Refer to the response to Comment Number O2-2.

Comments

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Comments

From: Larry McLaud [larry@hellscanyon.org]
Posted At: Monday, November 27, 2006 2:04 PM
Conversation: Draft RMP/EIS
Posted To: e-mail comments
Subject: Draft RMP/EIS

Please accept these comments from Hells Canyon Preservation Council on the RMP for the Cottonwood District.

O3-1 --The BLM has not used the latest science in developing its plans to log 40% of the area under the ruse of fire prevention, restoration (?!) and fuel reduction. BLM has proposed logging levels even greater than those of the US Forest Service! This type of fire management is not supported by the science or is in the best interests of the landowners, the American Public.

O3-2 --BLM fails to analyze the roadless portions of the East Fork of the American River, Kirks Fork and other areas for protection. The East Fork American and Kirks Fork wild areas are actually part of the Meadow Creek Roadless Area on the Nez Perce National Forest and should be evaluated under section 202 of the Federal Land Policy Management Act. This provision is needed to correct BLM's faulty wilderness inventory that took place many years ago. Other areas near John Day should also be evaluated.

O3-3 --Wildlands around Elk City are open to vehicles year round to cross country travel. Special areas, roadless areas and areas of critical environmental concern are open to logging and grazing. This must be changed to protect the natural resources such as wildlife and recreation opportunities.

O3-4 -- Bighorn Sheep in the Hells Canyon Area are not protected from domestic sheep grazing. The science shows clearly that disease is transmitted from domestic sheep to bighorn sheep which kills bighorns. Bighorns need full protection from domestic sheep.

Thank you for the opportunity to comment..

Larry McLaud
Ecosystem Conservation Coordinator
Hells Canyon Preservation Council
PO Box 2768
La Grande, OR 97850
541-963-3950 x 23

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Responses

O3-1: Refer to the response to Comment Number I7-4.

O3-2: See response to Comment Number O2-49.

O3-3: Regarding vehicle use near Elk City, please refer to response to letter I6-13, letter I1-2, and letter O2-30. Regarding special areas, please see response to letter I3-1.

O3-4: No sheep grazing on BLM lands in Hells Canyon (Snake River drainage) is authorized (see DRMP/EIS, Wildlife and Special Status Wildlife, Objective 13, Action 3). In addition, see response to Comment Number A3- 31.

Comments

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November 22, 2006

RE: Idaho Conservation League Comments Regarding the Cottonwood Field Office DRMP/EIS 1620 (420)

Dear Greg,

Thank you for considering our comments on Cottonwood DRMP/EIS. For thirty years, the Idaho Conservation League has worked to protect Idaho's clean water, wilderness, and quality of life through citizen action, public education, and professional advocacy. For more information or to become a member, visit www.wildidaho.org. As Idaho's largest state-based conservation organization we represent over 9,000 members, many of whom have a deep personal interest in ensuring that long-term resource management plans are consistent with protecting our water, wildlands, and wildlife.

O4-1 The Idaho Conservation League encourages the Cottonwood Field Office to revise and implement Alternative C. This Alternative will make the greatest strides toward restoring properly functioning ecosystems, will help to improve habitat for threatened and endangered species, and will reduce the detrimental effects of irresponsible OHV use. These efforts would be best accomplished through the prescription of intensified restoration efforts and protective designations presented in Alternative C.

O4-2 We are also encouraged by proposals in the DRMP/EIS such as support for several eligible and suitable Wild and Scenic River segments, adoption of INFISH-style riparian and aquatic ecosystem protections, and implementation of much needed watershed restoration work.

O4-3 However, we do have some concerns with the commodity emphasis of the forest and vegetation management aspects of the plan, as well as several other concerns. Detailed comments are provided in the attachment.

Once again we thank you for the opportunity to be part of the RMP revision process. Please send us any subsequent documents for this project. We look forward to continuing to work with the Cottonwood Field Office on this project and others in the future.

Sincerely,

Bradley Smith,
Conservation Assistant

Printed on 100% post-consumer recycled paper

Ketchum Field Office: PO Box 2671, Ketchum, ID 83340 208.726.7483 Fax 208.726.1821

Responses

O4-1: Thank you for your comment.

O4-2: Thank you for your comment.

O4-3: Thank you for your comment.

Comments

The Idaho Conservation League

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Idaho Conservation League Comments Regarding the Cottonwood DRMP/EIS

Conservation and Restoration Watersheds

O4-4 It is encouraging to know that as part of the new Cottonwood Field Office (CFO) RMP, the BLM will undertake efforts to conserve and restore watersheds, including attempts to achieve delisting of 303(d)-listed streams. Restorative efforts to improve wildlife and support beneficial uses will improve ecosystem functions in many ways and improve habitat for threatened and endangered species including salmon. Including and considering fish and aquatic habitat in the prioritization

O4-4 process for restoration is a plus. Similarly, we are encouraged by the fact that the CFO has retained INFISH/PACFISH-style RMOs and standards.

O4-5 Given the obligations with regard to the Endangered Species Act and salmonids in the Snake River Basin, we encourage the BLM to designate the 3 conservation and 40 restoration watersheds as proposed under Alternative C, rather than the 2 conservation and 32 restoration watersheds proposed under the preferred alternative. Restoring watersheds and achieving state water quality standards is imperative considering current habitat conditions for ESA species in the Snake River Basin. Therefore the greatest proposed amount of restoration under Alternative C would be most beneficial in terms of meeting those obligations. The BLM should also coordinate these efforts with the Forest Service and private landowners where possible considering the relatively small percentage of BLM lands in the CFO planning area.

Wild & Scenic Rivers

O4-6 We appreciate the fact that the CFO has undertaken an eligibility and suitability study under the Wild & Scenic Rivers Act for the planning area. The Idaho Conservation League supports the designation of all eligible and suitable segments in the CFO planning area, including those recommended to Congress by the CFO: Lower Salmon River, Lolo Creek, Lake Creek, Hazard Creek, and Hard Creek. These designations would help to secure the natural integrity of these segments, protect important fish and wildlife habitat, and insure the enjoyment of these segments by future generations.

Forest Management & Logging

The focus of forest and vegetation management in the DRMP/EIS is almost solely on commodity production and barely acknowledges other resource values of forest ecosystems. In fact, the DRMP/EIS directs agency foresters to "Prioritize vegetation treatment projects that would maximize forest commodity recovery" (Objective 3, p. 2-85). Similarly, the DRMP/EIS manages for the timber species that are most desirable for commodity production. However, there is very little mention of other objectives and actions that recognize other resource values and needs in forest ecosystems present on the CFO.

Post-Fire Commodity Production

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O4-4: Thank you for your comment.

O4-5: See response to Comment Number A3- 39.The BLM recognizes that because of the small percentage of BLM lands in the planning area that the most opportunities for restoration are accomplished in watersheds that contain a large percentage of other public lands, such as FS or IDFG (see Appendix C).

O4-6: The BLM preferred alternative, Alternative B from the DRMP/EIS, would recommend the Lower Salmon River segment for Congressional designation. Lolo Creek, Lake Creek, Hazard Creek, and Hard Creek would be determined suitable but not recommended for Congressional designation. However, only Congress can designate rivers into the National Wild and Scenic Rivers System.

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O4-7 Perhaps most concerning is that the DRMP/EIS is proposing to allow "salvage logging" in Riparian Conservation Areas (RCAs) despite the presence of many 303(d)-listed streams and habitat for sensitive, threatened and endangered species, particularly salmonids (Action 2, p. 2-84). Reviews of riparian salvage logging suggest that riparian ecosystems are resilient and recover more quickly post-fire if they are afforded the same buffers and protection prior to a burn.[1] In fact removal of trees will reduce course woody debris recruitment necessary for creating pools for fish habitat and serving as sediment traps to reduce sediment delivery into streams.[2]

O4-8 Outside of RCAs, the impacts of Salvage logging are not much different than those inside RCAs. Regardless of the location of post-fire salvage logging, the timing of this type of logging coincides with the point at which forest ecosystems in the interior west are most vulnerable to impacts on long-term ecosystem health and productivity. Salvage logging precludes ecological processes that are best adapted for restoring post-fire ecosystems. Concerns with salvage logging are outlined in more detail in the section on Wildland Fire Management below.

O4-9 On a similar note, the DRMP/EIS also prescribes sanitation/salvage logging of trees with insects or disease to "maximize forest commodity recovery" (p. 2-85). Again, these types of prescriptions in the DRMP/EIS fail to recognize the role of these *natural agents* in ecosystems. Fire, insects, and diseases are a natural part of these ecosystems and are not necessarily a bad thing. In fact, by removing trees that survive insects, disease, or even fire, the individual trees that have heightened levels of resistance compared to other individuals of the same species are being removed, thus decreasing the genetic variability within species.

Old-Growth Management

O4-10 The DRMP/EIS also lakes a coherent strategy for the management of old-growth forest stands. It simply says, "Define old-growth according to best science and local knowledge" (p. 2-20). Extensive work has already been completed to help define what is and is not considered old-growth. In the Northern Region of the Forest Service (of which the CFO lies within), it is standard protocol to use the old-growth definitions articulated by Green et al.[3] Considering that the neighboring national forests (with the exception of the Payette) rely on this piece of literature for their old-growth definitions, it would also suffice for the CFO. Furthermore, adoption of the same old-growth definitions used by Region 1 of the Forest Service would help to insure consistent old-growth management in North Central Idaho. There is no reason why the CFO should attempt to "reinvent the wheel."

O4-11 Regardless of how the CFO decides how to define old-growth, the DRMP/EIS needs to be revised to articulate a better strategy for managing old-growth. Specifically, how much old-growth will be retained, if it will be managed in units, and how much will be maintained in each

[1] Reves, G.H., Bisson, P.A., Rieman, B.E., and L.E. Benda. 2006. Postfire logging in riparian areas. *Conservation Biology*. 20(4): 994-1004.
[2] Ibid.
[3] Green, P., Joy, J., Sirucek, D., Hann, W., Zack, A., and B. Naumann. 1992. Old-growth forest types of the northern region. *R-1 SES 4/92*. USDA Forest Service, Northern Region.

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O4-7: Forest Products, Object 2, Action 2 in the DRMP/EIS further clarifies that vegetation treatments will only be allowed for enhancement of the physical or biological characteristics of the RCA and then only if the treatment would maintain the riparian management objectives. The scenario presented would not be allowed if the treatment reduced the LWD preventing maintenance of the RMO.

O4-8: Thank you for your comment.

O4-9: A silvicultural review is completed prior to the implementation of any salvage harvest. Depending on the species and disturbance involved, typically the objective is to retain those individuals which survived the disturbance. A common exception is lodgepole pine. This is based on the even-aged nature of this species.

O4-10: See response to Comment Numbers A3-14 and O2-36.

O4-11: See Appendix D of the DRMP/EIS and response to Comment Number A3-14.

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O4-11 unit. Perhaps that best approach would be to address the needs of the old-growth dependent wildlife occurring on the CFO.

Equivalent Clearcut Area (ECA)

O4-12 The final RMP/EIS whould also include a standard for the allowable equivalent clearcut area (ECA). This standard would be useful for analyzing and implementing projects in terms of the effects at the watershed scale. ECA provides not only a basis upon which to analyze current and future watershed conditions, but it also insures that significant impacts to the environmental do not occur.

When ECA becomes too high in a particular watershed, the timing, duration, and intensity of peak flows can change such that water quality is negatively affected to an unacceptable degree. The timing of the peak flow may occur too early due to a reduction in shade cover for snow pack; the intensity of peak flows may increase to a degree such that stream morphology is impacted, affecting fish and riparian habitat; and the duration of peak water flows is decreased, resulting in higher water temperatures, also negatively impacting aquatic and riparian species such as threatened and endangered salmonids. Watershed responses to changes in ECA are particularly pronounced on the CFO due to the relatively high incidence of rain-on-snow events.

O4-12 The Proposed RMP/EIS should be revised to contain a standard for ECA that is shown to minimize effects on peak flows as described above at the 4th HUC scale. Given the current levels of streams that are not meeting TMDL standards on the CFO, ECA would be a good standard by which the CFO could help to meet its obligations with respect to state water quality standards and meet the anti-degradation standard for watersheds without completed TMDLs.

Wildland Fire Management

O4-13 Although the location of many BLM lands on the CFO would not socially allow for wildland fire use, there are contiguous blocks of BLM and Forest Service land where wildland fire use could be coordinated between the two agencies. The forest ecosystems present in the CFO are adapted to various fire regimes depending upon the habitat or forest type. The current scenario of increasing hazardous fuels is primarily due to excessive fire suppression efforts that have been implemented over the years. In some forest types, however, the fire regime has evolved over the millennia to include long fire return intervals, whereby high intensity, stand replacement fires are normal. Regardless of the natural fire regime, healthy ecosystems are maintained by natural wildfires. As such, the BLM should seek opportunities to expand wildfire use where possible.

O4-14 Unfortunately the objectives and actions, as they are currently written in the DRMP/EIS, do not support the concepts of wildland fire management that are conducive to establishing, maintaining, or enhancing healthy forest ecosystems. In fact, as the DRMP/EIS correctly points out, many of the BLM sensitive species, particularly woodpeckers, require forests with burnt snags and biological "legacies." Yet, as the DRMP/EIS currently stands, fire suppression, unprioritized fuels reduction projects and salvage logging will remain the norm.

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O4-12: Standards for ECA will be included in the PRMP/FEIS. See Water Resources, Objective 2, Action 7 of the PRMP/FEIS. However, identifying a standard at a 4th code HUC scale (subbasin) would not be appropriate for minimizing the effects on peak flows at the project level, particularly for smaller drainages and project level planning and assessment.

O4-13: Opportunity for wildland fire use by alternative can be found in Chapter 2 (see Wildland Fire Management, Objective 1 Action 3) of the DRMP/EIS.

O4-14: Fuel treatments would be prioritized. Fires would be assessed to determine if there is a need for suppression to protect human life, property, and resources, and salvage logging would only occur where resource values can be protected.

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O4-15 For Example, Action 1 under Objective 2 of the Preferred Alternative states, "Treat up to 40% of CFO lands classified as moderate to high hazard (i.e., FRCC 2 or 3, respectively) over any 5-year period. Fuel treatments should be designed to reduce hazard as follows:

> 40% of the high hazard treated lands should move toward moderate hazard;
>
> 30% of the moderate hazard treated lands should move toward low hazard; and
>
> 30% of the treatments should be designed to maintain low hazard."

However, this action only allocates hazardous fuels treatment to various FRCCs without necessarily helping to reduce threats to private property or contribute to community wildfire protection plans. It says nothing about prioritizing treatments in the WUI. Instead, it allocates fuels treatments by FRCCs regardless if the treatments occur in the WUI or not. Secondly, this action fails to recognize that high intensity, stand replacement fires are normal in some of the forest types present on the CFO. Treating "hazardous fuels" in these forest types would disrupt the natural ecosystem processes (including natural fire regimes) that maintain long-term, healthy and productive ecosystems. This action assumes that high fuels loads are bad in all locations and forest types.

O4-16 After wildfires have occurred, salvage logging and reforestation should also be avoided. Retaining snags, course woody debris, or any remaining live trees is crucial to adequate ecosystem recovery over the long run.[4] Salvage logging can result in significant ecological degradation and impede recovery by removing snags, removing course woody debris that would other wise serve as sediment traps, by eliminating habitat for fire-dependent species like woodpeckers and highly specialized insects, by leading to soil compaction, by interrupting early successional revegetation, and by impeding nutrient cycles.[5] In essence, Salvage logging circumvents crucial, early successional, natural recovery processes that help to reestablish nutrients on-site and insure long-term ecosystem health and productivity. Therefore salvage logging should be practiced sparingly and strategically.

O4-16

O4-17 In terms of reforestation following fire, stocking burned sites will lead to the establishment of an even-aged stand, lacking vertical and horizontal structural diversity. Additionally, stocking circumvents the establishment of early successional vegetation that is responsible for fixing nitrogen and restoring nutrients on site that were volatilized by the fire.[6] Therefore, in general, allowing for natural recovery of burned sites is the best practice for maintaining long-term ecosystem health and productivity.

O4-18 O4-19 Where wildland fire use is not possible (i.e. in the WUI) the BLM should consider increased use of prescribed fire where frequent, low intensity fires are needed to maintain low fuel levels and "park-like" stands. The BLM should also consider prescribed burning in mixed and high severity

[4] Noss, R.F., Franklin, J.F., Baker, W.L., Schoennagel, T., and P.B. Moyle. 2006. Managing fire-prone forests in the western United States. *Ecological Society of America.* 4(9): 481-487.
[5] Lindenmayer, D.B. and R.F. Noss. 2006. Salvage logging, ecosystem processes, and biodiversity conservation. *Conservation Biology*. 20(4): 949-958.
[6] Ibid.

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O4-15: Wildland Fire Management, Objective 2 in the DRMP/EIS states that the Actions that follow are directed to the WUI and/ or municipal watersheds as identified in community wildfire protection plans. Refer also to Appendix H, Wildland Fire Management – Alternatives A, B, C, and D in the DRMP/EIS. WUI treatments would be priority 1 and 2 out of 4 for fuel reduction. The referenced actions are intended for management of the WUI where stand replacing fires are not socially acceptable. Wildland Fire Management , Objective 3 of the DRMP/EIS addresses those areas outside the WUI.

O4-16: Thank you for your comment.

O4-17: Much of the CFO is not in a 'natural' vegetative state. DRMP/EIS Tables 3-14 through 3-16 indicate that most of the CFO is moderately or highly departed from historic conditions. As such, expected fire behavior would be more severe than natural and recovery may not proceed along historical pathways. Planting would insure the presence of conifers and would actually provide for vertical and horizontal structure. The planted trees would augment natural regeneration with a varied age and species classes and provide variety to site dominance by brush species. It would not replace the early seral stage, but shorten it. Natural regeneration would be used where it is appropriate for revegetation purposes considering land allocation, available resources, and estimated time of recovery.

O4-18: Prescribed fire is a management tool available where appropriate.

O4-19: The alternatives developed allow this as a management option.

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O4-19 fire regimes. While riskier than conducting fires in low-intensity/high frequency dry site fire regimes, the creation of mosaics from fire could result in significant protections to resources at risk, in the event of a wildfire.

O4-20 The use of heavy, damaging equipment in fire suppression should be restricted in WSAs, ACECs, RNAs, riparian habitat, areas with cultural values and areas with sensitive species populations. Minimum Impact Suppression Techniques should be considered for all fires. All firelines constructed with heavy equipment should be back filled and reseeded using native plant species. Waterbars, or other erosion control techniques, should be part of the rehabilitation process in areas with highly erosive soils and steep slopes (i.e. greater than 15%). Livestock grazing, motorized use and other ground disturbing activities must be eliminated from the burned areas for a minimum of 3 years after fire. This will help limit the spread of invasive weeds to the extent possible.

Wildlife

O4-21 The range of alternatives with regard to management plans affecting special status species is inadequate. This is not the type of full range of reasonable alternatives required in NEPA analyses, such that the decision-maker can make a reasoned and informed decision.

O4-22 The BLM should establish goals to ensure the protection and recovery of threatened, endangered, sensitive and special status species. BLM should designate critical habitat for endangered, sensitive, threatened and special status species. These habitat areas should be managed with the species survival and recovery as the highest and most valuable use, as per the Endangered Species Act. We recommend that the BLM more fully integrate protection and recovery efforts into a full range of alternatives by considering the following:

O4-23 As numerous studies, including BLM research and analysis, have found dredge mining, logging, road building, and livestock grazing have all had significant negative impacts on native fish and their habitats. Migration barriers are also a significant problem. The new RMP must address all of these problems and provide guidance for rectifying the situation to improve habitat.

O4-24 The RMP should also address habitat fragmentation in aquatic environments of the Cottonwood Resource Area. This should include requiring removal of man-made migration barriers or requiring adequate fish passage structures on all new and existing dams, diversion dikes and culverts. Since elevated stream temperatures pose a major thermal barrier to coldwater-dependent species, the RMP should establish temperature guidelines and prohibit any activities that are likely to result in increased stream temperatures.

O4-25 Siltation from road building, logging, grazing and mining smothers spawning beds and fills in pools that serve as critical overwintering habitat for fish, and alters macroinvertebrate populations that serve as an important food sources for fish. The new RMP should strictly limit such activities in known spawning areas, and prohibit them in areas that are highly susceptible to landslides. Standards should be established to ensure that reasonable turbidity levels are not exceeded and adequate numbers of pools are maintained.

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O4-20: Appendix H, pages H-2 and H-3 in the DRMP/EIS provide a list of suppression priorities and protocols. The issues raised in your comment are addressed in the Suppression Protocols.

O4-21: Wildlife and Special Status Wildlife, Objective 8, Actions 1 – 5 in the DRMP/EIS provide for project specific review to minimize or eliminate adverse impacts to sensitive species. Various alternatives provide a range of actions that provide direct and indirect beneficial effects to sensitive species. Also, please refer to the response to Comment Number O2-2.

O4-22: Wildlife and Special Status Wildlife, Objective 2 in the DRMP/EIS, and all accompanying actions under all alternatives reaffirm BLM policy to conserve listed species and the ecosystems upon which they depend. Objective 2 in the DRMP/EIS and its actions also speak to BLM policy to implement management plans that conserve candidate and sensitive species and their habitats, and shall ensure that actions authorized, funded, or carried out by the BLM do not contribute to the need for the species to become listed. Objectives 3, 4, 5, 6, and 7 in the DRMP/EIS and their accompanying actions further detail explicit management measures for specific listed and candidate species. In addition, Aquatic Resources, Fish, and Special Status Fish, Objective 1 (and all accompanying actions), as well as Special Status Plants, Objectives 1, 2, and 3 (and all accompanying actions) in the DRMP/EIS detail explicit management measures for specific listed and candidate fish and plant species, respectively. Also refer to Appendix C in the DRMP/EIS, which identifies emphasis watersheds for restoration and conservation; Appendix F in the DRMP/EIS, which identifies an aquatic and riparian management strategy; Appendix G in the DRMP/EIS, which identifies special status species and preferred habitats; Appendix S in the DRMP/EIS, which identifies species-specific habitat definitions for listed and candidate wildlife and plants; and Appendix V, *Conservation Measures for Listed Species*, in the DRMP/EIS, which

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O4-22 (continued): identifies a summary of management, conservation, and restoration measures identified for federally listed and candidate species.

Only US Fish and Wildlife Service and National Marine Fisheries Service can designate critical habitat.

O4-23: Provisions to ensure that these types of activities minimize or avoid impacts to aquatic species and their habitats are contained in the conservation measures listed under the alternatives in the DRMP/EIS and by specifying restrictions on actions occurring in RCAs and reducing or minimizing impacts to WACIs (see Appendix F in the DRMP/EIS). General guidance for aquatic fish passage is provided in Aquatic Resources, Fish, and Special Status Fish Management, Objective 3, Action 5 and Appendix F, Standard and Guideline RF-4 in the DRMP/EIS. Aquatic Resources, Fish, and Special Status Fish Management, Objective 2, Action 5, has also been changed to include an evaluation of aquatic species passage barriers and development of a prioritization strategy to enhance upstream and downstream passage for all life stages of aquatic dependent species.

O4-24: The BLM does not manage any dams in the CFO. Fish passage at road crossings is addressed in the Road Management Guidelines in Appendix B (Best Management Practices), Appendix F (Standard and Guideline RF-4), and in Aquatic Resources, Fish, and Special Status Fish Management, Objective 3, Action 5 of the DRMP/EIS. Thermal pollution is addressed by ensuring that adequate canopy cover remains in riparian zones to provide adequate shading. Identification of temperature guidelines for streams is outlined in Appendix F, Aquatic and Riparian Management Strategy—Alternatives B, C, and D in the DRMP/EIS. See response to Comment Number O4-23.

O4-25: Appendix F (Aquatic and Riparian Management Strategy—Alternatives B, C, and D) of the DRMP/EIS, such requires that RCAs be established around landslide-prone areas as well as streams, lakes, and wetlands. Activities in RCAs would be designed to enhance, restore, or maintain the physical and biological characteristics of the RCA (see Appendix F, RCA-1 on page F-10 in the DRMP/EIS). Actions that may degrade the riparian area or aquatic habitat or delay or prevent attainment of WACIs (including those actions that would cause siltation) are subject to the Standards and Guidelines beginning on page F-10. The BLM abides by the State of Idaho standards for turbidity when implementing projects that have the potential to cause turbidity, such as culvert replacements or instream restoration.

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O4-26 Competition from, and interbreeding with, non-native species such as brook trout are another major factor in sensitive fishery declines in some areas. The new RMP should prohibit the stocking of competitor species, and establish management guidelines that encourage control or elimination of competitor species. Non-native fish should not be stocked in rivers, streams or lakes that contain fish, amphibian and other animal and plant species that are federally protected.

O4-27 The RMP should also require increased public education. This should include information to the public on the presence of T, E & S aquatic species and how to properly identify and release them.

O4-28 The BLM should also consider special management direction for areas that may provide habitat for sensitive wildlife species. Important migration corridors between summer and winter ranges for wildlife should be identified and receive a high priority for protection and improvement. Minimizing barriers to wildlife migration and movement by designating important travel corridors with specialized management criteria could significantly benefit sensitive terrestrial species.

Soil Resources

O4-29 The DRMP/EIS also needs strengthen the proposed soils standards and include a few additional soils standards. For example, the BLM is proposing to allow logging on slopes up to 55% (Action 1, p. 2-13). This value should be revised to limit logging to slopes of ≤ 40%. Logging on slopes greater than 40% drastically increases the threat of extensive soil erosion and mass failure potential.

When above-ground biomass is removed, there is less vegetative cover to intercept falling precipitation. As a result, more precipitation reaches the soil surface than would have prior logging. On steep slopes, intense precipitation events or rain-on-snow events can quickly lead to mass failure where above-ground biomass, including trees, has been removed.

To exacerbate the situtation, above-ground biomass removal often leads to the decomposition of below-ground biomass, including the roots of trees that have been harvested. Consequently, there is less of the important below-ground biomass that is important for maintaining soil and slope stability. Therefore, extensive soil erosion and mass failure potential actually increases for a few years after logging occurs on steep slopes, until new trees and brush begin to reestablish to reduce these potentials.

O4-29 Furthermore, the roads necessary to access trees for logging on steep slopes also contribute to the increase for soil erosion and mail failure potential. Construction of the road cuts and prisms itself leads to extensive casting of soil down slope. Roads should not be constructed on these slopes, nor should trees be harvested from them. It is simply too risky and could lead to significant effects in a watershed.

O4-30 There are also no standards in the DRMP/EIS for total soil resource commitment or detrimental disturbance. In accordance with the 1995 BIOP regarding threatened and endangered salmonids in the Snake River Basin, detrimental disturbance should not exceed 15% in any subwatershed.

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O4-26: The BLM does not manage any fish or wildlife species. The BLM only manages fish and wildlife species habitat that falls within BLM-administered public land boundaries. Wildlife and fish are under the jurisdiction of Idaho Department of Fish and Game (IDFG) therefore, the BLM does not control or conduct stocking or removal of fish without authorization from IDFG. The National Marine Fisheries Service and U.S. Fish and Wildlife Service also have management authority over specific wildlife and fish species (i.e., federally listed species). BLM management actions which may potentially impact federally listed species would be consulted on in accordance with the Endangered Species Act.

Please see Aquatic Resources, Fish, and Special Status Fish Management, Objective 2, Action 1, A1ternatives A, B, C, and D in the DRMP/EIS which identify the following: "Support conservation measures that: (1) support genetic integrity of special status fish; (2) reduce adverse competition between special status fish and nonnative species; and (3) documentation of genetic identification that supports fisheries management."

O4-27: Increased public education is proposed for a variety of resource areas and under a number of actions, including Geology (Objective 1, Action 1), Vegetation – Weeds (Objective 1, Action 4), Cultural Resources (Objective 2, Action 4), Transportation and Travel Management (Objective 4, Action 4), and Watchable Wildlife Viewing Sites (Objective 1, Action 3) in the DRMP/EIS. The following new actions have been included in the PRMP/FEIS:

"Aquatic Resources, Fish and Special Status Fish Management, Objective 1, Action 10: Public education would be conducted to inform the public about special status and native fish species, aquatic habitat needs, aquatic/riparian ecosystem

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O4-27 (continued): functions, and BLM conservation and restoration management strategies. As needed, information would also be provided at key sites to inform the public about the presence of special status fish, how to identify them, and how to release them (if not legal to keep). Key sites may include recreation sites, boat ramps, trail heads, and other public fishing access areas.

"Wildlife and Special Status Wildlife Management, Objective 9, Action 9. Public education would be conducted to inform the public about special status and other native wildlife species, species habitat needs, ecosystem functions, and BLM conservation and restoration management strategies."

O4-28: Wildlife and Special Status Wildlife, Objective 8 in the DRMP/EIS, and all accompanying actions under all alternatives are intended to provide special management direction for habitats occupied by sensitive species. Wildlife and Special Status Wildlife, Objective 9, Action 5 in the DRMP/EIS intends to minimize adverse impacts to wildlife travel corridors and fragmentation of habitats.

O4-29: Soils Action 1 refers to mapping sensitive land types and does not refer to logging on slopes up to 55%. Depending on land-type characteristics (including geology, aspect, and slope hydrology) slopes can vary greatly in inherent sensitivity to management activities. Design of projects considers slope stability. Also, see response to Comment Number O2-39.

O4-30: During project development, site specific analysis will consider soil concerns.

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O4-30 The CFO should also adopt the limitation of ≤ 20% total soil resource commitment used by the neighboring national forests.

Travel Management

O4-31 The growth of Off Highway Vehicle (OHV) use on public lands has grown exponentially in recent years. Consequently, irresponsible use and resource damage has occurred as a result. The majority of the detrimental effects of irresponsible OHV use on public lands have occurred due to cross-country travel and the creation of pioneered or user-created routes. It is encouraging to see that, as part of the Cottonwood RMP revision, the BLM is proposing to restrict OHV use on BLM land in the Cottonwood Field Office (FO) with the exception of designated routes and trails. This proposal will aid in the protection of public lands from irresponsible OHV use, as well as to provide opportunities for non-motorized recreation and solitude.

O4-32 Having said that, the BLM should consider additional route and trail restrictions involving additional resource concerns *as part of a separate travel management process*. This is an onerous process where the CFO will need to consider additional restrictions on motorized use in bull trout priority watersheds; big game migration corridors and big game calving areas; habitat for threatened and endangered plants, fish and wildlife; 303(d)-listed watersheds where designated beneficial uses are not being met; and where non-motorized hunting and fishing opportunities could be available. The Forest Service is already requiring every ranger district to designate routes and restrict cross-country travel. Each district will designate routes based on a travel management process, separate from preparation of a land use management plan, and publish a Motor Vehicle Use Map.

O4-33 This map then becomes the enforcement mechanism. Recreationists become responsible to obtain and use the map to insure they know what routes are open and which routes have travel restrictions. This way it is not up to the agency to specify whether routes are "open unless posted closed" or "closed unless posted open." The traditional method of using signage is very ineffective considering that these signs were often torn down, allowing users to claim that they unknowingly violated the travel restrictions.

The CFO should use a similar approach to inform users of travel restrictions and provide a more reliable enforcement mechanism. On the Motor Vehicle Use Map, a "Code of OHV Conduct" should be visible that explains why cross-country travel and ecologically abusive OHV use is irresponsible and unfair to other public lands users. In the same way that poaching has come to be frowned upon, it is important to cultivate similar cultural and societal views about irresponsible OHV use. This will require efforts on the part of BLM field offices and Forest Service ranger districts alike. The Motor Vehicle Use Map and "Code of OHV Conduct" could be made available at all BLM offices, Forest Service Offices, and at the Idaho Department of Parks and Recreation where users register their OHVs.

Minerals

The effects of previous mining activities in North Central Idaho are well known since many of the effects are still obvious today. In many streams and riparian areas, tailings piles are still

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O4-31: Thank you for your comment.

O4-32: The travel management planning process conducted as part of the RMP process builds in flexibility for future changes to travel area polygons and routes. See criteria in Transportation and Travel Management, Objective 3 and all accompanying actions identified in the DRMP/EIS, which provide the flexibility to make travel plan modifications based on the issues you specify.

O4-33: The RMP will include travel management maps for the CFO. They will be similar to the travel management maps shown in Volume IV as Figures 31 through 33 of the DRMP/EIS. Transportation and Travel Management, Objective 4 and all accompanying actions in the DRMP/EIS include direction for public education and outreach.

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present on both BLM and Forest Service lands. Properly functioning streams are rare where channels have been modified and where mining has resulted in water pollution and sediment delivery. In many cases, miners completed their operations and left or where not required to secure substantive bonds that would cover full reclamation costs. As a result, taxpayers have had to cover the costs of reclamation where reclamation projects have actually been developed and implemented.

O4-34 The revision of the Cottonwood RMP provides the opportunity to insure that, should mineral prices favor renewed mining operations on the FO, future mining operations are followed by full and adequate reclamation. The revised RMP should require that mining operators obtain substantive bonds that will cover full reclamation costs as a condition of approving their plans of operations (POs).

O4-35 Secondly, there are Clean Water Act (CWA) obligations with regard to suction dredging and placer mining that are not being met throughout Idaho. Often, POs are being approved without proper § 401 certification. In *Hells Canyon Preservation et al. v. Haines et al.*, the District of Oregon determined that suction dredging and placer mining result in a "discharge," and where navigable waters are present "Federal agencies are thereby prohibited from issuing federal licenses or permits until applicants have obtained certification from the state that discharges resulting from the federally permitted activities will conform to the CWA's permitting and water quality requirements." 33 U.S.C. § 1341(a)(1). Therefore the Cottonwood RMP/EIS should require § 401 certification as a condition of PO approval.

Likewise, operators may also need to obtain a National Pollutant Discharge Elimination System (NPDES) permit or § 404 permit prior to approval of their PO as part of the certification process. The NPDES permitting program regulates point source pollution discharges, including sediment, and § 404 applies to dredge and fill activities. 33 U.S.C. §§ 1342, 1344. These permits should also be required by the Cottonwood RMP/EIS as a condition of PO approval.

O4-36 Lastly, mining operations should not be approved in 303(d)-listed streams or stream segments listed for sediment. The CWA does not provide for new or increased sources of sediment in these streams. Therefore the Cottonwood RMP/EIS should reflect that.

Lands & Realty

O4-37 One of the actions under the lands and realty section calls for the CFO to dispose of lands outside of "management blocks" on a case-by-case basis (Action 7, p. 2-44). Disposing of public lands, however, will reduce overall public access opportunities as well as opportunities to obtain and conserve important fish and wildlife habitat.

Instead, the CFO should seek to trade small parcels of BLM lands outside of the "management blocks" for private lands inside the management blocks to consolidate BLM lands. Alternatively, small parcels of BLM land outside of the management blocks could be traded for private lands inside existing or proposed Wild and Scenic River segments, ACECs, riparian areas or adjacent to Forest Service land. Such an action in the Cottonwood RMP/EIS would help to conserve

Responses

O4-34: This is not an RMP decision. Bonding for reclamation on minerals activities is required by Code of Federal Regulations, Title 43, Subchapter C - Minerals Management (3000). All types of allowable minerals activities have their own bonding requirements provided under specific Subparts (i.e.; 3104 for Oil and Gas Leasing, or 3809.500-599 for operations conducted on Mining Claims Under The General Mining Laws). Please also see response to Comment Number A1-13.

O4-35: The approval process for a Plan of Operation is described in relevant BLM documentation and includes completing a CWA-compliant environmental assessment process. The RMP is not the appropriate document to further describe the environmental assessment and CWA compliance associated with project-specific Plans of Operation.

O4-36: Water Resources, Objective 3 and its accompanying actions in the DRMP/EIS address authorizing management actions with respect to Clean Water Act 303(d)-listed streams.

O4-37: Your proposal is consistent with the CFO's land tenure adjustment process.

Comments

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O4-37 larger, contiguous tracts of habitat, would improve management abilities, and would aid in preserving or enhancing public access.

O4-38 As pointed out in the DRMP/EIS that are approximately 15 power site withdrawals in the CFO, primarily for previously proposed hydroelectric facilities. These power site withdrawals should be removed as part of the RMP revision process. Constructing hydroelectric facilities on the CFO at this time would not be permitted under the Endangered Species Act. Construction of hydroelectric facilities would contribute to additional declines in endangered salmonids, jeopardizing recovery efforts and possibly leading to extinction.

O4-39 Lastly, the fact that the revised Cottonwood RMP/EIS will encourage utilities to co-locate rights-of-way in existing corridors is encouraging. Often utilities want to locate new rights-of-way proposals in routes that are solely convenient for their purposes. However, the increasing number of new rights-of-way proposals for utilities in recent years causes concern for habitat fragmentation, degradation of recreational opportunities, and complicates resource management on public lands.

WSAs, ACECs & ACEC/RNAs

O4-40 We are encouraged by many of the proposals to expand and designate new ACECs on the CFO as part of RMP revision, including the Lower Salmon River ACEC expansion and designation of the East Fork American River ACEC. It is also encouraging to know that the CFO supports legislative attempts to designate the Lower Salmon River as part of the NWSRS, to prohibit construction of hydroelectric facilities in the Lolo Creek eligible and suitable WSR segment, and will continue to manage WSAs for wilderness values.

O4-41 However, one of the proposed ACEC designations is the American River Historic Sites District ACEC, which poses one important concern. If this ACEC is designated as part of the Cottonwood RMP revision process, it is unclear if important stream channel and restoration efforts necessary to improve salmonid habitat in the American River would be possible. If this ACEC is designated to preserve cultural mining sites in the American River, would this impede any potential efforts by the BLM to recountour stream channels and reconstruction flood plains, which might include removal or grading of tailings piles? There may or may not be a conflict between ESA obligations with regard to efforts to recovery threatened and endangered salmonids (including habitat restoration in the American River) and the ACEC designation being proposed here.

O4-42 Additionally, the CFO has proposed to reduce the size of the Lucile Caves ACEC from 404 acres to 136 acres. However, there is no clear reasoning spelled out in the DRMP/EIS for downsizing the Lucile Caves ACEC. The BLM has not analyzed how this will improve or protect the resources that the current ACEC is intended to preserve. In fact, the proposed decrease in size of the Lucile Caves ACEC is contradictory to the reasoning for designating the Lucile Caves ACEC in the first place. Specifically, the Lucile Caves ACEC designation was "necessary for protection, maintenance, and enhancement of the area, as well as to provide an education, research, and reference area" (p. 3-63). This would infer that the ACEC should either be expanded or maintained in size.

Idaho Conservation League Comments Regarding the Cottonwood DRMP/EIS
Page 10 of 14

Responses

O4-38: All power site withdrawals have been reviewed and recommended for revocation, where appropriate. This is a separate administrative procedure and not an action that can be accomplished in an RMP.

O4-39: Thank you for your comment.

O4-40: Thank you for your comment.

O4-41: The proposed ACEC designation for the American River Historic Sites District ACEC and restoration projects for aquatic and riparian areas would be subject to site-specific analysis through the NEPA process to determine potential impacts. DRMP/EIS Appendix C, *Conservation and Restoration Watersheds*, identifies the American River watershed and tributaries as a high priority watershed for restoration efforts.

O4-42: Refer to DRMP/EIS Appendix N, and the specific relevance and importance evaluation that was prepared for Lucile Caves (Pages N-7 and N-8). The supporting rationale for the proposed reduction in size are summarized in the findings section, which states: "Findings: It is proposed to reduce the size of the existing RNA/ACEC from 404 acres to 136 acres. The supporting rationale for the reduction was that updated inventory and analysis has determined that portions of the area did not fully meet the relevance and importance criteria identified for the original designation. Portions (i.e., 136 acres) of this existing RNA/ACEC meets the relevance and importance criteria for a federally listed plant, BLM sensitive wildlife, snails, plants, geology, and natural processes and will be carried forward for additional analysis and consideration in the draft RMP/EIS."

The reduced size of this ACEC/RNA will protect the resources for which it was established.

Comments

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Grazing

The effects of livestock grazing in a number of habitat types has been thoroughly researched and described. In Western North America, grazing has resulted in a loss of biodiversity, decreased population densities for a number of species, changed community composition and structure, influenced nutrient concentrations and cycling, and has changed physical characteristics in both aquatic and terrestrial ecosystems.[7] Since livestock tend to congregate in riparian areas, impacts in riparian areas due to livestock grazing are often amplified compared to those in upland locations.[8] However, regardless of the impacts in each ecosystem type, changes in livestock
O4-43 grazing management are warranted in many locations in order to improve ecological conditions. Considerations in grazing management are described bellow.

Vegetative Utilization and Timing

O4-44 Vegetative utilization should be low enough to insure that sufficient photosynthetic tissue remains for production of carbohydrates to meet growth and respiration demands of the vegetation. If grazing removes too much photosynthetic tissue, growth rates will be slowed materially, and additional reserves may be required for regrowth. Root growth usually is affected by heavy defoliation, which makes vegetation less competitive and more vulnerable to drought, because roots may not penetrate to depths where adequate moisture exists. The stunted growth of native palatable species also favors the introduction of invasive plants and noxious weeds.

O4-45 Vegetative regrowth can be significantly affected by livestock grazing during the growing season. Regrowth is reduced considerably when moisture is no longer is available and temperatures are too high or too low for rapid growth. In accordance with principles of adaptive management, grazing should be discontinued or reduced drastically at such point in time. If vegetative utilization continues, insufficient photosynthetic tissue may remain throughout the growing season, and plants could enter dormancy with less vigor and fewer reserves. Consequently, growth could be severely stunted the following year.

O4-46 Most vegetation can withstand greater utilization during early and rapid growth stages than it can later in the growing season when the opportunity for regrowth declines. Plants produce more leaves than stems in the spring. Leaves contain abundant supplies of energy, protein and other nutrients necessary to meet most grazing-animal requirements. *Grasses* can be used moderately during this period, but grazing should be discontinued or significantly reduced in time to allow for regrowth of leaves for photosynthesis and carbohydrate production.

O4-47 Grazing should be less intense during the reproductive stages of plants compared to periods of high spring growth. During vegetative reproductive cycles most of the energy and reserves of a plant are devoted to that process, leading to a decreased ability to compensate for livestock utlization. Little opportunity for regrowth exists during mid to late summer, so sufficient leafy

[7] Fleischner, T.L. 1994. Ecological costs of livestock grazing in Western North America. *Conservation Biology*. 8(3): 629-644.
[8] Ibid.

Idaho Conservation League Comments Regarding the Cottonwood DRMP/EIS
Page 11 of 14

Responses

O4-43: Thank you for your comment.

O4-44: Thank you for your comment.

O4-45: Upland and riparian vegetation is monitored on grazing allotments to determine if management objectives are being met. Please see DRMP/EIS Appendix A, Idaho Standard for Rangeland Health and Guidelines for Livestock Grazing Management, Standards for Rangeland Health, on page 3, third paragraph.

O4-46: Refer to the response to Comment Number O4-47.

O4-47: BLMs standards and guides process Appendix A (see DRMP/EIS Volume III) requires reviewers to look at plant health and vigor in Standard 4, Standard 5, and Standard 6 when Allotments are assessed to insure Standards for Rangeland health are being met. Livestock grazing leases are reviewed on a regular basis, at which time they can be modified to meet such principles.

Comments

O4-47 material should remain after grazing to maintain sufficient carbohydrate levels within the vegetation.

Fall and winter grazing is least detrimental after plant growth is complete and plants are dormant. Although this older and dead material is low in some essential nutrients, particularly protein, energy content remains moderate to high. Removal of dead leaf material and stems during dormancy has little direct effect on most plants.

O4-48 Trampling can also incur significant vegetative damage. Trampling in riparian areas should be minimized to ≤5% surface area. Removal of mulch and litter may cause greater temperature extremes near the soil surface. This may adversely affect growth the following year. Although

O4-49 fall and winter grazing has the least detrimental effect on vegetation, there may still be highly negative environmental impacts if grazing is too heavy.

O4-50 Heavy utilization during the growing season should also be avoided. Allotment management plans should incorporate rest periods and movement of animals through different pastures during vegetative growth and should avoid season-long grazing.

Each allotment should allow vegetative rest or deferment after grazing. This is necessary for regrowth and to maintain sufficient photosynthetic tissue for regrowth and maintenance. Grazing

O4-51 rotations and routes should be adjusted to avoid known locations of wolves and their dens and grizzly bear habitat. The Forest Service should work with the permittees to develop a wide range of non-lethal deterrents if conflicts arise between predatory wildlife species and livestock.

O4-52 Lastly, the Forest Service should not rule out the possibility of retiring allotments or reducing AUMs where candidate, threatened, or endangered species habitat is present; where water quality standards are not being met; or where other higher resource values are present or in conflict with livestock grazing.

Riparian Grazing

O4-53 As previously mentioned, grazing impacts in riparian areas are often more pronounced in riparian areas than in upland areas due to the tendency of livestock to congregate there. Riparian areas should receive special consideration because they contain the most biologically rich habitats in the arid and semi-arid regions of the west.[9] As Platts summarizes, livestock grazing in riparian areas changes stream channel morphology, increases water temperature, increases nutrient concentrations, leads to erosion and sediment delivery, and promotes high bacterial reproduction.[10]

Fisheries are also heavily impacted by poorly managed riparian grazing. There are numerous studies to illustrate this point. One such study of the Rock Creek Drainage in Montana compared grazed and ungrazed portions of that watershed. Densities of brown trout in Rock Creek where

[9] Ibid.
[10] Platts, W.S. 1981. Influence of forest and rangeland management on anadromous fish habitat in Western North America. No. 7. Effects of livestock grazing. *GTR-PNW-124*. Portland, OR: Pacific Northwest Forest and Range Experiment Station, USFS.

Responses

O4-48: Vegetation – Riparian and Wetlands, Objective 1, Action 1 in the DRMP/EIS includes measures to protect riparian areas from livestock grazing trampling: "Improvement of riparian condition may be accomplished in a variety of ways, examples include: (1) riparian restoration (e.g., plantings, seedings, re-contouring, placement of topsoil, control of undesirable vegetation); (2) modifying lands uses that further degrade riparian conditions (e.g., livestock grazing; vehicle use, recreation use); and (3) implementation of Aquatic and Riparian Management Strategy (Appendix F, Aquatic and Riparian Management Strategy, Alternative B [see Volume III of the DRMP/EIS])." Also refer to the response to Comment Number O4-45 regarding Idaho Standards for Rangeland Health.

O4-49: Season of use is addressed in Livestock Grazing, Objective 4, Action 3 and Objective 5, Action 7 of the DRMP/EIS.

O4-50: BLM conducts Rangeland Health Assessments on each allotment to determine if resource objectives are being met. During the assessment process watersheds; riparian areas and wetlands; stream channel/floodplains; native plant communities; seedings; exotic plant communities; water quality; and threatened and endangered plants and animals are reviewed to see if standards are being met. If standards are being met, then the existing livestock management is authorized. However, if a standard is not being met, then the BLM modifies the livestock management so that all standards will be met. Consequently Allotment Management Plans are not always needed. Season of use is addressed in Also, please refer to the response to Comment Number O4-49.

O4-51: This is a BLM planning document and not that of the US Forest Service. Wildlife and Special Status Wildlife, Objective 5 and all accompanying actions in the DRMP/EIS address the gray wolf. Please also refer to the response to Comment Number O4-52.

(continued on the following page)

Responses
(Continued from Previous Page)

O4-52: This is a BLM planning document and not that of the US Forest Service. Wildlife and Special Status Wildlife, Objective 10, Action 4 in the DRMP/EIS addresses livestock grazing with respect to riparian areas, fish habitat, and water quality. In addition, Appendix A of the DRMP/EIS includes the Idaho *Standards for Rangeland Health and Guidelines for Livestock Grazing Management* (BLM 1997a), which provide policy and direction for livestock grazing. These are used as the BLM's management goals for the betterment of the environment, protection of cultural resources, and sustained productivity of the range. Standards address watersheds, riparian areas and wetlands, stream channels/floodplains, native plant communities, seedings, exotic plant communities other than seedings, water quality, and threatened and endangered plants and animals. 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. Guidelines for Livestock Grazing Management direct the selection of grazing management practices to promote significant progress toward, or the attainment and maintenance of, the Standards.

O4-53: Please also refer to the response to Comment Number O4-52.Also refer to Grazing Management measures GM-1 through GM-4 in Appendix F (Aquatic and Riparian Management Strategy—Alternatives B, C, and D).

Comments

32.5% higher (in pounds per acre) in ungrazed reaches of the stream than those that were grazed. Similarly, streamside cover, brush, and debris was 76.4% higher in the ungrazed reaches of Rock Creek.[11] Although there are certainly a range of impacts of grazing on different fisheries, the presence of salmonids and other aquatic species warrants additional caution in managing riparian grazing.

O4-54 Where sensitive, candidate, threatened, or endangered fish populations exist, grazing should be excluded from riparian areas with fencing and/or active herding of livestock away from riparian areas. These fish species include westslope cutthroat, Yellowstone cutthroat, redband trout, and bull trout. Riparian areas should be delineated according to the standards and guidelines contained in INFISH/PACFISH.

Excluding livestock grazing from riparian areas can actually benefit livestock as well. Riparian habitats that support a richness of avian species will reduce flies and other insects that reproduce in the presence of livestock dung or those that pester livestock. Birds will feed on insects and larvae of insectivorous species that swarm and annoy livestock.

O4-55 In general terms of riparian composition and structure, an average of 90% or more of riparian areas should be in late seral status and stream banks should have a bank stability of 90% or more.

Compliance with Clean Water Act & State Water Quality Standards

O4-56 Any water body, stream, or tributary that is listed pursuant to section 303(d) of the Clean Water Act for not meeting beneficial uses such as temperature, sediment, nutrients, cold water biota, fisheries, etc, should be excluded from cattle grazing. This is necessary to bring those water bodies into compliance with the Clean Water Act and their respective TMDLs.

O4-57 Where TMDLs have not been completed by the State of Idaho and beneficial uses are not being met, the Forest Service must comply with the non-degradation standard of the Clean Water Act. Compliance with this standard may require significant changes in riparian grazing management to prevent non-degradation.

Monitoring

O4-58 Monitoring and demonstration sites should also be established in each allotment. These sites should consist of pairs of adjacent plots where livestock grazing is allowed at the permitted levels and where grazing has been excluded with fencing (about 50 ha in size). Monitoring these neighboring plots will illustrate the degree to which the permitted livestock use is affecting the vegetation and the ecosystem. If adaptive management is to be applied as an effective tool for minimizing the negative impacts of grazing, monitoring is a necessity to make comparisons between grazed and excluded plots to change grazing prescriptions when needed.

However, differences between grazed and excluded plots should be considered minimal differences at best vis-à-vis any differences between a plot that is grazed and historical

[11] Meehan, W.R., and W.S. Platts. 1978. Livestock grazing and the aquatic environment. *Journal of Soil and Water Conservation*. 33(6): 274-278.

Responses

O4-54: Refer to the responses to Comment Numbers O4-52 and O4-53.

O4-55: Thank you for your comment.

O4-56: Water Resources, Objective 3 and its accompanying actions within the DRMP/EIS address authorizing management actions with respect to Clean water Act 303(d)-listed streams. Please also refer to the response to Comment Number O4-52.

O4-57: Please refer to the responses to Comment Number O4-56.

O4-58: The CFO is following the BLM Idaho protocol for rangeland and riparian monitoring.

Comments

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O4-58 conditions, prior to domestic livestock introduction. As Fleischner points out, many exclosures have been grazed prior to livestock exclusion, and full, natural recovery often does not occur expediently or without active restoration efforts.[12] Therefore range managers should assume that grazed plots are actually more impacted than an exclosure plot might illustrate.

Sufficient pairs of plots should be placed throughout each allotment to insure that adequate plots are present to monitor conditions in both upland and riparian ecosystems as well as across the allotment. These plots should be monitored before and after the permitted grazing period in each allotment. Plots should also be monitored during rest or deferment. Furthermore, monitoring data should be kept on record, made available to the public upon request, and should be incorporated into the analyses for the reauthorization of permits in the future.

O4-59 Depending upon the results of the monitoring process, the some of the following adjustments may need to be made to the grazing prescriptions:

- Reduce stocking densities,
- Reduce the frequency of grazing in an allotment,
- Increase rest periods between grazing,
- Increase active efforts to heard or exclude livestock from riparian areas, and/or
- Locate troughs and water developments away from riparian areas.

Noxious Weeds

The list of BMPs for weed prevention on the CFO in Appendix E will help to minimize the spread of noxious weeds and invasive plants. However, the CFO should also consider a range of noxious weeds treatment plans in the DRMP/EIS and requiring those with livestock to utilize certified weed free straw and feed.

O4-60 The entire analysis lacks adequate consideration of a full range of alternatives, the section addressing noxious and invasive weeds is especially nonspecific and insufficient in its comparison of alternatives. In fact, the document does not include any sort of range of alternatives with regard to noxious weed treatments, but instead includes the same set of objectives and actions for each of the full alternatives. Moreover, the document fails to provide any details about specific treatments proposed. The BLM needs to consider and assess the impacts of several different treatment plans that reflect different combinations of treatments, such as prevention, biological and cultural controls, and herbicide treatments. The development of these alternatives should be preceded by a thorough inventory of noxious weed invasions within the management area. The final RMP/EIS should include detailed descriptions of proposed treatments and their likely impacts, both positive and negative. The BLM needs to specify whether any of the alternatives include aerial spraying and if so, how potential adverse impacts to water quality and native vegetation will be mitigated.

[12] Fleischner, T.L. 1994. Ecological costs of livestock grazing in Western North America. *Conservation Biology*. 8(3): 629-644.

Idaho Conservation League Comments Regarding the Cottonwood DRMP/EIS
Page 14 of 14

Responses

O4-59: Refer to the response to Comment Number O4-58. If management objectives are not being met, adjustment in grazing and range management practices are applied through the administrative process.

Also see Appendix F regarding monitoring/adaptive management.

O4-60: The nature of BLM's weed control program, in scope, emphasis, and effectiveness is tied to local WMA partnerships. Due to a scattered land pattern, BLM does not have the ability to effectively manage weeds alone, nor do we have a broad range of alternatives available to us other than to implement Integrated Pest Management components through a cooperative effort as budgets and workforce allow. We will be implementing the strategy as prescribed in the DRMP/EIS regardless of alternative. The alternatives do not vary because under all scenarios, all management options for noxious weeds will be available to BLM managers. The BLM's participation in and commitment to Cooperative Weeds Management Areas necessitates flexibility in noxious weed control treatments to meet the BLM's obligations in weed management strategies that cross numerous ownership boundaries. Development and implementation of weed control on BLM lands is site specific and will be analyzed through the NEPA process at the project level. Potential impacts are assessed at that time and the project must conform to applicable BLM policy and guidance as shown in Table 1-3 p 1-9 of the DRMP/EIS.

Regarding requiring those with livestock to utilize certified weed free straw and feed, please refer to the response to Comment Number O2-42.

Comments

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Greg M. Yuncevich
CFO, BLM
1 Butte Drive
Cottonwood, Idaho 83522-5200

November 27, 2006

RE: Idaho Conservation League Addendum to Comments Regarding the Cottonwood DRMP/EIS
1620 (420)

Dear Greg,

Please accept this addendum to our previous comments submitted November 22, 2006. I failed to incorporate some important comments on bighorn sheep in that set of comments.

Sincerely,

Bradley Smith,
Conservation Assistant

Idaho Conservation League Addendum to Comments Regarding the Cottonwood DRMP/EIS
Page 1 of 2

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Responses

Comments

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Idaho Conservation League Addendum to Comments Regarding the Cottonwood DRMP/EIS

Bighorn Sheep

O5-1 Providing disease-free habitat is a fundamental consideration when managing habitat capable of supporting viable populations of bighorn sheep. The Idaho Conservation League believes that the Cottonwood DRMP/EIS should be revised to include additional considerations to reduce or eliminate the risk of domestic sheep transmitting disease to bighorn sheep.

O5-2 For example, the BLM should include an "objective" to eliminate transmission of disease from domestic sheep to bighorn sheep. A necessary "action" to achieve this objective should include coordinating with the Idaho Department of Fish and Game, Oregon Department of Fish and Wildlife, and domestic sheep permittees to reduce the risk of disease transmission between domestic and wild sheep.

O5-3 Furthermore, we recommend modifying livestock management in high and moderate areas of disease transmission. The best solution to the incompatibility of domestic sheep and bighorn sheep is to ensure the separation of domestic and bighorn sheep to the greatest extent possible. Other measures may include finding alternate grazing areas or switching livestock operations from sheep to cattle where possible.

Responses

O5-1: See response to Comment Number A3-31.

O5-2: See response to Comment Number A3-31.

O5-3: See response to Comment Number A3-31.

Comments

FOUNDATION FOR NORTH AMERICAN WILD SHEEP
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"Putting wild sheep on the mountain"

Ms. Carrie Christman
Bureau of Land Management
Cottonwood Field Office
1 Butte Drive
Cottonwood, ID 83522

Dear Ms. Christman

Thank you very much for the opportunity to comment on the DRAFT Resource Management Plan and Environmental Impact Statement for the Cottonwood District.

O6-1 In carefully reviewing your document, we can not find much reference to the procedures that the BLM will specifically take to protect the Bighorn sheep populations or their habitat on or near various sheep grazing allotments (allotments #36240, 36242, 36358) in the Cottonwood District. Bighorn sheep and domestic sheep must be kept separated. It is well established that where bighorn sheep come in contact with domestic sheep, the domestic sheep pass along a bacteria that causes pneumonia symptoms in the bighorns and the bighorns die.

O6-2 We strongly believe that the BLM Resource Management Plan and Environmental Impact Statement for the Cottonwood District should work in concert with the revised Payette National Forest Plan and Resource Management Plan. I have attached a copy of the Risk Analysis and the Science Panel Discussion recently done by the Forest Service. I hope these will be helpful.

Please contact me at once with any questions or concerns.

Respectfully yours,
Larry Jacobs, President
Foundation for North American Wild Sheep (FNAWS)
Oregon Chapter

Enclosures (2)

cc: Payette Forest Supervisor, Susanne Rainville
Payette Forest Planning Specialist, Patty Soucek

Responses

O6-1: See response to Comment Number A3-31.

O6-2: See response to Comment Number A3-31.

Comments

United States Department of Agriculture

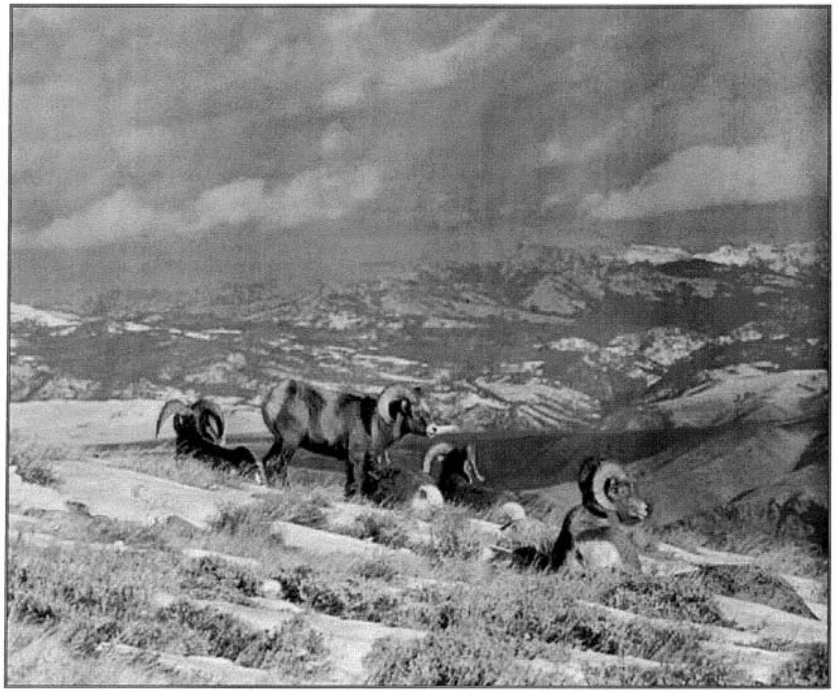
Forest Service

Intermountain Region

Payette National Forest

February 6, 2006

Risk Analysis of Disease Transmission Between Domestic Sheep and Bighorn Sheep on the Payette National Forest



Responses

Attachment to Letter O6, not a comment letter on the CFO DRMP/DEIS.

Comments	Responses
Risk Analysis of Disease Transmission Between Domestic Sheep and Bighorn Sheep on the Payette National Forest **Payette National Forest** **800 West Lakeside Avenue** **P.O. Box 1026** **McCall, ID 83638** **February 6, 2006**	Attachment to Letter O6, not a comment letter on the CFO DRMP/DEIS.

Comments

Background

In a March 14, 2005 appeal decision on the 2003 Forest Plan for the Payette National Forest (NF), the reviewing officer for the Chief of the Forest Service made the following determinations (USDA Forest Service 2005:page 15):

> "Management direction in the Payette NF LRMP [Land and Resource Management Plan] for the Hells Canyon MA [Management Area] does not adequately provide for habitat to insure the maintenance of a viable bighorn sheep population within the Payette NF (36 CFR 219.19). It also does not adequately protect bighorn sheep populations and habitat in the Hells Canyon NRA (36 CFR 292.48). I find the Payette NF LRMP is not in compliance with NFMA regulations concerning wildlife viability of bighorn sheep, and may not be in compliance with the Hells Canyon NRA Act and its implementing regulations. The Regional Forester's decision to approve revised management direction in the Payette NF LRMP for the Hells Canyon MA is reversed."

The following direction was provided in the appeal decision (USDA Forest Service 2005:page 15):

> "The Regional Forester is instructed to do an analysis of bighorn sheep viability in the Payette NF commensurate with the *concerns and questions* [italics added] discussed above, and amend the SW Idaho Ecogroup FEIS [Final Environmental Impact Statement] accordingly. Changes to the management direction of the Payette NF LRMP for MA #1 (Hells Canyon) and adjacent areas shall be evaluated, and adopted as necessary to ensure bighorn sheep viability. The analysis and evaluation must be extensive enough to support determinations of compliance with applicable law and regulation, specifically the Hells Canyon NRA Act, 36 CFR 219.19, and 36 CFR 292.48."

The "... concerns and questions ..." identified on line 2 of the preceding paragraph refers to the threat to bighorn sheep populations resulting from diseases transmitted from domestic sheep grazed on the Payette NF. This issue was raised in 3 separate appeals to the 2003 Payette Forest Plan (USDA Forest Service 2005:page 10).

Following direction from the Chief's Reviewing Officer, the Payette NF conducted an analysis of the effects of disease transmission from domestic sheep grazed on the Forest to bighorn sheep populations occurring within and near the Payette NF. This report summarizes the results of this analysis.

The analysis was conducted at the spatial scale of the Payette NF, even though direction in the LRMP appeal decision focused on the Hells Canyon Management Area (MA #1). Language in the appeal decision incorrectly states that the 2 bighorn sheep populations on the Payette NF are the Hells Canyon and Snake River populations (USDA Forest Service 2005:page 13). Bighorn sheep populations occur in 2 distinct geographic areas on the Payette NF: Hells Canyon of the Snake River and the Salmon River Mountains (referred to as Salmon River Canyon on page 3-286 of the FEIS for the Southwest Idaho Ecogroup Land and Resource Management Plans). The analysis consists of 3 parts: 1) a review of the scientific literature on disease transmission from domestic sheep to bighorn sheep and the impacts that disease has on bighorn sheep populations; 2) an evaluation of population data available for bighorn populations located within and adjacent to the Payette's boundaries; and 3) an expert panel assessment of risk of disease transmission from each of the Payette's domestic sheep allotments to nearby bighorn sheep populations.

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Literature Review

Status of Bighorn Sheep

Two species of mountain sheep occur in North America: thinhorn sheep (*Ovis dalli*) and bighorn sheep (*O. canadensis*). Dall's sheep (*O. d. dalli*) occur in Alaska and northwestern Canada, and Stone's sheep (*O. d. stonei*) occur in northwestern Canada. Bighorn sheep occur in western North America from British Columbia and Alberta to northwestern Mexico. Traditionally, bighorn sheep have been divided into Rocky Mountain bighorn sheep (*Ovis c. canadensis*), California bighorn sheep (*O. c. californiana*), and desert bighorn sheep (*O. c. nelsoni*), but see Wehausen and Ramey (2000).

Bighorn sheep were abundant and widely distributed across the western United States prior to the mid 1800s. The combined effects of overharvest, habitat loss, competition for forage caused by livestock overgrazing, and diseases transmitted by domestic livestock resulted in precipitous declines in abundance and distribution of bighorn sheep during the late 1800s and early 1900s (Goodson 1982, Valdez and Krausman 1999). Rocky Mountain and/or California bighorn sheep were extirpated from eastern Montana, eastern Wyoming, western North and South Dakota, northwestern Nebraska, Oregon, Washington, northern California, New Mexico, and Nevada (Valdez and Krausman 1999:page 21). Desert bighorn populations were extirpated from Texas and the Mexican states of Chihuahua and Coahuila (Valdez and Krausman 1999:page 21). Despite extensive efforts to recover bighorn populations in the western U.S., the total number of bighorn sheep in the U.S. currently is thought to be less than 10% of presettlement numbers. Current distribution of bighorn sheep is less than a third of its presettlement distribution, and most existing populations are relatively isolated and small, composed of fewer than 100 individuals (Berger 1990, Singer et al. 2000c). Over half of existing bighorn populations are the result of translocations (Singer et al. 2000c). Indigenous populations of bighorn sheep in the Peninsular Ranges of southern California and the Sierra Nevada of California are currently listed as endangered under the Endangered Species Act.

Bighorn sheep were abundant in Idaho prior to the 1850s (the following information on California and Rocky Mountain bighorn sheep populations in Idaho was summarized from Smith 1954 and Toweill and Geist 1999). California bighorns occurred in southwest Idaho, separated from Rocky Mountain bighorn populations by the Snake River plains. Similar to other areas throughout the western U.S., large die-offs of California bighorn herds occurred during the late 1800s and early 1900s. California bighorn sheep were extirpated from Idaho by 1940. In 1963 Idaho began reintroducing California bighorns along the East Fork of the Owyhee River. Hundreds of California bighorns were translocated to southwest Idaho between 1980 and 1993. Estimated numbers of California bighorns in Idaho were 90 in 1970; 570 in 1985; 1,240 in 1990; and 1,460 in 1997 (Toweill and Geist 1999:page 137).

Rocky Mountain bighorn sheep were abundant throughout mountainous areas of central Idaho prior to the 1850s. Settlement of Idaho in the mid 1800s led to increased harvest of bighorns, especially following discovery of gold in central Idaho in the 1860s and 1870s. Domestic sheep were brought into parts of Idaho in the 1860s, and historic accounts indicate that major die-offs of bighorns in the Salmon River Mountains began about 1870 (Smith 1954:page 21). Idaho started reintroducing Rocky Mountain bighorn sheep in 1969, and numbers of Rocky Mountain bighorn sheep in Idaho increased to nearly 4,000 sheep by 1989. Estimated numbers of Rocky Mountain bighorns in Idaho decreased from about 3,850 in 1990 to 1,710 in 1998 (Toweill and Geist 1999:page 85). Population declines during the 1990s were primarily the result of disease outbreaks (Toweill and Geist 1999:pages 84-85).

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Effects of Disease on Bighorn Populations

Populations of other wild ungulates such as mule deer (*Odocoileus hemionus*) and elk (*Cervus elaphus*) also were significantly reduced during the late 1800s and early 1900s, but their populations have recovered to a much greater extent than have populations of bighorn sheep. Perhaps the most important reason bighorn sheep populations have recovered poorly is that bighorn populations have been negatively affected by disease to a much greater extent than have populations of other wild ungulates such as mule deer and elk (Goodson 1982). Bighorn sheep is a New World species closely related to domestic sheep (*Ovis aries*). Domestic sheep, an Old World species, has likely evolved resistances to important diseases as a result of domestication and intense artificial selection. Because they are so closely related, bighorn sheep are thought to be highly susceptible to diseases carried by domestic sheep.

An extensive body of scientific literature on the effects of disease on bighorn populations has accumulated. The literature indicates the following: 1) numerous examples of bighorn die-offs due to disease have been documented; 2) bighorn die-offs were documented as early as the mid 1800s and have been documented in every state in the western U.S.; 3) bighorn die-offs typically follow known or suspected contact with domestic sheep; 4) under experimental conditions, clinically healthy bighorn sheep have developed pneumonia and died within days to weeks following contact with clinically healthy domestic sheep; 5) a variety of diseases and pathogens have been implicated in die-offs, but most commonly the disease implicated in the die-off is bacterial pneumonia (Pasteurellosis) caused by *Mannheimia haemolytica* (formerly *Pasteurella haemolytica*) or other species of closely related *Pasteurella* bacteria; 6) there is consensus among wildlife biologists and veterinarians experienced in bighorn sheep management that domestic sheep and bighorn sheep must be kept separated in order to maintain healthy bighorn populations (e.g., Foreyt and Jessup 1982; Goodson 1982; Onderka and Wishart 1988; Foreyt 1989; Desert Bighorn Council Technical Staff 1990; Callan et al. 1991; Cassirer et al. 1996; Martin et al. 1996; USDI Bureau of Land Management 1998; Bunch et al. 1999; Singer et al. 2000a, 2000b, 2000c, 2000d; Monello et al. 2001; Schommer and Woolever 2001; Singer et al. 2001; Dubay et al. 2002; Garde et al. 2005).

There is evidence that domestic goats (*Capra aegagrus hircus*) can transmit *M. haemolytica* to bighorn sheep (Rudolph et al. 2003). Bighorn sheep and domestic sheep are attracted to each other, which greatly increases the potential for close contact and disease transmission. Transmission of *M. haemolytica* requires nose-to-nose contact or transfer of mucus through coughing or sneezing. Currently there is no vaccine available known to prevent bighorn sheep from developing pneumonia. Even if such a vaccine were available, it would be difficult and expensive to vaccinate large numbers of wild bighorns. Bighorn sheep are easily stressed, so much so that they are susceptible to a condition termed "capture myopathy" when handled (Bunch et al. 1999:pages 233-237).

Pneumonia outbreaks frequently result in mortality of many to most individuals within the herd. All age classes of bighorns are typically affected. In addition to high mortality of all age classes during the pneumonia outbreak, lamb survival and thus recruitment typically remains depressed for 2 or more years following the epizootic. Because of these impacts on both survival and recruitment, pneumonia outbreaks can have significant long-term impacts on bighorn sheep populations. Singer et al. (2001) evaluated correlations between population persistence of 24 translocated bighorn sheep populations and several variables, including distance to domestic sheep. Persistence of bighorn populations was significantly correlated with the presence of domestic sheep: bighorn populations located closer to domestic sheep had smaller population sizes and lower population growth rates than bighorn populations located farther from domestic sheep. In a different study, Singer et al. (2000b) analyzed factors that contributed to the success of 100 bighorn translocations within 6 western states between 1923 and 1997. Sites where

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translocations were unsuccessful were located significantly closer to domestic sheep than were sites where translocations were successful. Gross et al. (2000) used individual-based simulation models to evaluate the effects of disease on bighorn population dynamics. Results of model simulations were significantly affected by the occurrence of disease. Modeled disease events of moderate and severe intensity resulted in higher 200-year extinction rates than mild disease events, but mild disease events had longer lasting effects on population size (over 2 decades) than did moderate or severe disease events. 200-year extinction rates approached 80% when models incorporated moderate and severe disease events at 15-year frequencies.

Management of Bighorn Sheep Disease Issues

Goodson (1982) listed several examples of past management direction or guidelines taken to reduce the risk of disease transmission from domestic sheep to bighorns. As early as 1954, Colorado Division of Wildlife purchased land in bighorn range at Pikes Peak to prevent domestic sheep grazing, thus reducing potential contact between domestic sheep and bighorns. Goodson (1982) noted that the San Bernardino and Angeles National Forests in California developed a policy against domestic sheep grazing on occupied bighorn range as early as 1967. Goodson (1982) also cited NEPA decisions on the Inyo and San Bernardino National Forests to not conver from cattle to sheep allotments based on concern about the potential for disease transmission between domestic sheep and bighorns. As a result of concern over disease transmission between domestic sheep and bighorn sheep, the Director of Wildlife and Fisheries for the U.S. Forest Service sent a memo to Regional Foresters in western regions in 1981 stating that "... Appropriate caution should be exercised to prevent contact between the species" (Jones 1981 as cited in Goodson 1982).

In 1995 the Wallowa-Whitman National Forest eliminated domestic sheep grazing from 3 active allotments within the Hells Canyon National Recreation Area to reduce threats to bighorn sheep viability posed by disease transmission from domestic sheep (USDA Forest Service 1995a, 1995b). In 2003 the Uinta National Forest in Utah closed 2 vacant sheep allotments due to concern over disease transmission to reintroduced Rocky Mountain bighorn sheep (USDA Forest Service 2003c:page ROD-4).

The Desert Bighorn Council Technical Staff (1990) developed guidelines for management of domestic sheep in the vicinity of desert bighorn habitat. Their recommendations included: 1) no nose-to-nose contact between bighorn and domestic sheep; 2) a minimum of a 13.5-km-wide (8.4 miles) buffer strip between ranges used by domestic sheep and bighorns; 3) trucking of domestic sheep in preference to trailing, and no trailing when domestic ewes are in estrus; and 4) no bighorn reintroductions into areas that have been grazed by domestic sheep during the previous 4 years.

In 1992, the Bureau of Land Management (BLM) issued Instruction Memorandum 92-264, *Guidelines for Domestic Sheep Management in Bighorn Sheep Habitats*, as part of an ongoing effort to restore bighorn sheep populations into historically occupied habitats on public lands (USDI Bureau of Land Management 1992). In 1998, Bureau of Land Management issued Instruction Memorandum No. 98-140, *Revised Guidelines for Management of Domestic Sheep and Goats in Native Wild Sheep Habitats* (USDI Bureau of Land Management 1998). Guidelines included: 1) domestic sheep or goat grazing and trailing should be discouraged in the vicinity of native wild sheep ranges; 2) native wild sheep and domestic sheep or goats should be spatially separated by buffer strips of 13.5 km (8.4 miles) except where topographic features or other barriers minimize contact between native wild sheep and domestic sheep or goats; 3) domestic sheep and goats should be closely managed and carefully herded where necessary to prevent them from straying into native wild sheep areas; 4) trailing of domestic sheep or goats near or through occupied native wild sheep ranges may be permitted when safeguards can be

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implemented to prevent physical contact between native wild sheep and domestic sheep or goats; 5) BLM must conduct on-site use compliance during trailing to ensure safeguards are observed; 6) cooperative efforts should be undertaken to quickly notify the permittee and appropriate agency to remove any stray domestic sheep or goats or wild sheep in areas that would allow contact between domestic and wild sheep; 7) native wild sheep should only be reintroduced into areas where domestic sheep or goat grazing is not permitted.

Schommer and Woolever (2001) presented guidelines for and examples of management solutions to domestic sheep/bighorn sheep conflicts. They provided examples of different management actions to reduce or eliminate the risk of disease transmission from domestic sheep: conversion of sheep allotments to cattle allotments, moving domestic sheep to another allotment or dropping pastures from sheep allotments, trucking versus trailing sheep, changing rotations or season of use, more intensive efforts to herd sheep and gather strays. Schommer and Woolever (2001) recommended 1) using a collaborative approach to develop solutions; 2) developing strategies to keep domestic sheep and bighorn sheep separated *at all times*; 3) developing site-specific solutions for each bighorn sheep herd; 4) developing management strategies when the situation is complex; and 5) maintaining flexibility and opportunities for the livestock industry by leaving vacant allotments open when they are not in conflict with other resource uses. Examples are also provided of a bighorn sheep/domestic sheep management strategy for the Wallowa-Whitman NF and forest plan direction on management of bighorn sheep habitat from the White River NF in Colorado.

Wyoming provides an example of a state effort in dealing with domestic sheep/bighorn sheep issues (Wyoming State-wide Bighorn/Domestic Sheep Interaction Working Group 2004). The U.S. Fish and Wildlife Services developed an interagency domestic sheep management strategy to help protect endangered populations of bighorn sheep in California (USDI Fish and Wildlife Services 2001). This strategy was included in the draft recovery plan for Sierra Nevada bighorn sheep (USDI Fish and Wildlife Services 2003:Appendix B) and is currently being revised.

Domestic Sheep Grazing on Payette NF

The sheep industry in Idaho developed more slowly than the cattle industry. There were only about 1,000 domestic sheep in Idaho in 1870, although hundreds of thousands of sheep were trailed across the state from Oregon to the East prior to development of an established sheep industry (Jones 1989). The sheep industry grew tremendously during the 1870s and 1880s, especially following completion of key railroad lines. The Weiser Forest Reserve was established in 1905, and the Idaho Forest Reserve was established in 1908. Both reserves, later called national forests, went through many boundary adjustments until they were consolidated in 1944 to become the Payette National Forest. Similar to many areas throughout the West, huge numbers of sheep were grazed on Payette NF lands during the late 1800s and early 1900s, resulting in severe erosion and significant changes in vegetation structure and composition (Hockaday 1968:pages 53 to 58, Jones 1989). Total number of permitted sheep on Payette NF lands has declined steadily since 1915: 174,445 sheep were permitted in 1915; 132,621 in 1925; 100,606 in 1935; 64,067 in 1945; 49,471 in 1955; 42,330 in 1964; and 19,112 in 2005 (Hockaday 1968:page 56). Currently, domestic sheep are grazed only within the western half of the Payette NF (Figure 1). Historically, sheep were grazed across the entire Forest, including eastern portions of the Forest within the South Fork Salmon River drainage and other areas within what is now classified as the Frank Church River of No Return Wilderness (Jones 1989:pages 28-33). Livestock grazing within the South Fork Salmon River drainage was substantially reduced by the late 1950s, and by 1970 there were no livestock allotments left in the drainage above the confluence with the East Fork of the South Fork Salmon River (Jones 1989:page 30).

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Currently, there are 4 permittees who graze domestic sheep on 24 sheep allotments on the Payette NF: 5 allotments on the west side of the Forest and 19 allotments on the east side (Figure 1). Numbers of permitted sheep range from 1,500 dry ewes (on Victor-Loon and North Forth Lick Creek allotments) to 3,100 dry ewes (Smith Mountain allotment) and from 800 ewe/lamb pairs (on Fall/Brush Creek allotment) to 3,100 ewe/lamb pairs (Smith Mountain allotment) (Table 1). The earliest permitted season-on date is April 1 (Surdam allotment) and the latest permitted season-off date is October 15 (Smith Mountain, Vance Creek, Brundage, Bill Hunt, and Jughandle allotments).

Forest-wide goals, objectives, and standards for rangeland resources are found on pages III-44 to III-45 of the 2003 Payette Forest Plan (USDA Forest Service 2003a). Rangeland resources standards on page III-45 are designed to protect forest resources, primarily by restricting certain grazing practices or grazing levels, such as setting maximum forage utilization levels for riparian and upland vegetation cover types. An additional Forest-wide rangeland resource guideline (guideline 0142) is found in Errata #3:

> Within bighorn sheep habitat emphasis areas, close sheep allotments as they become vacant, or convert to cattle where appropriate, to eliminate the risk of disease transmission from domestic to wild sheep. Do not convert cattle allotments to sheep allotments within occupied bighorn sheep habitat.

Additional management direction for rangeland resources is found for each of the 14 management areas on the Payette NF (USDA Forest Service 2003a:pages III-78 to III-274).

Population Status of Bighorn Sheep Populations on the Payette NF

Only Rocky Mountain bighorn sheep occur on the Payette NF (there are no California bighorn populations on the Forest). Currently, Rocky Mountain bighorn sheep populations occur in 2 geographic areas on the Payette NF: Hells Canyon of the Snake River and the Salmon River Mountains (USDA Forest Service 2003b:pages 3-286 to 3-287). Bighorn sheep typically occur in a metapopulation structure, in which discrete local populations interact at some level as a result of limited movements between local populations (Bleich et al. 1996, Singer et al. 2000a). This metapopulation structure is crucial to analyzing the effects of disease transmission on bighorn sheep populations. Interactions among individuals from different populations can have negative effects by facilitating the spread of disease between populations within the metapopulation. These interactions also can have important positive effects by creating opportunities for population augmentation, colonization, and recolonization, as well as enhancing genetic diversity. Bighorn sheep colonization rates have traditionally been thought to be low, but see Schwartz et al. 1986 and Singer et al. 2000a. Bighorn populations in both the Hells Canyon and Salmon River Mountains metapopulations generally move between lower-elevation winter ranges in the canyon bottoms to upper-elevation summer ranges, although considerable variation exists among herds and even among individuals, especially between rams and ewes, within herds. Summer ranges are typically much more expansive than winter ranges.

Hells Canyon Metapopulation

Bighorn sheep were historically abundant in Hells Canyon. There may have been 10,000 or more Rocky Mountain bighorn sheep inhabiting Hells Canyon and surrounding mountains in the early to mid 1800s (Hells Canyon Bighorn Sheep Restoration Committee 2005:Appendix C). Bighorn sheep were extirpated from the area by the mid 1940s due to competition for forage with domestic livestock, diseases carried by domestic sheep, and unregulated hunting (Hells Canyon Bighorn Sheep Restoration Committee 2005:Appendix C). In 1971 efforts began to reintroduce bighorn sheep to Hells Canyon. The Hells Canyon Initiative was started in 1995 as a program to

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accelerate restoration of bighorn sheep in Hells Canyon and the surrounding areas of Idaho, Oregon, and Washington. The program was formalized in 1997 with the completion of an interagency memorandum of agreement among the Idaho Department of Fish and Game, Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, U.S. Forest Service, Bureau of Land Management, and Foundation for North American Wild Sheep. A restoration plan was developed in 1997 (Hells Canyon Bighorn Sheep Restoration Committee 1997) and updated in 2004 (Hells Canyon Bighorn Sheep Restoration Committee 2004). The Hells Canyon bighorn sheep project area encompasses 5,617,062 acres in the Snake River drainage in Washington, Oregon, and Idaho from the mouth of the Clearwater River to the north and Brownlee Reservoir to the south (Hells Canyon Bighorn Sheep Restoration Committee 2005:page 1). The project area is bounded on the east by the hydrologic divide between the Salmon River drainage and Snake River drainage and extends west to the Eagle Cap Wilderness on the Wallowa-Whitman NF in Oregon.

Between 1971 and 2004, 474 bighorn sheep were transplanted into the Hells Canyon area, and 126 bighorns were relocated within the area. The Hells Canyon bighorn sheep metapopulation was estimated at 875 sheep in 2005, a 4% decline from 2004 (Hells Canyon Bighorn Sheep Restoration Committee 2005:page 13). The metapopulation consists of 16 populations or herds. Seven bighorn die-offs have been reported since reintroductions began in 1971. Five of these die-offs were pneumonia (Pasteurellosis) disease outbreaks circumstantially linked to domestic sheep, 1 was a pneumonia outbreak circumstantially linked to a feral goat, and 1 to drought and scabies (*Psoroptes ovis*) (Idaho Department of Fish and Game 2004a:page 4). Despite these die-offs, growth of the metapopulation has been positive since 1971 (Hells Canyon Bighorn Sheep Restoration Committee 2004:page 6).

Between 1997 and 2003, 154 radio-collared bighorns were monitored (Hells Canyon Bighorn Sheep Restoration Committee 2004:page 8). Sixty-one radio-collared bighorns died, and mortality could be determined for 49 of these. Disease (primarily pneumonia) was the most frequent cause of mortality (43%), followed by cougar predation (27%), falls or injuries (22%), and human-caused (harvest, poaching, vehicle collisions: 8%). In addition, 42 dead lambs were collected during summer, and of 29 lambs for which cause of death could be determined, 25 (86%) were determined to have died due to pneumonia.

Bighorn populations located closest to the Payette NF are the McGraw, Sheep Mountain, Upper Hells Canyon, Idaho, and Upper Hells Canyon, Oregon populations (Figure 1). The McGraw population was established with a transplant of 15 bighorns from the Lostine, Oregon population in January, 1999. Sheep were transplanted to McGraw Creek on the Oregon side of Hells Canyon. At the time, biologists thought that the sheep would stay on the Oregon side of Hells Canyon. However, bighorn sheep did cross over to the Idaho side. Bighorn sheep were observed on the Brownlee Dam and swimming across Hells Canyon Reservoir (Vic Coggins, personal communication). Two of the transplanted bighorn rams spent much of the spring and summer of 1999 on the Idaho side within the Smith Mountain sheep allotment on the Payette NF (Coggins et al. 1999). Both of these rams were observed on the ground at Lyne's Saddle within the Smith Mountain sheep allotment on August 12, 1999. Both had nasal discharge and appeared sick: one was coughing and the other sneezing. In an effort to reduce the likelihood of spreading disease to other bighorn sheep, Oregon Department of Fish and Wildlife biologists shot and killed these 2 rams (Coggins 2001, 2002). The following summer in 2000, a sick bighorn ewe found in close proximity to a band of domestic sheep near Sheep Rock in the Smith Mountain allotment was also shot and killed by biologists from Oregon Department of Fish and Wildlife (Coggins 2001, 2002). Necropsy confirmed that this ewe had pneumonia. Bighorn sheep from the McGraw herd began dying during fall of 1999 and winter of 1999/2000, and by 2003 most of the transplanted bighorn sheep in the McGraw herd had died or dispersed to nearby herds (Idaho Department of Fish and Game 2004a:page 39). Necropsies confirmed that the die-off was

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caused by pneumonia. The McGraw herd is not currently considered an extant population (Hells Canyon Bighorn Sheep Restoration Committee 2005:page 13).

A total of 42 bighorn sheep were transplanted to Sheep Mountain on the Oregon side of Hells Canyon between 1990 and 1995. The population increased to 70 sheep in 1998. Two of the bighorn sheep from the McGraw population were observed with bighorns from the Sheep Mountain population in July, 1999 (Coggins et al. 1999). A confirmed pneumonia outbreak followed, resulting in loss of over 50% of the population by 2002 (Idaho Department of Fish and Game 2004a:page 46). There were an estimated 25 bighorn sheep in the Sheep Mountain population in 2005 (Hells Canyon Bighorn Sheep Restoration Committee 2005:page 13).

A total of 58 bighorn sheep have been transplanted into the Upper Hells Canyon, Idaho population since the mid 1970s (Hells Canyon Bighorn Sheep Restoration Committee 2005:page 31). This herd grew to an estimated population size of about 90 sheep in the early 1980s. Population size then began declining around 1983 when a pneumonia outbreak began (Vic Coggins, personal communication). Population size declined to very few sheep by 1991 (Hells Canyon Bighorn Sheep Restoration Committee 2005:page 31). There were an estimated 20 bighorn sheep in the Upper Hells Canyon, Idaho population in 2005 (Hells Canyon Bighorn Sheep Restoration Committee 2005:page 13).

The Upper Hells Canyon, Oregon herd received a total of 54 transplanted sheep between 1971 and 1980. Radio-collared bighorn sheep from this population have been detected in the Seven Devils Mountains just west of the Curren Hill allotment near Black Lake and within the Smith Mountain allotment as far south as Limepoint Creek (Coggins 2001). This population has experienced several pneumonia outbreaks (Coggins 2001). Following these pneumonia die-offs, this population grew to about 40 sheep by 1983 when another pneumonia die-off began. Population size declined sharply, and by 1989 only about 10 sheep remained in the population. Since that time, the population has grown to an estimated population size of 35 sheep by 2005 (Hells Canyon Bighorn Sheep Restoration Committee 2005:page 13).

Disease, primarily pneumonia initiated by contact with domestic sheep, has been identified as the key factor limiting bighorn restoration in Hells Canyon (Hells Canyon Bighorn Sheep Restoration Committee 2004:page 24; Hells Canyon Bighorn Sheep Restoration Committee 2005:Appendix C). To date, treatments (including medicated and mineralized feed, vaccination, and culling) have had little success at reducing the effects of disease outbreak in the Hells Canyon bighorn population. Accordingly, research emphasis is being placed on understanding the ecology of disease in Hells Canyon and developing tools to resolve disease issues through preventative and acute management (Hells Canyon Bighorn Sheep Restoration Committee 2004:page 24).

Salmon River Mountains Metapopulation

Unlike the Hells Canyon area, bighorn sheep were not extirpated from the Salmon River Mountains area of central Idaho. Smith (1954:page 40) showed that bighorn sheep occurred along the lower South Fork of the Salmon River, the north side of the Main Salmon River canyon, the Middle Fork of the Salmon River, Panther Creek, and the surrounding mountains in 1952. Rocky Mountain bighorns have been reintroduced to different parts of central Idaho beginning in 1969: Mahogany Creek near Mt. Borah, Blue Dome, Copper Mountains, Birch Creek southwest of Challis, Lost River and Little Lost River Ranges (Toweill and Geist 1999:page 85).

Two bighorn populations currently occur in the Salmon River Mountains primarily within the boundaries of the Payette NF: one in the South Fork Salmon River drainage, and one in the Big Creek drainage (Figure 1). Bighorn populations also occur just north of the Forest along the Main Salmon River and just east of the Forest along the Middle Fork Salmon River.

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Big Creek is a major drainage of the Middle Fork Salmon River. The Big Creek population winters along the lower 20 km (12 miles) of the Big Creek drainage (Akenson and Akenson 1992). Population survey data for this herd from 1973 to 1992 is presented in Akenson and Akenson (1992), and survey data from 1989 to 2004 is presented in Idaho Department of Fish and Game (2004b:page 32). Total number of sheep counted increased from approximately 60 in 1973 to 270 by 1989. Bighorn sheep exhibiting signs of pneumonia (coughing, nasal discharge, poor body condition) began to be observed in 1986. Clinical examination and culture samples indicated that pneumonia due to *Mannheimia haemolytica* (formerly *Pasteurella haemolytica*) was a significant cause of summer lamb mortality (Akenson and Akenson 1992). Early summer lamb mortality resulted in declining lamb/ewe ratios from 1986 to 1991. During 1990/1991, an all-age die-off occurred, resulting in a population decline of approximately 50%. Akenson and Akenson (1992) found that lambing areas for bighorn sheep that wintered along lower Big Creek were up to 40 km (25 miles) from winter range, and that bighorn sheep from herds that wintered elsewhere along the Middle Fork Salmon River used some of the same summer range used by Big Creek sheep. They noted how this sharing of summer range could facilitate transfer of disease among different bighorn populations. Survey data indicate that population size for this population has been relatively stable since the early 1990s (Table 2).

Suitable bighorn habitat located throughout most of Unit 27 is considered bighorn sheep summer range (Tom Keegan, personal communication). Survey data for Hunt Areas 27-1, 27-2, and 27-3, which are areas just east of the Payette NF along the Middle Fork Salmon River (Figure 1), show a similar pattern of population decline in 1989/1990 followed by 1 to 2 years of poor recruitment (Table 3). Survey data from Unit 20A along the lower Middle Fork Salmon River (Figure 1) indicate that bighorn recruitment was very low in 1990 and 1991 in this herd, and that population size has been declining gradually since the early 1990s (Table 4). The population decline in this region between 1989 and 1991 has been attributed to a pneumonia outbreak in 1988-1989 (Idaho Department of Fish and Game 2004:page 53). The similar pattern observed in population survey data from different bighorn populations across a large area in the Middle Fork Salmon River drainage provides an example of how nearby populations likely interact and how disease can spread across relatively large areas.

Population survey data for the South Fork Salmon River population was available from 1985 to 2002 (Table 5). Thirty-eight sheep were counted in 1985 and 92 in 1986. Counts were relatively stable between 1989 and 1994 and then declined between 1994 and 1995. The Chicken Complex wildfire burned approximately 108,000 acres in the South Fork Salmon River drainage area during 1994. Approximately 20 burned bighorn sheep carcasses were detected following this fire (Jeff Rohlman, personal communication). In addition to causing direct mortality, this fire likely negatively affected bighorn habitat and forage for the 1994-1995 winter. Total sheep counted declined by 55% between 1994 and 1996. Although vegetation should have recovered extensively since the 1994 fire, total sheep counted in 2002 was still very low (33 sheep). Disease could have been negatively affecting this population during this time period, but no disease testing data is available (Jeff Rohlman, personal communication).

Bighorn populations also occur along the north side of the Main Salmon River (Figure 1). In Units 19 and 20, survey data indicates that bighorn numbers were low in 1981 and increased during the early 1980s (Table 6). In Unit 19, population size declined between 1984 and 1986 and again between 1989 and 1992. Lamb/ewe ratios indicate recruitment was very low in 1991 and 1992 in Unit 19. These survey data suggest that the pneumonia outbreak of 1988-1989 affected bighorn sheep survival in Units 19 and 20. Population declines also occurred between 1986 and 1989, 1992 and 1993, and 1996 and 2001 in Unit 20 (Table 6). Bighorn sheep in Unit 20 may have been negatively affected by wildfires that burned in 2000 (Idaho Department of Fish and Game

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2004:page 9). The Allison-Berg domestic sheep allotment on the Nez Perce NF is located adjacent to the range of bighorn sheep along the Salmon River (Figure 1).

Expert Panel Risk Assessment

Introduction

The objective of the expert panel disease transmission risk assessment was to provide decision makers with information about the likelihood of disease transmission from domestic sheep to bighorn sheep for specific sheep allotments on the Payette NF. Wildlife disease ecology is complex, and like many other aspects of wildlife population ecology, characterized by many uncertainties. We know of no quantitative models available to predict likelihood of disease outbreak in bighorn sheep populations due to potential contact with domestic sheep. Because of the complexities associated with trying to develop a spatially explicit disease transmission model relevant to the needs of decision makers on the Payette NF, we chose instead to conduct an expert panel risk assessment to evaluate the risk of disease transmission from domestic sheep to bighorn sheep for each of the Payette's sheep allotments. Methods followed were similar to those used to evaluate EIS alternatives on likelihood of species persistence in the Interior Columbia Basin (Lehmkuhl et al. 1997). Similar expert panel risk assessments were also conducted by the Forest Ecosystem Management Assessment Team (FEMAT) in 1993 (Cleaves 1993, 1994) and during revision of the forest plan on the Tongass NF (Shaw 1999).

Methods

A panel of 6 wildlife biologists, each with considerable knowledge of bighorn sheep biology and management, was convened in New Meadows, Idaho on December 14, 2005. Names of the panelists, their professional affiliations, and descriptions of their bighorn management experience are provided in Appendix 1. Expert judgments were recorded through a process of likelihood voting, using a structured outcome scale (Lehmkuhl et al. 1997:pages 541-548). The outcome scale was composed of 5 possible outcomes. Individual outcomes represented points along a gradient ranging from very low risk to very high risk of disease transmission:

Outcome 1: Very low risk of disease transmission from domestic sheep in this allotment to bighorns within next 10 years because of very low likelihood of direct contact between domestic sheep and bighorns.

Outcome 2: Low risk of disease transmission from domestic sheep in this allotment to bighorns within next 10 years because of low likelihood of direct contact between domestic sheep and bighorns.

Outcome 3: Moderate risk of disease transmission from domestic sheep in this allotment to bighorns within next 10 years because of moderate likelihood of direct contact between domestic sheep and bighorns.

Outcome 4: High risk of disease transmission from domestic sheep in this allotment to bighorns within next 10 years because of high likelihood of direct contact between domestic sheep and bighorns.

Outcome 5: Very high risk of disease transmission from domestic sheep in this allotment to bighorns within next 10 years because of very high likelihood of direct contact between domestic sheep and bighorns.

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The principal assumption for rating disease transmission risk was the following:

> Direct contact between domestic sheep and bighorn sheep results in a high likelihood of disease transmission to bighorn sheep and disease outbreak in local bighorn herd.

For each allotment, the panelists distributed 100 likelihood points across the 5 outcomes. The panelists could distribute the 100 likelihood points across the 5 outcomes however they wanted. Placing 100 likelihood points on a single outcome indicated much certainty in that outcome. Distributing the 100 points across several outcomes indicated less certainty in any one outcome.

Panelists were provided the following information:

- A table listing allotment name, permittee, class of livestock, permitted number of sheep, permitted season-on date, permitted season-off date, permitted number of livestock and head months.
- A 48 x 36 inch map showing sheep allotments, sheep trailing routes, topography (digital elevation map layer), bighorn sheep population ranges (polygon layer), radio telemetry point locations for Hells Canyon bighorn sheep, point locations of incidental bighorn sheep observations, a GIS-modeled bighorn habitat layer.
- A 48 x 36 inch map showing the distribution of large wildfires on the Payette NF during the past 20 years.

The GIS habitat model was modified from a model developed by Idaho Department of Fish and Game for Hells Canyon (Idaho Department of Fish and Game 2004a:page 31). The Forest Service model used in this analysis is described in Table 7.

Panelists reviewed pertinent maps and discussed disease transmission risk factors relevant for each sheep allotment. Risk factors discussed included: 1) distance between sheep allotment and nearest bighorn sheep populations; 2) amount of GIS-modeled bighorn habitat within the sheep allotment, between the allotment and the nearest bighorn sheep herd, and the relative continuity of that habitat; 3) panelists' first-hand knowledge of the amount and quality of bighorn habitat within the allotment and around the allotment; 4) presence of incidental bighorn sightings within or near the allotment; 5) the level of knowledge about bighorn sheep distribution and movements in the area around the allotment; 6) characteristics of the sheep allotment such as number of permitted sheep and permitted season of use. Following group discussion of risk factors, panelists independently rated risk of disease transmission for each allotment by distributing the 100 likelihood points among the 5 possible outcomes. Consensus was not an objective of the rating process.

Two variables were calculated from the risk rating data: 1) a weighted mean outcome for the risk outcome categories for each allotment, and 2) a standard deviation of the distribution of likelihood points among the 5 outcome classes for each allotment. The weighted mean outcome was calculated by first determining the mean likelihood scores for each allotment. Mean likelihood scores were calculated by summing the likelihood points for each outcome across the 6 panelists and dividing by 6. Weighted mean outcomes were then determined by assigning a value to each of the 5 outcomes (Outcome 1, value = 1; Outcome 2, value = 2; etc.), multiplying the mean likelihood of that outcome by its assigned value, adding these products for all outcomes, and dividing by 100. Because original scoring by panelists was based on categorical data (Outcomes 1, 2, 3, 4, and 5) and to facilitate interpretation, weighted mean outcome, which is a continuous variable, was grouped into 5 categories (Lehmkuhl et al. 1997:page 545):

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Outcome 1 (Very Low): 1.00 – 1.49;
Outcome 2 (Low): 1.50 – 2.49;
Outcome 3 (Moderate): 2.50 – 3.49;
Outcome 4 (High): 3.50 – 4.49;
Outcome 5 (Very High): 4.50 – 5.00.

The standard deviation was calculated according to the formula provided by Lehmkuhl et al. (1997:page 546; following discussion with the authors of the original 1997 manuscript, the formula was modified slightly to correct for a typographical error). The standard deviation provides a measure of total variation in how panelists distributed their likelihood points. This total variation consisted of variation in how each panelist spread their 100 likelihood points among the 5 outcomes and variation in scoring among the 6 panelists. The standard deviation is used as a measure of the level of uncertainty associated with the weighted mean outcome for each allotment (Lehmkuhl et al. 1997:page 546). It is used only as a relative measure: a domestic sheep allotment with a greater standard deviation value than another sheep allotment has greater total variation in likelihood scoring, which we interpreted to indicate greater uncertainty about the perceived risk of disease transmission.

Results

One permitted sheep allotment was not included in the expert panel risk assessment. The Surdam On/Off allotment is a very small (158 acres) area on the Payette NF adjacent to private ranch lands (Figure 1). It was left out of the expert panel risk assessment because the facilitator did not know of the existence of the allotment at the time of the December 14, 2005 assessment.

Weighted mean outcomes ranged from 4.97 to 1.22 (Table 8). The weighted mean outcome for 1 of the 23 analyzed allotments fell into the very high risk category, 4 fell into the high risk category, 5 into the moderate risk category, 6 into the low risk category, and 7 into the very low risk category. These results are graphically displayed in Figure 2.

The 1 allotment in the very high risk category was the Smith Mountain allotment. The primary risk factor discussed for the Smith Mountain allotment was its proximity to Hells Canyon bighorn sheep populations. Radio-collared bighorn sheep were detected within the boundaries of the Smith Mountain allotment on 319 occasions between 1997 and 2004 (Hells Canyon Bighorn Sheep Restoration Committee, unpublished data). For sheep allotments on the Payette's west side, an additional map was made showing 6th order hydrologic units, which were used to identify allotment subunits (Figure 3). Panelists were asked if they could identify subunits within any of the west side sheep allotments that did not contribute to the overall risk rating for the allotment. This was done for west side sheep allotments and not east side sheep allotments because there was much greater knowledge of bighorn sheep distribution and movement patterns resulting from radio-telemetry data on bighorn sheep in Hells Canyon dating back to 1997. (Radio-telemetry data has not been collected on bighorn sheep from the 2 bighorn populations located closest to Payette NF east side sheep allotments.) Panelists identified 3 subunits within the Smith Mountain allotment that they thought did not contribute to the allotment's overall risk rating. These 3 subunits correspond to the portions of the following 6th order hydrologic units located within the Smith Mountain allotment: Lick Creek, Lost Creek, and Upper West Fork Weiser River (Figure 3).

The 4 allotments in the high risk category were Marshall Mountain, Curren Hill, Bear Pete, and French Creek (Figure 2). For Curren Hill, risk factors discussed were close proximity to known bighorn range and presence of suitable bighorn habitat within allotment boundaries. Although none of the bighorn telemetry locations was located within the boundaries of the Curren Hill allotment, radio-collared bighorn sheep were detected within 1 to 4 miles of the allotment

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boundaries on 22 occasions between 1997 and 2004 (Hells Canyon Bighorn Sheep Restoration Committee, unpublished data).

Risk factors discussed by panelists for Marshall Mountain, Bear Pete, and French Creek allotments were proximity to the Main Salmon River bighorn population and the South Fork Salmon River population, and presence of suitable bighorn habitat within allotment boundaries. The northern-most boundaries of the French Creek, Bear Pete, and Marshall Mountain allotments are located approximately 4 air miles from the mapped range of the Main Salmon River bighorn population, and the eastern-most boundary of the Marshall Mountain allotment is located approximately 8-12 air miles from mapped range of the South Fork Salmon River population (Figures 1 and 2). Panelists discussed habitat as a key risk factor for Marshall Mountain allotment because of the extensive suitable bighorn sheep habitat available within the allotment and between the allotment and the Main Salmon River canyon. Panelists noted that the extensive 2000 Burgdorf Junction wildfire may have opened up a lot of bighorn sheep habitat in this area (Figure 4).

The 5 allotments in the moderate risk category were North Fork Lick Creek, Shorts Bar, Victor-Loon, Lake Fork, and Hershey-Lava. The northern boundary of the Hershey-Lava allotment is located about 5 air miles from the western edge of mapped range for the Main Salmon River bighorn population (Figures 1 and 2). For the Shorts Bar and Hershey-Lava allotments, the primary risk factor discussed by panelists was proximity to the Main Salmon River bighorn population. The northwest corner of the Shorts Bar allotment also is located only about 4 miles from a couple of radio-telemetry locations of bighorn sheep from the Hells Canyon metapopulation located near the confluence of the Little Salmon River and the Main Salmon River near Riggins (Hells Canyon Bighorn Sheep Restoration Committee, unpublished data). For the Victor-Loon, North Fork Lick Creek, and Lake Fork allotments, the primary risk factor discussed was proximity to the South Fork Salmon River bighorn population. Panelists acknowledged uncertainties about the movement patterns and extent of summer range for this bighorn population. A bighorn sheep was observed in the North Fork Lick Creek allotment during the summer of 2005 (Figure 1). It is not known which population this bighorn sheep came from. Domestic sheep do not graze throughout the North Fork Lick Creek allotment; they are only permitted to trail through this allotment.

The 6 allotments in the low risk category were Jughandle, Josephine, Boulder Creek, Twenty Mile, Fall/Brush Creek, and Little French Creek. A bighorn sheep was captured in a wolf trap set by USDA Wildlife Services trappers in the Josephine allotment during the summer of 2005 (Figure 1). It is not known which population this bighorn sheep came from. These allotments were rated as low risk due to their greater distances from bighorn populations and their relative lack of suitable bighorn habitat.

The 7 allotments in the very low risk category were Price Valley, Cougar Creek, Bill Hunt, Brundage, Grassy Mountain, Slab Butte, and Vance Creek. Price Valley is located relatively close to the mapped range of the McGraw bighorn population of Hells Canyon, but panelists discussed its lack of suitable bighorn habitat. The other 6 allotments in this group are located distant from any bighorn population and lack large areas of suitable bighorn habitat.

Standard deviations ranged from 1.23 for the Josephine allotment to 0.18 for the Smith Mountain allotment (Table 9). Greater standard deviations reflect greater levels of uncertainty among panelists concerning risk of disease transmission. Allotments were placed into 3 categories based on the distribution of standard deviation values (Table 9). Allotments that had relatively high standard deviations (relatively high levels of uncertainty) were Josephine, Bear Pete, Hershey-Lava, Fall/Brush Creek, Curren Hill, and Boulder Creek. Allotments that had moderate values for standard deviation were North Fork Lick Creek, Shorts Bar, Lake Fork, French Creek,

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Price Valley, Jughandle, Victor-Loon, Marshall Mountain, Twenty Mile, and Little French Creek. Allotments that had relatively low standard deviations were Bill Hunt, Brundage, Cougar Creek, Vance Creek, Grassy Mountain, Slab Butte, and Smith Mountain. These results are shown graphically in Figure 5.

Risk of disease transmission posed by existing sheep trailing routes also was discussed by panelists. Panelists considered the Salmon River Driveway, which runs northeast to southwest out of the Smith Mountain sheep allotment (Figure 2), to present a high risk of disease transmission because of its proximity to occupied bighorn sheep range in Hells Canyon. Panelists also commented that the trailing routes along the Main Salmon River and between the Main Salmon River and the Payette's east side sheep allotments presented considerable risk of disease transmission to bighorn sheep. Domestic sheep are trailed along the road on the south side of the Main Salmon River. Sheep are also trailed south into the Shorts Bar, French Creek, Bear Pete, and Marshall Mountain allotments along 4 trailing routes (Figure 2). Panelists considered the risk of disease transmission to be greater for the 2 eastern trailing routes than for the 2 western trailing routes. The eastern-most Carey Creek trailing route was considered to pose the greatest risk.

Panelists also were asked to identify and discuss any factors other than disease transmission that may be negatively affecting bighorn sheep populations within and around the Payette NF. Panelists were asked about habitat loss and fragmentation, habitat degradation due to vegetation succession, negative effects associated with roads, and disturbance from recreational or other forest uses. These factors were discussed, but none was identified as a factor causing substantive negative effects to bighorn sheep habitat or populations on the Payette NF. The effects of wildfire on bighorn sheep habitat were discussed, and panelists acknowledged that wildfire can have short-term negative but longer-term positive effects on bighorn habitat. Bighorn sheep select open habitats, and in some areas in western North America bighorn sheep habitat is being negatively affected by vegetation succession processes resulting from decades of fire suppression (e.g., Wakelyn 1987, Singer et al. 2000a). There have been many large wildfires on the Payette NF during the last 20 years (Figure 4), so this may not be a problem on the Payette. Panelists also discussed positive aspects of the Payette NF as bighorn sheep habitat, such as the vast roadless area in the Frank Church River of No Return Wilderness and the lack of domestic sheep grazing in such a vast area in the eastern half of the Forest.

The issue of disease transmission from domestic goats and llamas was discussed by panelists. Panelists stated that evidence indicates that domestic goats can transmit diseases to bighorn sheep, and an example was cited in which a feral goat was implicated in transmitting Pasteurellosis to bighorn sheep in Hells Canyon (Rudolph et al. 2003). It was stated that llamas may be able to transmit certain diseases to bighorn sheep, but that llamas are not considered to present as much risk of disease transmission as domestic sheep or goats.

At the end of the expert panel risk assessment on December 14, 2005, panelists were asked to discuss issues related to population viability of bighorn sheep on the Payette NF. Panelists commented that it is difficult to ensure viability for the kind of small bighorn populations that occur within the Payette NF's boundaries. Panelists discussed how population viability of wide-ranging species such as bighorn sheep needs to be addressed at spatial scales larger than the Payette NF, and that the metapopulation structure of interacting populations is very important in understanding bighorn sheep population dynamics. Panelists discussed the real and significant impacts that disease, especially pneumonia, has had on population dynamics of bighorn populations in the Hells Canyon and Salmon River Mountains metapopulations in recent history.

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Discussion

This analysis was conducted in response to a March 14, 2005 appeal decision on the 2003 Payette Forest Plan. The Chief's Reviewing Officer directed the Regional Forester to do an analysis of bighorn sheep viability in the Payette NF commensurate with the concerns and questions raised in the appeal decision related to potential impacts of disease transmission from domestic sheep grazed on the Forest on bighorn sheep populations. Viability is discussed below in general terms of persistence of the population over some relatively long temporal interval (Gilpin and Soule 1986:page 20). Discussion of "... bighorn sheep viability in the Payette NF...", however, is complicated by the nature of bighorn sheep populations. Traditional population analyses and population viability analyses (PVAs) have been conducted largely in the context of isolated populations (Hanski 1998). Bighorn sheep, however, typically occur within a metapopulation structure (see discussion on page 8). Conducting a viability analysis of bighorn sheep on the Payette NF is complicated by the fact that only small portions of 2 different metapopulations occur within Payette NF boundaries, and a meaningful analysis of population viability can not be done without accounting for metapopulation dynamics.

Four bighorn sheep populations of the Hells Canyon metapopulation have occurred in close proximity to domestic sheep allotments within the Payette's west side since 2000. One of these populations, the McGraw population, is no longer considered extant. Pneumonia outbreaks have occurred in each of these populations in recent history, resulting in substantial mortality of bighorn sheep. Radio-collared bighorn sheep were detected within the Smith Mountain allotment on 319 occasions and within 1 to 4 miles of the Curren Hill allotment on 22 occasions between 1997 and 2004. In attempts to reduce the spread of disease, Oregon Department of Fish and Wildlife biologists have shot and killed 3 bighorn sheep showing symptoms of pneumonia and found in close proximity to domestic sheep within the boundaries of the Smith Mountain allotment. Recruitment of lambs into these populations has also been very low due to repeated pneumonia outbreaks causing high rates of mortality (Frances Cassirer, personal communication).

Mean weighted outcomes calculated from the expert panel risk assessment indicate that panelists considered the Smith Mountain allotment to present a very high risk of disease transmission to bighorn sheep, and the Curren Hill allotment to present a high risk of disease transmission. One piece of information not available to panelists during the December 14 risk assessment is that under current management, domestic ewes are bred on the Curren Hill allotment during late summer/early fall. Having estrous domestic ewes in close proximity to bighorn sheep increases the likelihood of contact between the 2 species because bighorn rams are attracted to estrous domestic ewes (e.g., Desert Bighorn Council 1990, USDI Bureau of Land Management 1998, Singer et al. 2000a). Portions of the Smith Mountain allotment presenting the highest risk of disease transmission include all areas except the southeast part of the allotment. Portions that present substantially less risk than the rest of the allotment are portions within the Lick Creek, Lost Creek, and Upper West Fork Weiser River 6th order hydrologic units because of the lack of suitable bighorn sheep habitat in these subunits and their greater distance from known locations of bighorn sheep. Panelists could not identify any 6th order hydrologic subunits within the Curren Hill allotment that presented a substantially reduced risk of disease transmission. Although the finger on the southeast side of the Curren Hill allotment south of the Rapid River does not constitute a 6th order hydrologic unit, this portion of the allotment is heavily forested and contains no GIS-modeled bighorn habitat. It therefore likely presents low risk of contact between bighorns and domestic sheep, and thus less risk of disease transmission than do portions of the allotment north of the Rapid River. Panelists thought that the Salmon River Driveway (Figure 2) also presented a high risk of disease transmission because of its proximity to occupied bighorn sheep range in Hells Canyon.

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The Surdam allotment is a 158-acre Payette NF sheep allotment located adjacent to the permittee's private ranch lands. It is located about 12 miles southeast of the mapped range of the Sheep Mountain bighorn population (Figure 1). Because it was not included in the expert panel risk assessment, risk of disease transmission for this allotment will not be discussed in this report.

One of the 2003 Payette Forest Plan appeal issues was related to consistency between language in the Hells Canyon NRA Act and its implementing regulations (36 CFR 292.48) and maintaining domestic sheep grazing because of the known risks of disease transmission from domestic sheep to bighorn sheep (USDA Forest Service 2005:pages 14 to 15). A 24,857-acre portion of the Hells Canyon NRA occurs within the proclaimed boundaries of the Payette NF (Figure 3). The Hells Canyon NRA is administered by the Wallowa-Whitman NF. However, a 6,567-acre area of the Smith Mountain allotment occurs within the boundaries of the NRA (Figure 3), and livestock grazing within the entire Smith Mountain allotment, including this 6,567-acre area, is administered by the Payette NF. Boundaries of the Curren Hill allotment were changed in 1998, and contrary to what's shown in Figure 3, no part of the Curren Hill allotment now occurs within the boundaries of the NRA.

Despite multiple die-offs caused by disease, the Hells Canyon bighorn sheep metapopulation has shown a positive annual population growth rate since 1971 (Hells Canyon Bighorn Sheep Restoration Committee 2004:page 6). The current population estimate for the entire metapopulation is 875 sheep, spread across 16 populations over an 8,900-square mile tri-state area. Continuing to graze domestic sheep on the Smith Mountain and Curren Hill allotments, or any of the other west side sheep allotments, would likely not threaten the viability of the overall Hells Canyon bighorn sheep metapopulation. This conclusion is based on the following rationale: 1) the vast geographic range of the metapopulation ensures that there are bighorn populations within the metapopulation that are located distant from sheep allotments on the Payette NF; and 2) the metapopulation has exhibited positive annual population growth since 1971, even though domestic sheep grazing throughout the range of the metapopulation was much more extensive during the 1970s, 1980s, and early 1990s than it is currently (Hells Canyon Bighorn Sheep Restoration Committee 2004:page 17). However, continuing to graze domestic sheep on the highest risk portions of the Smith Mountain and Curren Hill allotments would continue to negatively affect bighorn sheep restoration efforts within the Hells Canyon project area and threaten the viability of populations located within the metapopulation's southern range. As long as domestic sheep are grazed on the highest risk portions of the Smith Mountain and Curren Hill allotments, disease-related population impacts will likely continue to preclude the establishment of a viable bighorn sheep population anywhere within the Payette's west side. -

Bighorn sheep populations within the Salmon River Mountains metapopulation located nearest to the Payette's east side sheep allotments are the South Fork Salmon River population and the Main Salmon River population in Unit 19. There is evidence that disease has affected both populations in the recent past. Survey data indicate a decline in total sheep counted of 22% between 1989 and 1991 for the South Fork Salmon River population, and a decline of 43% between 1989 and 1992 for the Main Salmon River Unit 19 population (Table 6). Both declines were followed by several years of poor lamb survival, which is typical of pneumonia outbreaks in bighorn sheep. Local wildlife biologists for Idaho Department of Fish and Game believe the survey data reflect the impacts of a disease outbreak, most likely pneumonia, that occurred between 1989 and 1991 (Jay Crenshaw, personal communication; Jeff Rohlman, personal communication).

Mean weighted outcomes resulting from the expert panel risk assessment indicated that panelists considered the Marshall Mountain, Bear Pete, and French Creek sheep allotments to present a high risk of disease transmission, and the Shorts Bar, Hershey-Lava, Victor-Loon, North Fork Lick Creek, and Lake Fork allotments to present moderate risk of disease transmission (Figure 2).

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Domestic ewes are bred on the Victor-Loon allotment during late summer/early fall, but panelists did not have this information at the time of the December 14 risk assessment. Standard deviations indicated that levels of uncertainty related to the disease transmission risk ratings were moderate to high for each of these allotments (Figure 5). Relatively high levels of uncertainty for these allotments is not surprising given the uncertainties about movement patterns of bighorn sheep from the Main Salmon River and South Fork Salmon River populations. Unlike populations within the Hells Canyon metapopulation, there is no bighorn sheep radio-telemetry data from either of these 2 populations. There are 2 key questions directly related to likelihood of contact between domestic sheep and bighorn sheep, and thus likelihood of disease transmission: 1) what is the western and southern extent of summer range for the South Fork Salmon River population (mapped range for this population shown in Figure 1 was only estimated by Idaho Department of Fish and Game wildlife biologists based on knowledge of winter range and distribution of suitable habitat); and 2) how frequently do bighorn sheep from the Main Salmon River population cross the Salmon River and interact with domestic sheep in the Payette's east side allotments.

The extent of the South Fork Salmon River population's summer range is especially relevant, given the summer 2005 records of a bighorn sheep in the Josephine allotment and one in the North Fork Lick Creek allotment (Figure 1). It is not known which population either of these bighorn sheep belonged to, or what general route they followed to arrive in these domestic sheep allotments. The farther bighorn sheep from the South Fork Salmon River population move during summer to the west and south of known winter range along the lower South Fork Salmon River, the closer they would be to domestic sheep allotments. However, much of the habitat between the South Fork Salmon River and Payette sheep allotments is heavily forested, and heavily forested areas do not provide bighorn sheep habitat and are believed to serve as partial barriers to bighorn movement (e.g., Singer et al. 2000c). Large rivers also are thought to serve as partial barriers to bighorn movements (Singer et al. 2000c). The Salmon River is a large river with peak flows in May and June. Bighorn sheep, however, are certainly capable of swimming relatively large rivers. Smith (1954) commented that bighorn sheep were frequently observed swimming across the Middle Fork of the Salmon River. Bighorn sheep also have been observed swimming across the Snake River and Hells Canyon Reservoir (Vic Coggins, personal communication). Three bridges cross the Salmon River between Riggins and the South Fork Salmon River (Figure 1), but it is not known whether, or to what extent, bighorn sheep may use any of these bridges. If bighorns frequently crossed the river from the north side to the south, it seems likely that there would be bighorn sightings along the south side of the river, especially downstream of the Vinegar Creek Boat Ramp where detection opportunities are great because of relatively high vehicle and boat traffic. However, bighorn detections along the south side of the Main Salmon River downstream of Warren Creek are rare (Jeff Rohlman, personal communication). The Allison-Berg domestic sheep allotment on the Nez Perce NF would seem to present a substantially greater risk of disease transmission to the Main Salmon River population in Unit 19 than would the Payette NF sheep allotments (Figure 1).

The Salmon River Mountains bighorn sheep metapopulation is very large, ranging across a large part of mountainous central Idaho (Toweill and Geist 1999:page 85). Unlike the Hells Canyon metapopulation, this bighorn sheep metapopulation was not extirpated during the early 1900s. It thus persisted through the period of the late 1800s and early 1900s when domestic sheep grazing was much more extensive than it is currently. The number of domestic sheep currently permitted to graze on the Payette NF is approximately 10% of the number of sheep permitted to graze comparable lands in 1915 (Hockaday 1998:page 56). Up until the 1960s, domestic sheep grazing on the Payette NF extended much farther to the east than it does currently. Since the 1970s when the remaining sheep allotments in the South Fork Salmon River drainage were closed, domestic sheep grazing has not been permitted within a vast 50-mile-wide area of the Payette NF (Figure 1). Continuation of current management of domestic sheep grazing within the

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Payette's east side sheep allotments would likely not threaten the viability of the overall Salmon River Mountains bighorn sheep metapopulation. This conclusion is based on the following rationale: 1) the vast geographic range of the metapopulation ensures that there are bighorn populations within the metapopulation that are located distant from sheep allotments on the Payette NF; 2) a vast area approximately 50 miles wide is currently provided within the Payette NF in which no domestic sheep (or cattle) grazing occurs; 3) this metapopulation has persisted through historic times when domestic sheep grazing was much more extensive than it is currently. Continuation of current management of domestic sheep grazing within the Payette's east side sheep allotments would likely not threaten the viability of the Big Creek bighorn population in the Frank Church River of No Return Wilderness. This population is located a considerable distance east of the Payette's sheep allotments, and surveys conducted by Idaho Department of Fish and Game indicate that this population is relatively large and that total numbers of sheep have been relatively stable during the past 13 years (Table 2). The level of threat to the South Fork Salmon River bighorn population posed by current sheep grazing management in the Payette's east side is unknown. The very low population counts for this population in 1996 and 2002 (Table 5) are cause for concern over the status of this population. Much of the decline in the population count between 1994 and 1996 may have been due to effects of the 1994 Chicken Complex fire, but survey data indicate that measurable population recovery had still not occurred by 2002. Idaho Department of Fish and Game plans to conduct aerial surveys of the South Fork Salmon River and Big Creek bighorn populations in February 2006 (Jeff Rohlman, personal communication). There is great uncertainty over the levels of risk posed by the Payette's east side sheep allotments, and these uncertainties will unlikely be reduced until movement patterns and distribution of bighorn sheep from the Main Salmon River and South Fork Salmon River populations are better understood.

Conclusions

Although important aspects of bighorn sheep disease ecology are still poorly understood, the scientific literature indicates that: 1) when in close contact, domestic sheep commonly transmit diseases to bighorn sheep; 2) some of these diseases (e.g., Pasteurellosis or pneumonia) result in mortality of large portions of bighorn sheep herds and cause depressed recruitment for years, and thus have significant impacts on bighorn sheep population dynamics; and 3) bighorn sheep and domestic sheep must be kept separated if one of the management goals is to maintain viable populations of bighorn sheep. Two factors complicate management of domestic sheep and bighorn sheep when the 2 species occur in close proximity: 1) bighorn sheep and domestic sheep are attracted to each other, greatly increasing the likelihood of close contact between the 2 species; and 2) when herding large bands of domestic sheep, it is difficult to prevent small groups of domestic sheep from occasionally straying from the herd and thus becoming, at least temporarily, an unmanaged source of disease transmission to nearby bighorn sheep.

Ranges of 2 bighorn sheep metapopulations overlap the Payette NF. Research conducted under the 1997 Hells Canyon Initiative indicates that bighorn sheep from populations at the southern end of the metapopulation's range commonly occur within the boundaries of the Payette's Smith Mountain domestic sheep allotment. Strong circumstantial evidence indicates that at least some of these bighorn sheep contracted pneumonia from domestic sheep on the Smith Mountain allotment, and that pneumonia resulted in substantial mortality of bighorn sheep in at least 2 populations (Sheep Mountain and McGraw populations). Bighorn sheep also have been commonly detected within 1 to 4 miles of the Payette's Curren Hill sheep allotment. Results of the expert panel risk assessment indicated that panelists considered the Smith Mountain allotment to present a very high risk of disease transmission to bighorn sheep and the Curren Hill allotment to present a high risk of disease transmission. Continuing to graze domestic sheep on the highest risk portions of the Smith Mountain and Curren Hill allotments would likely not threaten the viability of the overall Hells Canyon bighorn sheep metapopulation but would likely

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threaten the viability of bighorn sheep populations occurring within the metapopulation's southern range. As long as domestic sheep are grazed on the highest risk portions of the Smith Mountain and Curren Hill allotments, disease-related population impacts will likely continue to preclude the establishment of a viable bighorn sheep population anywhere within the Payette's west side.

The Payette NF provides vast areas of suitable bighorn sheep habitat in the Frank Church River of No Return Wilderness in the Salmon River Mountains. Unlike so many areas across the western U.S., these native bighorns were never extirpated and thus provide a significant genetic and population resource. The Payette NF provides a swath of wildlife habitat approximately 50 miles wide in which no domestic sheep, or cattle, grazing occurs. Bighorn sheep populations have persisted within and adjacent to Payette NF boundaries in the Salmon River Mountains despite the fact that domestic sheep grazing was much more extensive during the late 1800s to early 1900s than it is today. However, existing sheep allotments within the Payette NF's east side certainly present some level of disease-transmission risk to Salmon River Mountains bighorn sheep as evidenced by: 1) the relative close proximity of some of these allotments to a bighorn sheep population in the South Fork Salmon River drainage and a population along the Main Salmon River in Unit 19 and past disease-related declines in both of these populations; 2) expert panelists rated risk of disease transmission as high for 3 of the east side allotments and moderate for 5 of the east side allotments; and 3) recent observations of a bighorn sheep in the Josephine allotment and another in the North Fork Lick Creek allotment. Management of the domestic sheep disease transmission issue in the Payette NF's east side, however, is greatly complicated by lack of information on distribution and movement patterns of bighorn sheep from nearby bighorn populations. Continuation of current sheep grazing management on east side sheep allotments would likely not threaten the viability of the extensive Salmon River Mountains bighorn sheep metapopulation, nor would continuation of current sheep grazing management on the Payette likely threaten the viability of the Big Creek bighorn population or the Main Salmon River bighorn population. The small number of bighorn sheep counted in the South Fork Salmon River population during the last 2 Idaho Department of Fish and Game surveys (33 total sheep in 1996 and 33 total sheep in 2002) justify concern over viability of this population. However, lack of information about the current disease status within this population and lack of information on movements of these sheep on their summer range when domestic sheep are on the east side allotments make it extremely difficult to assess the level of risk posed by east side sheep allotments to the South Fork Salmon River bighorn sheep population.

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Table 1. Permit Information for Payette National Forest Sheep Allotments.

Allotment	Class	Permitted Number	Season On	Season Off	Head Months
Smith Mountain	Ewe/lambs	1200	5/16	8/10	3432
	Dry Ewes	1200	8/17	10/15	2367
	Ewe/lambs	1900	6/18	8/10	3373
	Dry Ewes	1900	8/17	10/15	3748
Curren Hill	Dry Ewes	1925	9/1	9/30	1899
Boulder Creek	Ewe/lambs	1000	6/16	8/31	2532
Price Valley	Ewe/lambs	895	6/16	8/31	2266
Surdam	Ewe/lambs	1900	4/1	6/30	284
Shorts Bar	Dry Ewes	1600	9/20	10/7	907
Hershey-Lava	Ewe/lambs	1333	7/10	9/15	2980
French Creek	Ewe/lambs	833	7/7	10/7	2547
Bear Pete	Ewe/lambs	833	7/7	10/7	2547
Marshall Mtn	Ewe/lambs	834	7/7	10/7	2550
Vance Creek	Dry Ewes	2666	9/15	10/15	2717
Little French Creek	Dry Ewes	1333	7/10	7/20	444
Josephine	Ewe/lambs	1333	7/10	9/15	2980
Victor-Loon	Dry Ewes	1500	8/26	10/10	2268
Grassy Mtn	Ewe/lambs	1333	7/10	9/15	2980
Slab Butte	Ewe/lambs	1333	7/10	9/15	2980
Cougar Creek	Ewe/lambs	1333	7/10	9/15	2980
Twenty Mile	Ewe/lambs	1333	7/10	9/15	2980
Brundage	Dry Ewes	2666	9/15	10/15	2717
Bill Hunt	Dry Ewes	2666	9/15	10/15	2717
Fall/Brush Creek	Ewe/lambs	800	7/1	8/25	1473
North Fork Lick Creek	Dry Ewes	1500	8/25	8/25	50
Lake Fork	Ewe/lambs	817	7/1	8/25	1504
Jughandle	Dry Ewes	2000	7/10	10/15	6444

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Table 2. Numbers of bighorn sheep counted during winter population surveys in the Big Creek Drainage in Unit 26 (Idaho Department of Fish and Game 2004: page 32). Survey data is presented only for years with complete counts.

Year	Lambs	Ewes	Rams	Lambs/ 100 Ewes	Total Sheep
1989	28	180	72	16	270
1991	4	93	39	4	136
1992	26	91	48	29	165
1993	22	108	35	20	165
1995	10	95	22	11	131
1996	11	99	28	11	138
1999	23	88	35	26	146
2002	26	86	23	30	135
2004	23	90	31	26	144

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Table 3. Numbers of bighorn sheep counted during winter population surveys along the Middle Fork Salmon River in Hunt Areas 27-1, 27-2, and 27-3 (Idaho Department of Fish and Game 2004: page 54). Survey data is presented only for years with complete counts.

Year	Lambs	Ewes	Rams	Lambs/ 100 Ewes	Total Sheep
Hunt Area 27-1					
1989	39	77	56	51	172
1991	3	108	42	3	153
1993	14	90	25	16	129
1999	14	56	33	25	103
2001	13	80	23	16	116
2004	24	100	39	24	163
Hunt Area 27-2					
1989	19	57	57	33	133
1990	5	43	27	12	75
1991	2	60	11	3	73
1993	2	36	16	6	54
1999	16	54	21	30	91
2004	9	44	14	21	67
Hunt Area 27-3					
1989	35	80	39	44	154
1991	7	88	28	8	123
1993	17	62	30	27	109
1999	12	67	23	18	102
2004	13	57	28	23	98

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Table 4. Numbers of bighorn sheep counted during winter population surveys along the lower Middle Fork Salmon River in Unit 20A (Idaho Department of Fish and Game 2004: page 32). Survey data is presented only for years with complete counts.

Year	Lambs	Ewes	Rams	Lambs/ 100 Ewes	Total Sheep
1989	13	76	27	17	116
1991	3	72	30	4	105
1992	7	80	29	9	116
1993	10	62	22	16	94
1994	11	63	19	18	93
1995	11	53	19	21	83
1996	6	38	14	16	58
1999	11	35	5	31	51
2002	14	35	9	40	58
2004	8	21	7	38	36

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Table 5. Numbers of bighorn sheep counted during winter population surveys in the South Fork Salmon River drainage (Idaho Department of Fish and Game, unpublished data). Survey data is presented only for years with complete counts.

Year	Lambs	Ewes	Rams	Lambs/ 100 Ewes	Total Sheep
1985	4	22	12	18	38
1986	19	57	14	33	92
1989	12	50	15	24	77
1991	5	33	22	15	60
1992	5	49	15	10	69
1993	13	51	14	25	78
1994	10	50	14	20	74
1995	9	44	5	20	58
1996	3	24	6	13	33
2002	6	23	4	26	33

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Table 6. Summary of bighorn sheep winter population survey data for Units 19 and 20 along the Main Salmon River (Idaho Department of Fish and Game 2004: page 17). Survey data is presented only for years with complete counts.

Year	Lambs	Ewes	Rams	Lambs/ 100 Ewes	Total Sheep
Unit 19					
1981	9	44	3	21	56
1982	14	76	10	18	100
1983	31	95	10	33	136
1984	25	92	5	27	122
1986	9	69	11	13	89
1987	20	68	2	29	90
1989	20	63	8	32	91
1992	2	38	12	5	52
1993	0	40	20	0	60
1996	14	32	10	45	56
2001	13	28	12	46	53
Unit 20					
1981	3	12	11	25	26
1982	19	78	32	24	129
1983	13	83	37	16	133
1984	29	107	41	27	177
1986	31	132	67	24	230
1987	25	113	69	22	207
1989	26	94	32	28	152
1992	13	68	25	19	106
1993[a]	7	53	6	13	66
1994	11	49	27	22	87
1996	7	51	20	14	78
2001[b]	6	22	23	27	51

[a] The 1993 survey was conducted in May. All other surveys were conducted in January and February coincident with elk surveys.
[b] Includes sightability estimates with 90% bounds.

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Table 7. Description of GIS bighorn sheep habitat model. Model was modified from Hells Canyon bighorn sheep habitat model developed by Hells Canyon Bighorn Sheep Restoration Committee.

Habitat Component	Criteria	Source
Escape Terrain		
Slope	Areas with slopes between 31° and 85°	Hells Canyon Bighorn Restoration Committee 2004: page 4
Buffer	300 m or land areas ≤1000 m wide bounded on ≥2 sides by escape terrain (500 m)	Hells Canyon Bighorn Restoration Committee 2004: page 4
Minimum area	1.6 ha	Hells Canyon Bighorn Restoration Committee 2004: page 4
Horizontal Visibility		
Habitat types	upland grasslands, altered grasslands, mountain mahogany, bitterbrush, shadscale, exposed rock, barren areas, snow fields, all forest cover types with ≤10% canopy cover (determined from Landsat satellite imagery)	USDA Forest Service 1997

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Table 8. Mean likelihood scores, weighted mean outcome, and standard deviation (S.D.) from expert-panel assessment of disease transmission risk for 23 sheep allotments on the Payette National Forest. Sorted by value of weighted mean outcome.

Allotment	Risk of Disease Transmission					Weighted Mean Outcome	S.D.
	Very Low	Low	Moderate	High	Very High		
	1	2	3	4	5		
Smith Mountain	0.0	0.0	0.0	3.3	96.7	4.97	0.18
Marshall Mountain	0.0	0.0	16.7	40.0	43.3	4.27	0.73
Curren Hill	1.7	10.8	17.5	39.2	30.8	3.87	1.03
Bear Pete	3.3	16.7	21.7	25.0	33.3	3.68	1.19
French Creek	0.0	14.2	38.3	30.8	16.7	3.50	0.93
N. Fork Lick Creek	0.0	43.3	33.3	15.0	8.3	2.88	0.95
Shorts Bar	6.7	30.0	41.7	16.7	5.0	2.83	0.95
Victor-Loon	0.0	48.3	36.7	11.7	3.3	2.70	0.80
Lake Fork	8.3	46.7	28.3	13.3	3.3	2.57	0.94
Hershey-Lava	23.3	26.7	28.3	15.0	6.7	2.55	1.19
Jughandle	21.7	41.7	30.0	6.7	0.0	2.22	0.86
Josephine	39.2	33.3	12.5	6.7	8.3	2.12	1.23
Boulder Creek	48.3	33.3	10.0	5.0	3.3	1.82	1.03
Twenty Mile	50.0	40.8	7.5	1.7	0.0	1.61	0.70
Fall/Brush Creek	71.7	12.5	5.8	5.0	5.0	1.59	1.12
Little French Creek	56.7	33.3	10.0	0.0	0.0	1.53	0.67
Price Valley	78.3	10.0	6.7	3.3	1.7	1.40	0.88
Cougar Creek	66.7	28.3	5.0	0.0	0.0	1.38	0.58
Brundage	82.5	12.5	3.3	1.7	0.0	1.24	0.59
Bill Hunt	82.5	12.5	3.3	1.7	0.0	1.24	0.59
Vance Creek	80.0	18.3	1.7	0.0	0.0	1.22	0.45
Grassy Mountain	78.3	21.7	0.0	0.0	0.0	1.22	0.41
Slab Butte	78.3	21.7	0.0	0.0	0.0	1.22	0.41

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Attachment to Letter O6, not a comment letter on the CFO DRMP/DEIS.

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Table 9. Mean likelihood scores, weighted mean outcome, and standard deviation (S.D.) from expert-panel assessment of disease transmission risk for 23 sheep allotments on the Payette National Forest. Sorted by value of standard deviation.

Allotment	Risk of Disease Transmission					Weighted Mean Outcome	S.D.
	Very Low	Low	Moderate	High	Very High		
	1	2	3	4	5		
Josephine	39.2	33.3	12.5	6.7	8.3	2.12	1.23
Bear Pete	3.3	16.7	21.7	25.0	33.3	3.68	1.19
Hershey-Lava	23.3	26.7	28.3	15.0	6.7	2.55	1.19
Fall/Brush Creek	71.7	12.5	5.8	5.0	5.0	1.59	1.12
Curren Hill	1.7	10.8	17.5	39.2	30.8	3.87	1.03
Boulder Creek	48.3	33.3	10.0	5.0	3.3	1.82	1.03
N. Fork Lick Creek	0.0	43.3	33.3	15.0	8.3	2.88	0.95
Shorts Bar	6.7	30.0	41.7	16.7	5.0	2.83	0.95
Lake Fork	8.3	46.7	28.3	13.3	3.3	2.57	0.94
French Creek	0.0	14.2	38.3	30.8	16.7	3.50	0.93
Price Valley	78.3	10.0	6.7	3.3	1.7	1.40	0.88
Jughandle	21.7	41.7	30.0	6.7	0.0	2.22	0.86
Victor-Loon	0.0	48.3	36.7	11.7	3.3	2.70	0.80
Marshall Mountain	0.0	0.0	16.7	40.0	43.3	4.27	0.73
Twenty Mile	50.0	40.8	7.5	1.7	0.0	1.61	0.70
Little French Creek	56.7	33.3	10.0	0.0	0.0	1.53	0.67
Brundage	82.5	12.5	3.3	1.7	0.0	1.24	0.59
Bill Hunt	82.5	12.5	3.3	1.7	0.0	1.24	0.59
Cougar Creek	66.7	28.3	5.0	0.0	0.0	1.38	0.58
Vance Creek	80.0	18.3	1.7	0.0	0.0	1.22	0.45
Grassy Mountain	78.3	21.7	0.0	0.0	0.0	1.22	0.41
Slab Butte	78.3	21.7	0.0	0.0	0.0	1.22	0.41
Smith Mountain	0.0	0.0	0.0	3.3	96.7	4.97	0.18

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Responses

Attachment to Letter O6, not a comment letter on the CFO DRMP/DEIS.

Comments

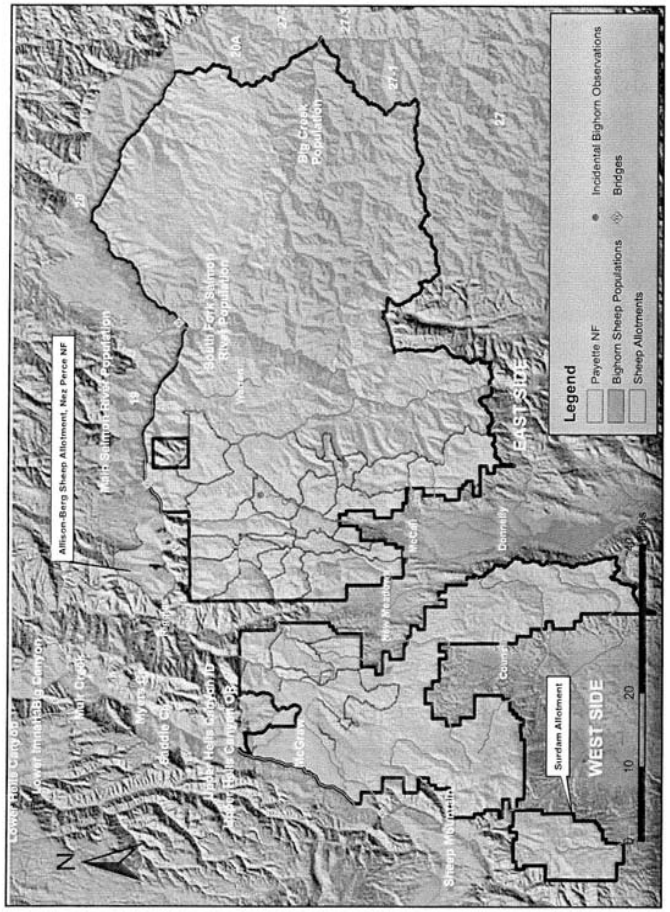

Figure 1. Ranges of bighorn sheep populations in the vicinity of the Payette National Forest. Ranges of Hells Canyon bighorn sheep populations (west side of map) were delineated by Hells Canyon Bighorn Sheep Restoration Committee (2004: page 3). Ranges of bighorn populations in Salmon River Mountains (east side of map) were estimated by wildlife biologists from Idaho Department of Fish and Game based on knowledge of winter range and distribution of suitable habitat.

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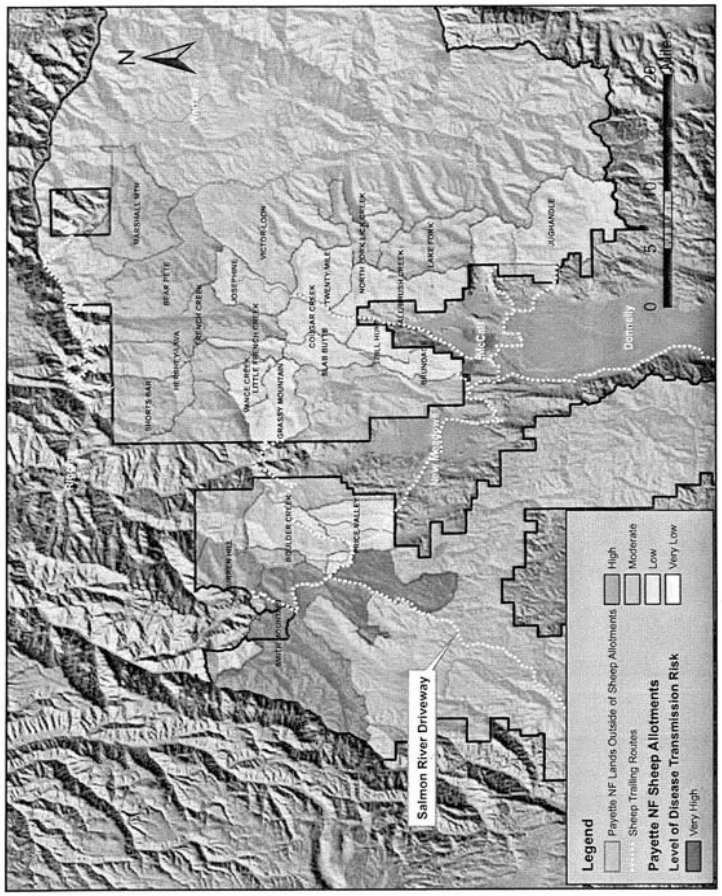

Figure 2. Category of risk of disease transmission from domestic sheep to bighorn sheep on the Payette National Forest. Categories were determined by value of weighted mean outcome of expert panel risk assessment data (Table 8)

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Responses

Attachment to Letter O6, not a comment letter on the CFO DRMP/DEIS.

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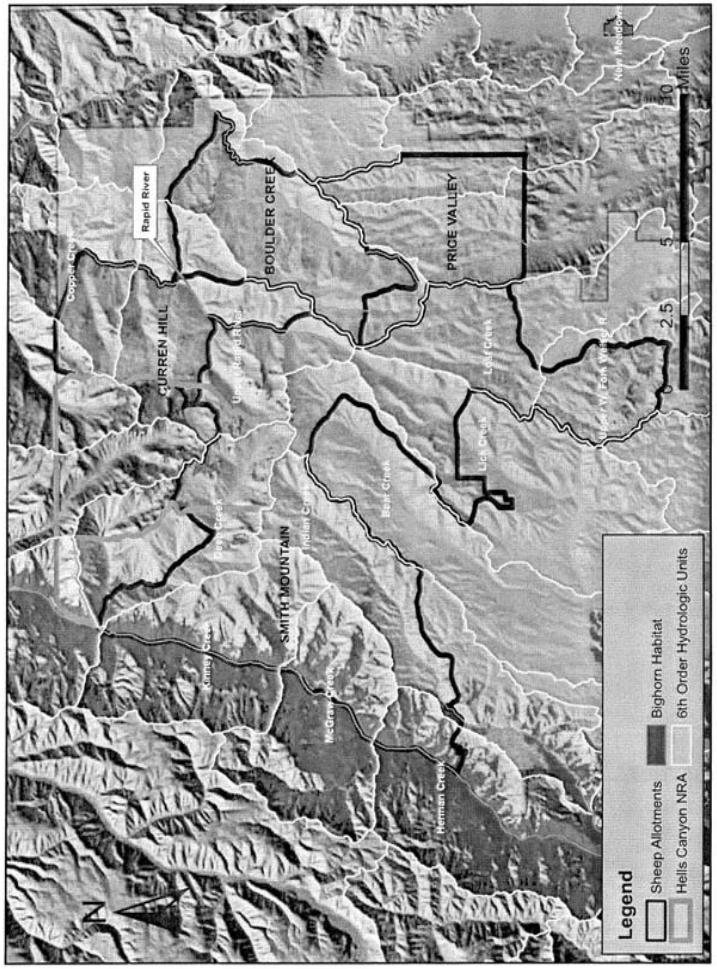

Figure 3. Smith Mountain, Curren Hill, Boulder Creek, and Price Valley domestic sheep allotments on the west side of the Payette National Forest. Bighorn habitat was estimated from GIS model. Portion of Hells Canyon NRA located within the proclaimed boundaries of the Payette National Forest is shown.

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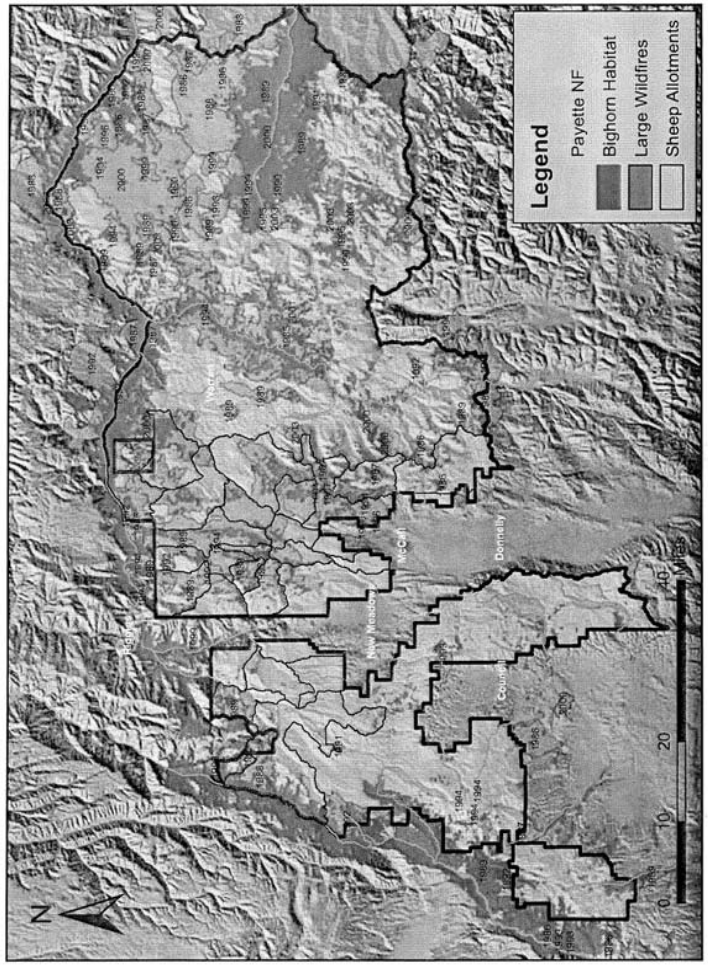

Figure 4. Bighorn sheep habitat and large wildfires on the Payette National Forest. Bighorn habitat was estimated from GIS model. Wildfires larger than 200 acres that have occurred since 1985 are shown. Dates are year wildfire occurred.

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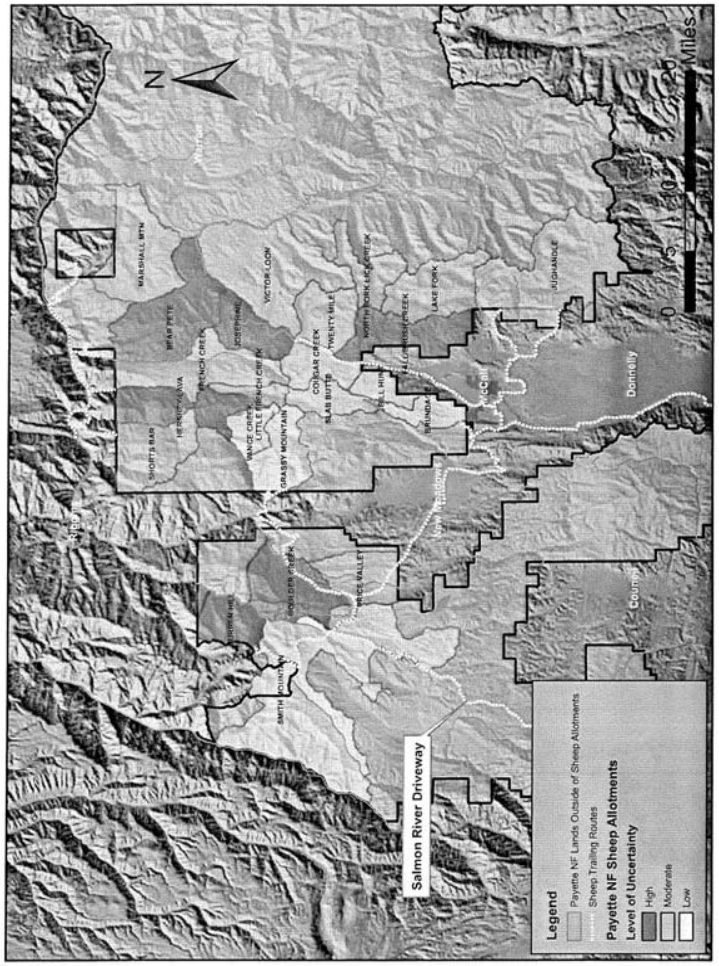

Figure 5. Category of uncertainty associated with risk of disease transmission from domestic sheep to bighorn sheep on the Payette National Forest. Categories were determined by standard deviation value associated with the weighted mean outcome score (Table)

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Attachment to Letter O6, not a comment letter on the CFO DRMP/DEIS.

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Summary of the
Science Panel Discussion
November 2, 2006
USGS/Bureau of Reclamation Office
230 Collins Road, Boise, ID

Meeting Objectives

1) Clarify the science-based concerns regarding *Risk Analysis of Disease Transmission between Domestic Sheep and Bighorn Sheep on the Payette National Forest* (February 6, 2006).

2) Allow panelists to provide additional science-based information regarding disease transmission and its risk of occurring on the Payette National Forest that the Forest Supervisor should consider in conjunction with the risk analysis.

Executive Summary

Prior to the meeting, specific science-based concerns with the *Risk Analysis of Disease Transmission between Domestic Sheep and Bighorn Sheep on the Payette National Forest* (February 6, 2006) were compiled and arranged into categories for science panelists to discuss. Panelists focused on concerns in the disease/mortality category and developed statements to address these concerns:[1]

1a) Scientific observation and field studies demonstrate that "contact" between domestic sheep and bighorn sheep is possible under range conditions. This contact increases[2] risk of subsequent bighorn sheep mortality and reduced recruitment, primarily due to respiratory disease.

1b) The complete range of mechanisms/causal agents that lead to epizootic disease events cannot be conclusively proven at this point.

1c) Given the previous two statements, it is prudent to undertake management to prevent contact between these species.

2) Not all bighorn sheep epizootic disease events can be attributed to contact with domestic sheep.

3) Gregarious behavior of bighorn sheep and domestic sheep may exacerbate potential for disease introduction and transmission.

4) Dispersal, migratory, and exploratory behaviors of individual bighorn sheep traveling between populations may exacerbate potential for disease introductions and transmission.

5) There are factors (e.g., translocation, habitat improvement, harvest, weather, nutrition, fire, interspecies competition, and predation), some that can be managed and some that cannot, that can influence bighorn sheep population viability.

6) Pasteurellaceae, other bacteria, viruses, and other agents may occur in healthy, free-ranging bighorn sheep.

These statements were drafted and then revised until the group was satisfied. Throughout the discussion, the facilitator tracked suggested actions, suggested management strategies, and items to discuss further if time permitted. In addition, key literature provided by the panelists for consideration by the U.S. Forest Service was presented in two binders.

[1] References to domestic sheep also apply to domestic goats, which are not currently an issue on the Payette National Forest.
[2] Refer to the concern that this should read "can increase risk…" on page 12, 2nd paragraph under comments 38 and 40.

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Meeting Opening

Patti Soucek, Forest Planner on the Payette National Forest, welcomed panelists and introduced Suzanne Rainville, Forest Supervisor. Rainville shared information about her background, including her degrees in forestry and silviculture, 28-year history with the U.S. Forest Service (USFS), and recent hiring as Forest Supervisor on the Payette National Forest.

She then summarized the process leading to this meeting—approval of the revised Payette National Forest Plan, several appeals, and directed reanalysis of bighorn sheep viability specifically related to disease transmission. Based on input from this meeting, in conjunction with the risk analysis and other information gathered, the Forest Plan will be amended. Participants for this science panel were highly recommended, and she hoped to understand the different views from the scientists by the end of the meeting. She clarified that the intent is not to redo the risk analysis but to supplement the information. Facilitator Susan Hayman, North Country Resources, talked about the two-tiered structure, with panelists at the table and observers seated around the perimeter. These observers were available to answer questions. Following the meeting, a summary document will be publicly available after panelists have reviewed the draft for accuracy. Hayman had panelists introduce themselves and then reviewed the meeting objectives and agenda (Appendix A).

Process Review

Three-Step Decision Process

Soucek described the history of the Forest Plan to date and explained the three-step decision process that the Payette National Forest is undergoing. In July 2003, the Regional Forester signed the Record of Decision for the revised Payette National Forest Plan, beginning implementation in September 2003. Once it was signed, it was open for appeal. Five appeals, covering approximately 45 issues, were received. All were affirmed except one dealing with bighorn sheep viability, availability of habitat across the "planning area" (the Forest), and the risk of disease transmission between domestic sheep and bighorn sheep. Some challenges in addressing these issues have been the requirement to use 1982 planning regulations and the overlap of bighorn sheep populations on the Payette National Forest and Hells Canyon National Recreation Area (HCNRA).

Step 1 was to conduct the risk analysis and compliance check. Jeff Waters, USFS, was hired to spend four months examining the literature and data and writing the risk analysis. Comments were solicited, and this science panel was convened to address some of those comments. Step 2 is supplementing the environmental impact statement (EIS) for the Forest Plan and adding to the Forest Plan to adequately address the disease transmission issue. Step 3, which many people are anxious to address, is to potentially adjust allotment management plans based on results of the first two steps. This step requires another environmental assessment.

Following Soucek's information, several issues were raised and discussed:

- ***Definition of viability.*** Under the 1982 planning regulations, viability is defined by reproducing populations, habitats to support these populations, and distribution across the planning area. In this case, the planning area is the Payette National Forest, and determining viability within that strict boundary is difficult, given used and potential habitat adjacent to the Forest. As far as Soucek knew, there are no estimations of carrying capacity for the herds, nor are there numbers on which to base

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Comments

"viability." The intent is not to conduct a population viability analysis (PVA), which would require data for numerous other variables and development of a probability of persistence over a certain time frame.

- ***Focus on disease issue.*** The Forest Service–Washington DC office said to focus on the disease issue, which is why the risk analysis primarily discusses the contact between bighorn and domestic sheep. In the EIS, disease transmission was identified as a "significant" issue so, under the National Environmental Policy Act (NEPA), alternatives had to be developed. The Chief of the Forest Service said that this issue wasn't adequately addressed, and viability was added as an issue because it is required under the 1982 planning regulations. Soucek acknowledged the complexities in meeting the Chief's instructions.
- ***Time scale.*** Forest plans have a 10- to 15-year life expectancy, but population viability considers the long term.
- ***Bighorn metapopulations and connectivity.*** The Payette National Forest has two metapopulations. The Hells Canyon metapopulation was extirpated by the 1940s, so current populations derive from translocations. The Salmon River metapopulation was never extirpated. There is no known interchange between the two metapopulations (based on HCNRA telemetry data, geographical barriers, and observations), although historically such interchange was likely (based on potential habitat maps and anecdotal information). Rainville commented that the Nez Perce Tribe has proposed a monitoring study and requested that the USFS buy radio collars, but the decision will be based on funding availability.

Method of Determining Risk

Waters read excerpted information from the Background section of the risk analysis report to provide the context for the discussion. The original language focused on the Hells Canyon Management Area; however, the analysis was conducted at the spatial scale of the entire Forest. The purpose of the analysis was to collect the information necessary for the Payette National Forest to address the viability of bighorn sheep relative to disease transmission. No primary research was requested.

Waters then outlined the three parts of the risk analysis—literature review, status evaluation, and expert panel assessment. The document was organized according to the three parts of the analysis.

- For the literature review, he drew from previous literature reviews and a number of management papers that focused on the issue.
- To evaluate the status of bighorn sheep populations, he reviewed all available and relevant data from the Idaho Department of Fish and Game (IDFG). Even though the analysis was at the Forest scale, he included data from just outside the Forest boundary.
- The intent of the expert panel was to obtain information about the likelihood of disease transmission for specific sheep allotments on the Payette National Forest. The approach was closely modeled on methods used to evaluate EIS alternatives on likelihood of species persistence in the Interior Columbia Basin, by Lehmkuhl et al. (1997; see the reference list in the risk analysis report). Representation relied heavily on state fish and game biologists who were knowledgeable about bighorn sheep movements and range of populations relative to domestic sheep allotments. The principal assumption stemming from the literature review and underlying the expert panel was that "[d]irect contact between domestic sheep and bighorn sheep results in a high likelihood of disease transmission to bighorn sheep and disease outbreak in local bighorn herds."

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Waters pointed out that conclusions about likely impacts to population viability were included in the Discussion section of the report.

Clarifying Q&A on Processes and Procedures

Following presentations by Soucek and Waters, Hayman asked whether panelists needed clarification on processes or procedures for the risk analysis. During the ensuing discussion, several issues were raised:

- ***Factors other than disease transmission.*** Other factors discussed in the expert panel were habitat loss, fragmentation, fires, and human use. None were seen as causing substantive impacts, and fire can actually improve conditions by opening up habitat. The HCNRA experiences approximately 75,000 visitor days a year. The majority of use in Hells Canyon occurs during boating season: 80% of recreationists access the area in jet boats and rafts and stay along the river. A small proportion of users are hikers and hunters who access the HCNRA seasonally. Although the risk analysis recognizes these other factors, the focus is on disease transmission.
- ***Lack of quantitative data regarding disease transmission.*** The risk analysis was criticized for the lack of quantitative data and expert representation in the panel on disease transmission. Although information is available for the location of domestic sheep, quantifying disease transmission through contact is difficult. Dr. Dave Jessup, California Department of Fish and Game, commented that the Reed-Frost model for disease transmission has been used on much smaller projects, but data must be available to input to the model. Semiquantitative risk analyses are conducted when quantitative information is scarce, but they are subject to criticism. Rainville said that this science panel was designed to balance information in the risk analysis report. She didn't expect resolution on the issue but sought as much information as possible.
- ***Locations of disease events.*** Soucek and Tim Schommer, USFS National Bighorn Sheep Specialist and wildlife biologist, identified seven areas of bighorn sheep die-offs on a display map, five in the Hells Canyon area and two in the Salmon River area. These die-off events, occurring between 1983 and 2000, had above normal mortality. While Schommer indicated whether contact had occurred between bighorn sheep and domestic sheep or goats prior to these die-off events, there was no discussion among the panelists as to whether disease transmission was the primary cause:
  - In 1995, a die-off began near the confluence of the main stem Salmon and Middle Fork Salmon rivers within 10 days after contact with domestic sheep. This population has begun to rebound.
  - Another die-off occurred in the Big Creek population at about the same time.
  - A die-off along the South Fork was related to fire; this population has not rebounded yet for unknown reasons.
  - In the Sheep Creek drainage of Hells Canyon, the domestic and bighorn sheep were observed mixing in the winter of 1983–1984. All 180 bighorn sheep subsequently died.
  - In 1989, a complete die-off occurred in a new herd at Sand Creek.
  - In 1986, about 95 of 125 sheep died from the Lostine population. The McGraw herd was placed on the Oregon side, but some appeared to prefer the Idaho side. Schommer wasn't sure whether domestic and bighorn sheep populations mixed, but they were within one-eighth of a mile of each other. All 30 in the herd subsequently died by 2000.
  - In 1995–1996, a herd near Lewiston came into contact with two goats; subsequently, about 300 bighorn sheep died.

Summary of the November 2, 2006, Science Panel Meeting 4

Responses

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Comments

These years indicate acute mortality. [More information is available in pp. 7–9 of the risk analysis report.]

- ***Recovery levels.*** Recovery from a pneumonia outbreak is generally slower than for die-offs from other causes because lamb mortality is high for several years following the initial event. In addition, populations seldom recover to pre-event levels. If die-offs take enough of the population, especially ewes, herd memory of quality habitats can be lost. Ewes are not adventurous and less likely to occupy new habitat than rams. Smaller groups are also more vulnerable to predation. None of the die-offs appear to be driven by populations reaching their carrying capacity.
- ***Methods of disease risk analyses.*** Dr. Elena Garde, British Columbia Ministry of the Environment, had information about methods derived from translocation disease assessments that might be helpful in designing risk analyses. She commented that there were some key points missing from the current risk analysis, precluding managers from estimating the probability of a health hazard occurring. First, particular pathogens should be identified. Second, case definitions of transmission should be described. Lastly, missing from the risk analysis was the "magnitude of a negative outcome." Disease risks are generally quantified according to the probability of contact, combined with the magnitude of effect. For example, a pathogen may be at low risk of being spread through contact, but it may also have a high probability of mortality. That pathogen may be assessed differently than one with a high risk of being spread but a low probability of mortality. Likewise, it was recommended that an economic analysis be conducted simultaneously, as local economic values (agriculture, transplanted herds, native herds) need to be identified.
- ***Migratory behavior in the Payette National Forest.*** When asked about migratory behavior, Waters responded that migration tends to be seasonal and elevational. Lost pockets of matrilinear groups can lead to lost knowledge of migration routes, lambing areas, and summering areas. On the other hand, transplanted populations have pioneered migrations fairly quickly.

Concerns with the Risk Analysis[3]

Prior to the meeting, specific science-based concerns with the risk analysis were compiled and arranged into categories for science panelists to discuss (Appendix B). Hayman posted the disease/mortality category of concerns, which included concerns 12 through 37. She identified several subcategories. Panelists discussed these concerns and developed statements to address them. (These statements, provided in the following sections, are the work product of the science panel.)

Concerns 12 and 13

12. Disagree with the premise that domestic sheep transmit disease to bighorn sheep on the range/in the wild. Report conclusions based on circumstantial evidence, rather than in any scientifically verifiable way.
13. Disagree that the risk of disease can be evaluated in a quantitative manner when the specific mechanisms for transmitting disease have been difficult to document outside of clinical settings.

Hayman asked panelists to begin discussing concerns 12 and 13 to determine whether the underlying assumption of the risk analysis ("Direct contact between domestic sheep and bighorn sheep results in a high likelihood of disease transmission to bighorn sheep and disease outbreak in local bighorn herds") was

[3] Though the meeting minutes generally adhere to the chronological development of the meeting, information for any subject covered at different times is organized by subject matter.

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Comments

faulty or accurate. Drs. Bill Foreyt, Washington State University, and Jessup shared early and separate observations indicating dire consequences to bighorn sheep of contact with domestic sheep.

Ensuing discussion covered a number of issues:

- ***Desirability of scientific debate.*** Vigorous debate advances science, so panelists asked that the discussion be open and unconstrained, though the panelists agreed not to engage in personal attacks.
- ***Disease transmission from domestic sheep to bighorn sheep.*** A question which was explicitly asked three times was whether anyone on the panel agreed with concern 12, thereby disagreeing with the premise that domestic sheep transmit disease to bighorn sheep on the range/in the wild. Despite repeated opportunities to do so, none of the panelists stated agreement with concern 12. Dr. Glen Weiser, Caine Veterinary Teaching and Research Center, stated that transmission is recognized, but hard physical data are lacking for field transmission. Dr. Alton Ward, Caine Veterinary Teaching and Research Center, also noted that proof of transmission in range conditions is lacking. Panelists offered a variety of reasons why these data are unavailable:
  - ***Protocols for field epidemiology.*** Foreyt said that he has asked for a protocol for studying disease transmission in the field, but so far no one has been able to offer one. During die-offs in free-ranging conditions, researchers don't have the opportunity to collect pre- and post-disease event samples. In addition, pathogens may have changed, even if a researcher were able to collect a sample for an individual that just succumbed to fibrinopurulent pneumonia. Weiser mentioned a study in Montana, with help from Colorado, during which over 1,000 samples were collected. If a die-off does occur, it may be possible to go back to the archived samples and trace the source.
  - ***Failures in observations or in tools.*** Some people assume that, because contact between domestic sheep and bighorn sheep was observed or suspected prior to an outbreak, epizootic was "caused" by the contact. This assumption may be faulty. Likewise, a lack of physical evidence could result from faulty lab analysis: inconsistency among technicians in processing samples, focus on certain pathogens at the expense of others, and limits in technology. There was discussion about phenotypic and genotypic bases for studying pathogens and whether the tools being used could adequately answer the questions.
  - ***Standards of "proof."*** One question was raised repeatedly: What would constitute sufficient proof? Although disease transmission from domestic to bighorn sheep under field conditions has not been unequivocally demonstrated by a controlled experimental study, this phenomenon also has not been disproved by experimental study. A panelist stated that the burden of proof lay with both parties. If research is published in a peer-reviewed journal and has not been duplicated and shown to have different results, then it generally stands. If another researcher disagrees with the findings, that researcher generally designs a different study and publishes the results. According to several panelists, when assessing transmission of disease in other species or human, this amount of circumstantial evidence is considered sufficient to make management decisions. They agreed that more research is needed but that basic preventive actions are warranted. Dr. Mark Drew, Idaho Department of Agriculture/Idaho Department of Fish and Game, also commented that not all research is published. In Oregon, there were two well-documented cases where animals were tested prior to mixing. After mixing, those bighorns died. A manuscript was drafted, but it was never published. Dr. Sri Srikumanan, Washington State University, read an excerpt from Ward et al. (1997, pp. 555–556; see Appendix C of this document) stating that nose-to-nose contact has resulted in transmission of *Pasteurella haemolytica* from domestic to bighorn sheep, based on findings reported by D.L. Hunter and A.C.S. Ward (unpublished).

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- ***Proper diagnostic focus.*** In the field, many opportunities may have been missed to analyze the cause of pneumonia because people assumed that the pneumonia resulted from contact. In addition, opportunities may have been missed in the lab where analyzes have focused on certain organisms. These analyses cannot rule out that organisms are shared by both species, only that the organisms assessed were not shared. Stress has been mentioned as a potential factor, but a study by Miller showed no relationship between cortisol levels and death from pneumonia.

Based on what she heard during the discussion, Hayman drafted four statements and asked panelists to assess them for accuracy and agreement. She reminded panelists that consensus was not required. It was important that Rainville understood areas of agreement, areas of disagreement, and information supporting each. Panelists revised the statements as follows. The strikethrough typeface indicates verbiage that was removed, while underlined information was added to the original statement during subsequent discussion.

1) Scientific observation and field studies demonstrate that "contact" between domestic and sheep and bighorn sheep is possible under range conditions. This contact ~~creates a~~ increases risk of subsequent bighorn sheep mortality and reduced recruitment, due primarily to respiratory disease. [later renumbered as 1a.]
2) The complete range of mechanisms/causal agents that lead to epizootic disease events cannot be conclusively proven at this point. [later renumbered as 1b.]
3) Given the previous two statements, it is prudent to undertake management ~~that minimizes~~ to prevent contact between these species. [later renumbered as 1c.]
4) Not all bighorn sheep epizootic disease events can be attributed to contact with domestic sheep. [later renumbered as 2.]

Concerns 14 and 15

14. Failure to address significance of bighorn behavior and social patterns that contributes to their natural susceptibility to disease.
15. Failure to evaluate the potential for disease transmission through inter-population movements of bighorns when assessing risk for allotments on the east side of the Forest.

Concern 14 confused two issues—behavior and genetic susceptibility to disease. Statement 4 was mentioned as possibly addressing this issue. It was noted that groups of ewes tend to be insular, while rams move more widely across the landscape. Rather than determining whether this concern was addressed implicitly in one of the four existing statements, panelists decided to draft an explicit statement about bighorn sheep behavior. Their efforts resulted in the following two statements. Because the first addressed aggregation and the second about dispersal, panelists believed that both were necessary.

5) Gregarious behavior of bighorn sheep and domestic sheep may exacerbate potential for disease introduction and transmission. [later renumbered as 3.]
6) Dispersal, migratory, and exploratory behaviors of individual bighorn sheep traveling between populations may exacerbate potential for disease introductions and transmission. [later renumbered as 4.]

Panelists commented that concern 15 went into a level of detail on allotments that was inappropriate for them to discuss at this time. It did, however, point out the need for more data (VHF and GPS, daytime and nighttime) on movements and locations of bighorn and domestic sheep, especially on the east side of the

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Comments

Forest. This need was recorded on a flip chart of suggested actions (see Appendix D for all flip chart notes).

Concerns 26 through 29

26. Failure to address how the factors of transplantation, human contacts, and sedation for transport may be precursors to disease problems.
27. Failure to address how the effects of fire may be precursors to disease problems.
28. Failure to address how excessive or unseasonable rains and snows, and extremes of heat and cold may be precursors to disease problems.

Panelists decided that other factors needed to be addressed but not spotlighted. Some felt that statement 4 addressed the concerns, but others felt that this concern also warranted an explicit statement. The main concern in drafting the statement was articulating whether factors could be controlled or managed. In some cases, such as fire, resource managers might want to manage a factor in some situations but not in others. Those management decisions had to be left to the discretion of the Forest. Panelists agreed to the following statement:

7) There are factors (e.g., translocation, habitat improvement, harvest, weather, nutrition, fire, interspecies competition, and predation), some that can be managed ~~(e.g., translocation, habitat improvement, harvest)~~ and some that cannot, that ~~to~~ influence bighorn sheep population viability. ~~There are other factors (e.g., fire, nutrition, weather) that cannot be readily managed that also influence bighorn sheep population viability.~~ [later renumbered as 5.]

Concern 24

24. Question whether the bighorns could be carriers of disease, and that transplanting introduces new pathogens into their own herds.

This concern was adequately addressed by statement 4.

Concern 25

25 Failure to address whether bighorn sheep could be carrying disease to domestic sheep herds.

This concern was deemed as outside the scope of the Chief's request, somewhat addressed by statement 2, and irrelevant to the viability of bighorn sheep populations.

Concern 16 through 19

16. Failure to include references that the same viral and bacterial pathogens in bighorn sheep are also commonly found in domestic sheep bands.
17. Failure to acknowledge a Pasteurella strain unique to bighorn sheep.
18. Failure to include references that bacteria in the family Pasteurellaceae have been found in bighorn sheep herds regardless of no known, or suspected, contact with domestic sheep.
19. Underestimates risk of disease in bighorns because it is limited to projections based solely on direct contact with domestics in 23 allotments.

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Concerns 17 and 19 were addressed in statement 4. Panelists discussed the uncertainty of whether *Mannheimia haemolytica* is a result or trigger. It was also mentioned that some pathogens can be both primary and secondary when the immune response is reduced. Uncertainty also exists about stressors such as marginal nutrition, weather, dust, and others. Rainville commented that a statement specifically mentioning Pasteurella would be helpful since that is what lay people hear about. Panelists drafted statement 8 to meet that suggestion.

8) Pasteurellaceae, other bacteria, viruses, and other agents may occur in ~~the normal flora of~~ healthy, free-ranging bighorn sheep. [later renumbered as 6.]

Concern 35

35. Failure to address the effects of predation on bighorn sheep.

Panelists believed that the issue of predation was related to population viability but not disease transmission. Given the percentage of losses to predation, this factor has more impact than some of the other factors. On the other hand, predation may be a cause of death for individuals weakened by other factors. The issue can be complex. Collar data may help fill a gap in information about the impacts of predation to these populations. Panelists decided to add predation as a factor in statement 7 (above).

Concerns 33 and 34

33. Failure to draw more extensively from studies by Garde et al.
34. Failure to cite studies from the University of Idaho Caine Veterinary Research and Teaching Center.

Hayman provided copied and bound literature recommended by panelists (including Garde, Ward and Weiser, among many others). The USFS will retain two of three binders, and Hayman will retain the last copy in case people request copies of specific articles later. A bibliography will be made available for anyone interested in what this panel thought was the relevant literature (see Appendix C).

Concern 30

30. Question about factors related to the success and failure of translocations, other than proximity to domestic sheep, which were considered and measured in the analysis.

Dr. Kim Keating, U.S. Geological Survey wildlife ecologist, summarized other factors affecting the success of translocations, as reported by Frank Singer. Other factors were assessed during the study and could be discussed in the risk analysis report. However, those factors had not been highlighted, given the disease transmission focus on the risk analysis.

Concern 31

31. Disagree with finding that removal, rather than separation, is the only remedy to reduce risk of disease transmission on the Payette National Forest.

This concern is addressed in statement 3. Rainville requested that the panel brainstorm management strategies for preventing contact, if time permitted.

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Concern 32

32. Failure to discuss how the separated populations of domestic and bighorn sheep populations have helped the health of bighorn populations in the long term.

Dr. Michael Miller, Colorado Division of Wildlife, said that a paper in press may provide a framework on these kinds of analysis (measuring the effects of preventive actions). It will be published in December in *Ecological Applications*, and he will provide the information to Rainville. Connor et al. also provides an example of how one might go about evaluating preventative actions. The Singer paper (see the reference list in the risk analysis report) showed that translocations are 50% more likely to fail if domestic sheep are in the area. Any fish and game agency that translocates bighorn sheep in the vicinity of allotments needs to assess the wisdom of this action.

Panelists also discussed the amount of time and number of replicates necessary to evaluate actions. Changes in the populations may not be seen for some time since recruitment is affected for several years by a disease event. Rainville commented that population viability is the larger issue but disease transmission is the surrogate for addressing it. She asked for any literature talking about long-term responses (or lack thereof). Panelists were encouraged to provide her with any literature about rates of recovery.

Concern 19

19. Underestimates risk of disease in bighorns because it is limited to projects based solely on direct contact with domestics in 23 allotments.

This issue was related to viability since the planning unit is the Forest itself. Forest staff have coordinated with surrounding National Forests on the issue. Panelists agreed that statements 5 and 6 about movement might stimulate consideration of a broader scope.

Concern 20

20. Failure to completely highlight the various levels of a "more limited contact," i.e., traces of just-trailed domestics, use of domestic goats for weed control, propensity of some bighorns to wander widely, etc.

When asked about information provided to the expert panel, Waters said that Pete Grinde, Payette National Forest, had presented an overview of grazing practices and management of domestic sheep on Payette National Forest allotments and been available throughout the day to answer questions about livestock management on these allotments. This information could be added to the risk analysis report. Panelists agree that management needs to be monitored and enforced, especially if management actions are implemented. Otherwise, the success/failure of these actions is impossible to evaluate. Regarding current permittees, Grinde commented that three of the four are outstanding. To guard against wolves, these permittees have two people per band and use guard and herding dogs. Grinde said there were two separate instances, totaling about 150 head, of lost or missing sheep separated from the rest of the permitted bands at some point during their time on the Payette National Forest allotments. Sheep that stray likely don't last long due to predation. If Wildlife Services are notified immediately upon finding a kill, they can determine the cause of death.

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Concern 21

21. Failure to address concerns over driveways in risk ratings.

It was mentioned that the statements didn't address domestic goats. Although no goats are under permit for weed control on the Forest, goats are occasionally used for packing by recreationists. Panelists decided to note that references to domestic sheep also include domestic goats. The statements should also note that goats are not currently an issue on the Payette National Forest. Foreyt reported that mountain goats and bighorn sheep have been penned together with no trouble. On the range, they avoid each other.

Concern 23

23. Failure to acknowledge that there are many documented cases of die-offs in bighorn sheep that have no reported contact with domestic sheep.

This concern was addressed in statement 4.

Concern 22

22. Disagree with characterization of die-offs—believe that the record shows frequent, significant losses of lambs that should be characterized as die-offs.

The phrase "and reduced recruitment" was added to statement 1 to address this issue.

Concern 37

37. Disagree with assertion that there is no data on disease transmission from Salmon River Mountains.

Drew reported that the IDFG has considerable information, but many of the health assessments were conducted farther upriver. Others interpreted the concern as being about the lack of data in the risk analysis. Waters responded that the report did include documentation, mostly from the IDFG. Nowhere in the document was it asserted that data were lacking.

Concern 8 (in Population Subcategory)

8. Disagree with finding that Salmon River meta-populations are not at risk from domestic sheep.

This issue was viewed as being similar to concern 37. The Salmon River metapopulation was addressed in the risk analysis. Panelists did wonder about the movement of bighorn sheep (especially rams) between the two metapopulations, given the continuous availability of habitat. They talked about potential barriers, but little was known. Schommer showed on the map where, with greater numbers, the two metapopulations could and would likely connect and interact. This discussion further emphasized the need for telemetry data. Dr. Ben Gonzales, California Department of Fish and Game, believed that the risk to metapopulations in Hells Canyon and in the Salmon River mountains was understated in the report. According to the scale of the maps provided and the distances traveled by GPS-collared rams, it is possible, if not probable, that rams could expose the different ewe groups throughout the range. Resources aside, if there are limited objective data on ram movements, management of bighorn/domestic interactions should be conservative. Likewise, Schommer believed there was probably more movement and connection than indicated in the document.

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Concern 5 (in Habitat Subcategory)

5. Failure to address the effects of high elk numbers grazing in bighorn winter range in the Payette National Forest on bighorn sheep.

Panelists decided to add interspecies competition as a factor to statement 7. Schommer mentioned that the Oregon Department of Fish and Wildlife monitors elk in Hells Canyon. The numbers are about 70% to 75% of the agency's management objectives. Radio-collar studies on elk numbers show a huge impact of cougars on calf survival. He didn't see much overlap in wintering habitat.

Concern 38 and 40 (in Livestock Management Subcategory)

38. Question accuracy of the statement that bighorn sheep come into contact with the domestic sheep herds on the Payette (believe contact is unlikely and preventable due to herding)
40. Failure to include in the risk assessment that ewes are bred on the Curren Hill and Victor-Look allotments during late summer/early fall.

Panelists were asked whether they agreed that contact between bighorn sheep and domestic sheep occurs under range or other conditions (concern 38). With no voiced disagreement that contact can occur, the ensuing discussion focused on management to minimize contact between the two species and development of management practices to do so. Panelists agreed that management to minimize contact was possible, but it would require help from sheepherders as well. Garde reiterated that other factors of contact were less important than the magnitude of the consequence. She sought information on what was required before domestic sheep were placed on allotments and when they were out there.

The phrases "is possible" and "under range conditions" were added to statement 1. This statement was also broken into two sentences. Panelists discussed whether to change "increases risk" to "can increase risk." Most panelists believed that "increases risk" was accurate: the risk may be very small but it is not zero. Dr. Anette Rink, Nevada Department of Agriculture, dissented and preferred "can increase risk" because it didn't imply that any contact will result in disease transmission. Panelists also determined that the first three statements were related and should be renumbered as 1a, 1b, and 1c.

Suggested Management Strategies

Hayman reminded panelists that an item raised to discuss further if time permitted was possible management strategies to prevent contact between domestic and bighorn sheep. Garde had mentioned some strategies earlier in the day, so Hayman asked her to reiterate management actions regarding domestic sheep in British Columbia.

Garde said that, before any sheep are allowed on the range, the Ministry of the Environment considers the risks and mitigates for those to promote high-health flocks. Based on identified risks, such actions include inspecting for hoof rot, other foot problems, abscesses, parasites, blue tongue (location dependent), and body condition. In addition, sheep are vaccinated, lambs are weaned, and all are identified and subject to an isolation protocol. There are also regulations pertaining to the ratio of herders, guard dogs, and herding dogs to sheep. Once on the range, sheep must be penned at night. These protocols are applicable province-wide, not just in bighorn sheep habitat. Costs are borne by the producers, without government subsidies, but producers buy in because the protocols protect their own sheep since these are mixed flocks being used for clear-cut management on public lands. One panelist noted that die-offs have occurred in captivity after bighorn sheep were penned with apparently healthy domestic sheep. Therefore, these actions to ensure the health of domestic sheep may not eliminate pneumonia die-offs in bighorn sheep. It

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was also noted that, although these measures are appropriate for BC flocks, a state-specific protocol should be developed that identifies local management strategies (flock health practices, closed vs. open flocks, etc.) and mitigation for diseases of local concern.

Several other management actions were also suggested:

- Not allowing breeding or lambing on the range
- Trucking rather than trailing in some situations
- Timing turn-in and turn-out to avoid overlap with known, occupied bighorn sheep ranges (an action requiring an understanding of wild sheep movements)
- Managing at night (through penning or other measures)
- Removing wild sheep in contact with domestic sheep (an action requiring rapid response from management agencies and herders)
- Removing/eliminating stragglers to prevent their grouping up with bighorn sheep (an action requiring a higher ratio of herders and dogs to sheep as well as a regular account of sheep and their movements)
- Marking sheep with bells or markings

Meeting Evaluation

Panelists were given the opportunity to evaluate the effectiveness of the meeting and make final remarks. Overall, panels were pleased with the interchange of ideas. They felt that the discussion during the meeting paved the way for a more collaborative approach. Although the meeting was held primarily to serve Rainville's immediate purpose, participants felt that it served a broader context. Several panelists hoped that the open and frank discussion could lead to a new direction in research. Specific research needs mentioned during the evaluation included not just looking at Pasteurella but also at other bacteria, viruses, and agents, assessing techniques used in domestic animal research, and adapting them for use on this issue. Laboratory scientists were also encouraged to let field scientists know what more they needed. Hayman was commended for processing the information in advance and focusing the meeting. Rink encouraged people to read the Wyoming management plan, which she thought could be adapted to other states. She added that all states with a lot of or mostly federally managed lands conduct the conflict with more adversity than Wyoming did due to that state's approach with private property rights. Keating mentioned the importance of continuing to study population structure and how bighorn sheep behave on the landscape. Management is important and cannot wait for epidemiological answers.

Closing Remarks

Rainville made several closing remarks. She was impressed with the open and honest exchange of information. She felt that the panel had met the objectives of the meeting, and she and the Payette National Forest now had excellent ideas on how to address the issues. She thanked panelists for the additional information that they provided. A key outcome was the eight statements that addressed the concerns and issues that came from the 67 comments from diverse interests. Rainville had not anticipated that outcome but greatly appreciated it. She hoped that the forum was also useful for the panelists.

Rainville emphasized that the USFS is methodical and has a process to follow. The risk analysis was the first step, and it is too early to begin making decisions regarding allotments. She understands that litigation is possible, but she'd like to show progress to avoid such litigation. She is interested in the Wyoming plan, and in exploring this with Idaho Fish and Game.

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Rainville expressed her concern about panelists changing their minds about the statements, especially given that the meeting summary will be a public document and panelists are representatives of their agencies and organizations.

Hayman thanked the panelists and observers and adjourned the meeting.

Attendees

Meeting Administration

Suzanne Rainville, U.S. Forest Service, Payette National Forest, Forest Supervisor
Susan Hayman, North Country Resources, Inc.
Natalie Chavez, Chavez Writing & Editing, Inc.

Science Panelists

Dr. Mark Drew, Idaho Department of Agriculture/Idaho Department of Fish and Game
Dr. Bill Foreyt, Washington State University, Department of Veterinary Microbiology and Pathology
Dr. Elena Garde, Ministry of the Environment–British Columbia
Dr. Ben Gonzalez, California Department of Fish and Game
Dr. Dave Jessup, California Department of Fish and Game
Dr. Kim Keating, U.S. Geological Survey, Northern Rocky Mountain Science Center
Dr. Michael Miller, Colorado Division of Wildlife
Dr. Anette Rink, Nevada Department of Agriculture
Dr. Sri Srikumanan, Washington State University, Department of Veterinary Microbiology and Pathology
Dr. Al Ward, University of Idaho, Caine Veterinary Teaching and Research Center
Dr. Glen Weiser, University of Idaho, Caine Veterinary Teaching and Research Center

Observers

Rick Forsman, U.S. Forest Service, Payette National Forest
Pete Grinde, U.S. Forest Service, Payette National Forest
Mark Hilliard, Bureau of Land Management
Clint McCarthy, U.S. Forest Service, Payette National Forest
Tim Schommer, U.S. Forest Service
Patti Soucek, U.S. Forest Service, Payette National Forest, Forest Planner
Jeff Waters, U.S. Forest Service

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Appendix A—Agenda

Science Panel Discussion
November 2, 2006
USGS/Bureau of Reclamation Office
230 Collins Road, Boise ID

Meeting Objectives:

1) Clarify the science-based concerns regarding the *Risk Analysis of Disease Transmission between Domestic Sheep and Bighorn Sheep on the Payette National Forest (February 6, 2006).*

2) Allow panelists to provide additional science-based information regarding disease transmission and its risk of occurring on the Payette National Forest that the Forest Supervisor should consider in conjunction with the *Risk Analysis.*

Meeting Prework:

1) Read the *Risk Analysis* and note any ***specific*** areas of concern for discussion.

2) Review, and be prepared to discuss, the abstract of the science-based comments received during the comment period for the *Risk Analysis.*

3) Provide one copy each of up to five separate scientific documents that you personally feel are critical to the analysis and discussion. **Please provide this to the facilitator by October 20, 2006.**

4) Provide a bibliography of other key literature that you think the Forest Supervisor should consider in conjunction with the *Risk Analysis.*

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Agenda

Time	Topic	Process / Product
8:30 a.m.	Opening ▪ Welcome and introductions – Pattie Soucek, Payette Forest Planner ▪ Meeting purpose and outcomes – Suzanne Rainville, Payette Forest Supervisor ▪ Meeting overview – Susan Hayman, Facilitator	Information
9:00 a.m.	Process review ▪ Overview of the 3-step decision process – Pattie Soucek ▪ Method of determining risk – Jeff Waters, Forest Service Wildlife Biologist ▪ Clarifying Q&A on processes and procedures – Panelists	Information, Facilitated Discussion
9:30 a.m. *(A 15-minute break will be taken during this segment)*	Specific science-based concerns with the *Risk Analysis* ▪ Concerns identified during the comment period ▪ Concerns brought forward by the meeting participants ▪ Discussion of the compelling scientific literature related to specific concerns	Information, Facilitated Discussion
11:30 a.m.	LUNCH (to be brought in)	
12:30 p.m. *(A 15-minute break will be taken during this segment)*	Specific concerns with the Risk Analysis (cont'd)	Information, Facilitated Discussion *Product: Complete list of specific science-based concerns and related key scientific findings*
4:00 p.m.	Next steps, closing remarks – Suzanne Rainville	
4:30 p.m.	Adjourn	

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Appendix B—Comments to Address

Synthesized from the "Abstract of Comments," and grouped by topic areas

Habitat

1. Failure to document the extent of high quality, unoccupied habitat and historical bighorn range within the Hells Canyon Area.
2. Disagree with potential bighorn habitat listed in Figure 1, page 37 of the report.
3. Report underestimates the extent of the area affected by the Smith Mountain Sheep Allotment.
4. Failure to provide information on the quality of bighorn sheep habitat in the area.
5. Failure to address the effects of high elk numbers grazing in bighorn winter range in the Payette National Forest on bighorn sheep.

Population

6. Critical of the lack of documentation of "abundant" populations of bighorn sheep prior to the commencement of domestic grazing in the 1800's.
7. The population status evaluation is flawed.
8. Disagree with finding that Salmon River meta-populations are not at risk from domestic sheep.
9. Inaccurately describes the amount of bighorn sheep habitat contained within the five allotments associated with the Shirts Brothers.
10. The positive annual growth numbers for bighorn sheep in Hells Canyon do not take into account the large number of bighorn reintroductions that have taken place.
11. Failure to discuss why it is necessary to adopt any management changes when the Hells Canyon meta-population has increased over the last 30+ years.

Disease/Mortality

12. Disagree with the premise that domestic sheep transmit disease to bighorn sheep on the range/in the wild. Report conclusions based on circumstantial evidence, rather than in any scientifically verifiable way.
13. Disagree that the risk of disease can be evaluated in a quantitative manner when the specific mechanisms for transmitting disease have been difficult to document outside of clinical settings.
14. Failure to address significance of bighorn behavior and social patterns that contributes to their natural susceptibility to disease.
15. Failure to evaluate the potential for disease transmission through inter-population movements of bighorns when assessing risk for allotments on the east side of the Forest.
16. Failure to include references that the same viral and bacterial pathogens in bighorn sheep are also commonly found in domestic sheep bands.
17. Failure to acknowledge a Pasteurella strain unique to bighorn sheep.

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Comments

18. Failure to include references that bacteria in the family Pasteurellaceae have been found in bighorn sheep herds regardless of no known, or suspected, contact with domestic sheep.
19. Underestimates risk of disease in bighorns because it is limited to projections based solely on direct contact with domestics in 23 allotments.
20. Failure to completely highlight the various levels of a "more limited contact," i.e. traces of just-trailed domestics, use of domestic goats for weed control, propensity of some bighorns to wander widely, etc.
21. Failure to address concerns over driveways in risk ratings.
22. Disagree with characterization of die-offs – believe that the record shows frequent, significant losses of lambs that should be characterized as die-offs.
23. Failure to acknowledge that there are many documented cases of die-offs in bighorn sheep that have no reported contact with domestic sheep.
24. Question whether the bighorns could be carriers of disease, and that transplanting introduces new pathogens into their own herds.
25. Failure to address whether bighorn sheep could be carrying disease to domestic sheep herds.
26. Failure to address how the factors of transplantation, human contacts, and sedation for transport may be precursors to disease problems.
27. Failure to address how the effects of fire may be precursors to disease problems.
28. Failure to address how excessive or unseasonable rains and snows, and extremes of heat and cold may be precursors to disease problems.
29. Failure to address how nutritional shortages may be precursors to disease problems.
30. Question about factors related to the success and failure of translocations, other than proximity to domestic sheep, which were considered and measured in the analysis.
31. Disagree with finding that removal, rather than separation, is the only remedy to reduce risk of disease transmission on the Payette National Forest.
32. Failure to discuss how the separated populations of domestic and bighorn sheep populations have helped the health of bighorn populations in the long term.
33. Failure to draw more extensively from studies by Garde et al.
34. Failure to cite studies from the University of Idaho Caine Veterinary Research and Teaching Center.
35. Failure to address the effects of predation on bighorn sheep.
36. Failure to discuss the relationship between the reintroduction of wolves and the resultant change in bighorn sheep behavior, keeping the bighorn sheep at higher elevations and, effectively, keeping domestic and bighorn sheep apart.
37. Disagree with assertion that there is no data on disease transmission from Salmon River Mountains.

Livestock Management

38. Question accuracy of the statement that bighorn sheep come into contact with the domestic sheep herds on the Payette (believe contact is unlikely and preventable due to herding)

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Comments

39. Failure to adequately evaluate the risk of contact between domestic and bighorn sheep for allotments on the east side of the Payette National Forest
40. Failure to include in the risk assessment that ewes are bred on the Curren Hill and Victor-Look allotments during late summer/early fall.

Viability Analysis

41. Failure to define population viability for bighorn sheep.
42. Disagree with conclusion that domestic sheep grazing in the Smith Mountain and Curren Mountain allotments would not threaten the viability of bighorn populations north of Hells Canyon.
43. Disagree with all findings on "viability" due to the inadequacy on analyzing for viability in the report. The report cannot reach conclusions about long-term viability without performing a viability analysis.

Risk Analysis Process

44. No qualified veterinarian with knowledge of domestic sheep included on the expert panel.
45. No rangeland professionals were included on the expert panel.
46. No one knowledgeable in domestic sheep behavior or management was included on the expert panel.
47. Failure to provide expert panel with information regarding livestock rotations or herding practices on the allotments in question.
48. Disagree with the Forest Service conducting a risk analysis rather than a viability analysis as directed in the appeal decision, and lack of information in the report to document why this was done.
49. Believe analysis was really an analysis of the "risk of contact" rather than a "risk of disease transmission."
50. Failure to conduct a risk assessment for the Surdam allotment.

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Appendix C—Panelists' Key Literature References, Compiled October 30, 2006

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Responses

Attachment to Letter O6, not a comment letter on the CFO DRMP/DEIS.

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Responses

Attachment to Letter O6, not a comment letter on the CFO DRMP/DEIS.

Comments

Appendix D—Flip Charts

Risk Analysis:
3 Components

1) Literature review
2) Review and analysis of information on known bighorn sheep populations (including those adjacent to Forest)
3) risk of disease transmission (expert panel)

1) Scientific observation and field studies demonstrate that "contact" between domestic and sheep and bighorn sheep is possible under range conditions. This contact ~~creates a~~ increases risk of subsequent bighorn sheep mortality and reduced recruitment, due primarily to respiratory disease.
2) The complete range of mechanisms/causal agents that lead to epizootic disease events cannot be conclusively proven at this point.
3) Given the previous two statements, it is prudent to undertake management ~~that minimizes~~ to prevent contact between these species.
4) Not all bighorn sheep epizootic disease events can be attributed to contact with domestic sheep.
5) Gregarious behavior of bighorn sheep and domestic sheep may exacerbate potential for disease introduction and transmission.
6) Dispersal, migratory, and exploratory behaviors of individual bighorn sheep traveling between populations may exacerbate potential for disease introductions and transmission.
7) There are factors (e.g., translocation, habitat improvement, harvest, weather, nutrition, fire, interspecies competition, and predation), some that can be managed ~~(e.g., translocation, habitat improvement, harvest)~~ and some that cannot, that ~~to~~ influence bighorn sheep population viability. ~~There are other factors (e.g., fire, nutrition, weather) that cannot be readily managed that also influence bighorn sheep population viability.~~
8) Pasteurellacae, other bacteria, viruses, and other agents may occur in ~~the normal flora of~~ healthy, free-ranging bighorn sheep.

Bin

1) Can viability be determined on a Forest-wide basis?
2) Suggest management strategies for preventing contact

   —monitoring of management
3) Literature regarding rate of recovery

Missing [from Risk Analysis]

- Other pathogens
- Case definitions for contact
- Magnitude of the negative outcome (level of consequence)
- Check out other models for risk assessment (Elena)

Summary of the November 2, 2006, Science Panel Meeting 23

Responses

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Comments

Suggested Actions

1) Telemetry data on Salmon River metapopulations, especially at potential interface of Hells Canyon/Salmon River populations
2) Note: There may be additional factors beyond disease transmission affecting bighorn sheep populations.
3) More robust assessment of risk of contact (lack of quantitative information)
4) Check out other methodologies for assessment from Elena
5) Need data on domestic and bighorn sheep movements (telemetry VHF/GPS; day/night)
6) Encourage evaluation/monitoring of before/after data in future bighorn sheep management (#32) (Mike Miller to provide Connor et al. article on how you might do this)

   —long-term, takes awhile for positive change/recovery

   survival, recruitment, as well as lamb ratios
7) Include current management of domestic livestock in analysis information (provided, but not included in report)

Suggestions: Management Strategies

1) Provisions/protocols for what needs to occur before domestic sheep are put on the range

   —with adaptive management

   —risk analysis specific

   —(see Elena's paper)
2) Don't breed or lamb on range
3) Trucking instead of trailing in some circumstances
4) Timing of turning sheep in/out on allotment so that not an overlap with bighorn sheep
5) Night-time management (e.g., penning)
6) Removing wild sheep in contact with domestic sheep (quickly)
7) Remove/eliminate straggling domestic sheep from range
8) Regular accounting of sheep/movements
9) Requirements for herding experience, ratio of herders to sheep, guard dogs to sheep, herding dogs to sheep, etc.
10) Mark sheep with markers/bells

Summary of the November 2, 2006, Science Panel Meeting 24

Responses

Attachment to Letter O6, not a comment letter on the CFO DRMP/DEIS.

Comments | **Responses**

THE WILDERNESS SOCIETY

12/14/06

Greg Yuncevich
Field Manager, Cottonwood Field Office
Bureau of Land Management
1 Butte Dr.
Cottonwood, ID 83522

RE: Proposed RMP/Draft EIS for the Cottonwood Field Office

Dear Mr. Yuncevich:

Please accept the following comments on management of bighorn sheep as part of the comments on the proposed RMP/draft EIS for the Cottonwood Field Office on behalf of The Wilderness Society (TWS). TWS has long been involved in management decisions affecting Bighorn Sheep in Idaho, and we appreciate your consideration of our comments. As you revise and make changes to the proposed RMP, there are several concerns related to the management of bighorn sheep that should be considered.

Currently, the Payette National Forest is in the process of implementing a management plan that addresses the conflict between bighorn sheep and domestic sheep. Specifically, the Payette Forest conducted a risk analyses that focused on disease transmission between bighorn sheep and domestic sheep.[1]

The report by the Department of Agriculture concluded that there is a substantial body of scientific evidence that documents the devastating effects that disease transmission from domestic sheep and goats can have on wild populations of bighorn sheep. Furthermore, the study went on to state that in order for bighorn sheep populations to survive, the two species need to be kept separate from one another.

The report made the following conclusions about the relationship between the two species: "1) when in close contact, domestic sheep commonly transmit diseases to bighorn sheep; 2) some of these diseases (e.g., Pasteurellosis or pneumonia) result in mortality of large portions of bighorn sheep herds and cause depressed recruitment for years, and thus have significant impacts on bighorn sheep population dynamics; and 3)

[1] http://www.fs.fed.us/r4/payette/publications/big_horn/bighorn_final.pdf. This link will take you to the full report that was published in February of 2006 by the Department of Agriculture.

Comments

bighorn sheep and domestic sheep must be kept separated if one of the management goals is to maintain viable populations of bighorn sheep."

O7-1 The report makes it clear that any physical contact between bighorn sheep and domestic sheep can be potentially fatal to bighorn populations. As a result, any potential physical contact between the two species must be avoided.

The results of this report indicate that if the goal of the Cottonwood BLM field office is to maintain a healthy population of bighorn sheep, then they must take every possible measure necessary to ensure that the two species do not come into contact with each other. Anything less will jeopardize the future of the bighorn sheep population in the Cottonwood FO and potentially the Payette National Forest.

O7-2 **Recommendation:** We are encouraged by the fact that the BLM has proposed to ban sheep grazing in some portions of the field office, but we believe that additional measures and analysis are necessary for the Cottonwood Field Office to meet their management objectives. Limiting domestic sheep grazing up the Salmon River to Graves Creek is a good first step, but additional risk analysis similar to what was done on the Payette National Forest is necessary to ascertain whether further elimination of domestic sheep grazing permits is necessary.

We recommend that the Cottonwood Field Office conduct a risk analysis that assesses the direct, indirect, and cumulative impacts that all domestic sheep grazing allotments could have on bighorn populations, and that the results of the risk analysis be incorporated into the RMP. A risk analysis would allow the BLM to make better informed decisions regarding the domestic sheep grazing allotments. It would also aid the BLM in making decisions to ensure that a viable population of bighorn sheep is maintained.

O7-3 In order to meet the management objectives for bighorn sheep, which requires the separation of domestic sheep from bighorn sheep, any domestic sheep or goat grazing allotment in occupied or known bighorn sheep habitat should be eliminated. The risk analysis on the Payette NF concluded that separation of the two species is necessary in order maintain viable populations of bighorn sheep, and therefore any grazing allotment where there is a likelihood that the two species could come into contact with one another should be eliminated.

Allowing domestic sheep grazing in an area where there is the potential for physical contact with bighorn sheep negates the objective of maintaining a viable population of bighorn sheep. The two species are incompatible, and the RMP needs to be forthright in discussing it will ensure that bighorns and domestic sheep do not come into contact with one another. Included in this, the BLM must reconcile the incompatibility of these two species.

I hope that you will seriously consider our recommendations and I look forward to seeing how they are incorporated into the proposed RMP. Thank you for your time.

Responses

O7-1: See response to Comment Number A3-31.

O7-2: See response to Comment Number A3-31.

O7-3: See response to Comment Number A3-31.

Comments	Responses
Bradley Brooks Regional Conservation Associate The Wilderness Society, Idaho Regional Office (208) 343-8153 ext. 18	

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INDIVIDUALS COMMENTS

Comments

Nov-28-2006 10:18am From- T-932 P.002 F-343
11/27/2006 17:09 2089623275 BLM COTTONWOOD PAGE 02

George & Frances Alderson
112 Hilton Avenue
Baltimore, Maryland 21228

RECEIVED
NOV 27 2006
BLM Cottonwood
Idaho 83522

November 21, 2006

Greg M. Yuncevich, Field Manager
Bureau of Land Management
1 Butte Dr.
Cottonwood ID 83522

Re: Cottonwood Draft RMP

Dear Mr. Yuncevich:

Please include this letter as our comment on the draft RMP and EIS for the Cottonwood Field Office. I (George) visited BLM lands in the Elk City area on a memorable trip in the 1970s, en route to visit a wilderness area on the Salmon River.

I1-1 **Wilderness characteristics:** The draft RMP should be revised to address wilderness characteristics in a few areas. One is the East Fork American River and Kirks Fork, which are part of an interagency roadless area known on Forest Service land as the Meadow Creek Inventoried Roadless Area. We share the concern expressed by Idahoans that the wilderness character of this area was not properly studied in the 1980 BLM wilderness inventory. The same concern applies to areas near John Day that will be identified by Idaho conservation groups in their comments. BLM has an obligation under FLPMA to review the wilderness resource values of the land in the RMP process, and this has not been done in the draft.

I1-2 **ORVs:** Lands near Elk City have been left open to cross-country ORV traffic at all seasons of the year. That is an outdated policy and it should be replaced by regulations restricting ORVs to designated routes that can withstand their impacts without causing loss of resource values.

I1-3 **Logging:** The draft RMP contemplates logging on 40 percent of this planning area, ostensibly for reduction of fire risk. That approach is ill-advised and potentially more costly than alternatives using prescribed fire and emphasizing native ecosystem management. We particularly urge BLM to bar logging from roadless areas, Wild & Scenic River corridors and ACECs, as these have been identified for natural landscape values.

Please keep us informed of further action on this RMP. Thank you for considering our views.

Sincerely,

George & Frances Alderson

George & Frances Alderson

Responses

I1-1: See response to Comment Number O2-49.

I1-2: See response to Comment Number A3-8.

I1-3: Refer to the response to Comment Number I7-4.

Comments

From: Dick Artley [DArtley@connectwireless.us]
Posted At: Monday, November 20, 2006 8:47 PM
Conversation: Comments on the draft RMP/EIS
Posted To: e-mail comments
Subject: Comments on the draft RMP/EIS

November 20, 2006

BLM Cottonwood Field Office
ATTN: Draft RMP/EIS
1 Butte Drive
Cottonwood, ID 83522

Dear Cottonwood BLM Representative,

I appreciate the opportunity to comment on your flawed plan.

Before I begin my comments, I wish to introduce myself. I am recently retired from the Nez Perce National Forest. Since 1980, I worked at the supervisor's office in Grangeville. For 16 years before my retirement, I was the forest planner for the forest. My primary duties in that position were:

- **assure that all project were consistent with the forest plan standards,**
- **review each EA/DN, EIS/ROD and CE produced on the forest for legal consistency before final line officer approval,**
- **team leader for each NEPA process for forest plan amendments, and**
- **serve as District Ranger NEPA advisor.**

The Chief of the Forest Service recently named motorized recreation as one of the 5 major threats to the public land administered by the agency. I know. In my field trips, I saw countless areas where 4-wheelers and motorcycles ruined foot and house trails. Besides being a danger to foot traffic, these machines turned the trails into deep ruts which turned into small, muddy creeks. The erosion was unthinkable. Your plan proposes that the public land administered by the BLM around Elk City be open to open to motorized vehicles year round. There isn't even a restriction to cross-country travel. This is not land management. I2-1

Fuel reduction. People, you have spent too much time reading Bush's worthless Healthy Forests Restoration Act of 2003. There are a few places where fuels should be reduced ... in the urban-interface, within 300 feet of a structure. Even there, the real fuels problem is not merchantable trees. The large trees shade and cool the ground, and serve to reduce the hazard. The real problem is with grass, needles, twigs, and Christmas tree-sized trees. Bush wants merchantable trees removed for a reason other than fire. Guess why? I invite you to read the research findings of USFS fire physicist Dr. Jack Cohen if you really want to discover how to protect human I2-2

11/28/2006

Responses

I2-1: Under Alternatives B, C and D of the DRMP/EIS no cross country travel would be allowed around Elk City.

I2-2: Cohen (1999) states that a structure can be threatened in several different ways, including direct exposure from flames, radiant heat, and airborne firebrands. He also states that to be effective, fuel management needs to significantly reduce firebrand production and extend for several kilometers away from homes.

Please refer to Table 3-16 in the DRMP/EIS which describes the current status of the CFOs lands relative to their departure from historic conditions. This table identifies that 90 percent of the CFO lands are in fire regime condition class 2 and 3. This indicates that the current conditions are moderately to highly departed from historic conditions.

Fuel reduction benefits forest health as a whole and is not limited to “structure protection,” which is where a 300-foot distance is effective. It is important to remember that other values are at risk from fire that would not occur in a “natural” forest, including wildland urban interface, habitat for federally listed species, noxious weeds and invasive plants, and intermingled ownership. Please refer to DRMP/EIS pages 2-72 and 2-76 which provide direction for wildland fire use.

Comments

I2-2 structures. See: <http://www.saveamericasforests.org/congress/Fire/Cohen.htm> Outside of these urban interface areas, the vegetation and wildlife of the forest depend on wildfires, and wildfires depend on fuels. A forest without wildfires would die as a self-sustaining forested ecosystem. The BLM plan must be changed to reduce fuels where it is needed. Elsewhere, fires must not be suppressed ... just monitored.

I2-3 Roadless public lands are a superb asset ... even if they never become wilderness study areas. They offer the best hunting, fishing, birding, hiking/camping etc. The public knows this, and you know the public knows this. I find it astounding the draft BLM plan never even analyzed the roadless character of the roadless portions of Kirks Fork and the East Fork of the American River. There are other very large contiguous unroaded areas that are not even mentioned. What is your hidden agenda for diminishing the importance of these roadless areas?

Federal land management agencies (including the BLM) are required to dedicate significant resources to wilderness inventory. Such inventory begins with very comprehensive analysis and protection of roadless areas. To allow the Wilderness characteristics of a roadless area to be destroyed or diminished is a clear violation of the Wilderness Act of 1964.

I2-4 In conclusion, the BLM draft plan (which schedules 38% of the public land acres) must be managed for the public ... not corporate America. Stop trying to invent reasons to log and road MY land. On at least 80% of the land you administer, fire and fuels is not it.

I2-5 Also, be specific. The BLM and Forest Service have a favorite buzzword ... restoration. Usually, it is used as an adjective ... restore this and restore that. To correctly use the word "restore" or "restoration," there must be specific questions answered each time. Anything needing restoration is currently in degraded condition. Therefore, tell the public:

1) the exact resource that is degraded,
2) how the agency knows it is degraded,
3) the reasons it is degraded or how did it become degraded,
4) how long did it take to become degraded,
5) how long has the agency known about this degraded condition,
6) what will happen if nothing is done to reduce the degradation
7) what is being done to eliminate the source of the degradation

I trust that the re-write of your draft plan is an improvement over your existing draft plan.

Sincerely,

Richard Artley

Richard Artley
415 East North 2nd
Grangeville, Idaho 83530

11/28/2006

Responses

I2-3: See response to Comment Number O2-49.

I2-4: Thank you for your comment.

I2-5: Appendix C in the DRMP/ EIS provides a description of some of the considerations for identification of “restoration watersheds”. A definition of “restoration” will also be included in the PRMP/FEIS glossary. Your specific questions are correct in that identification of baseline conditions, natural and human impacts on resource conditions and what are desired resource objectives or conditions are the specific information needed to properly address “restoration” or “restore.” Specific resources have identified goals and objectives (desired conditions).

Comments

Back to Fire Alert Page

Key Points of Cohen's Paper

Introduction and Bulleted Points by Timothy Ingalsbee, Ph.D.
Director, Western Fire Ecology Center
Eugene, Oregon

Introduction

Jack Cohen, research scientist at the Fire Sciences Laboratory in the Forest Service's Rocky Mountain Research Station, presented the paper below at the Fire Economics Symposium in San Diego, California on April 12, 1999. His research findings could potentially eliminate arguments for increased public lands logging, road-building, and grazing as alleged means of protecting private homes from wildfires.

In the context of the Quincy Library Group Rider, the Sierra Framework and ICBEMP regional EISs, Helen Chenoweth's bill H.R. 1522, and literally dozens of timber sales billed as "fuels reduction for fire protection" projects, the implications of Cohen's research are profound. Also, some fear-based obstacles to the use of prescribed fire for habitat maintenance and ecosystem restoration can be removed.

Key Points of Jack Cohen's Research Paper

- Home ignitability, rather than wildland fuels, is the principal cause of home losses during wildland/urban interface fires. Key items are flammable roofing materials (e.g. cedar shingles) and the presence of burnable vegetation (e.g. ornamental trees, shrubs, wood piles) immediately adjacent to homes.
- Cohen's Structure Ignition Assessment Model (SIAM) indicates that intense flame fronts (e.g. crown fires) will not ignite wooden walls at distances greater than 40 meters (approx. 130 feet) away. Field tests of experimental crown fires revealed that wooden walls can successfully survive intense flame fronts from as close as 10 meters (approx. 30 feet) away!
- Current strategies for wildland fuel reduction may be inefficient and ineffective for reducing home losses, for extensive wildland fuel reduction on public lands does not effectively reduce home ignitability on private lands.
- The so-called "wildland/urban interface zone" overgeneralizes and misrepresents the zone of prime fire risk and fuel hazards: the home and its adjacent vegetation.
- Opportunities to use prescribed fire for the sake of ecosystem restoration may be greatly enhanced in wildland/urban interface areas if home ignitability is reduced.
- The primary and ultimate responsibility for home wildfire protection lies with private

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Attachment to Letter I2, not a comment letter on the CFO DRMP/DEIS.

Comments

homeowners, not public land management agencies (or taxpayers).

- Given nonflammable roofs, Stanford Research Institute found that 95 percent of homes survived where vegetation clearance of 10 to 18 meters was maintained around the homes.

Reducing the Wildland Fire Threat to Homes: Where and How Much?

By Jack D. Cohen, Ph.D.
Research Physical Scientist
Rocky Mountain Research Station

Abstract Understanding how ignitions occur is critical for effectively mitigating home fire losses during wildland fires. The threat of life and property losses during wildland fires is a significant issue for Federal, state, and local agencies that have responsibilities involving homes within and adjacent to wildlands. Agencies have shifted attention to communities adjacent to wildlands through pre-suppression and suppression activities. Research for the Structure Ignition Assessment Model (SIAM) that includes modeling, experiments, and case studies, indicates that effective residential fire loss mitigation must focus on the home and its immediate surroundings. This has significant implications for agency policy and specific activities such as hazard mapping and fuel management.

The threat of life and property losses during wildland fires is a significant issue for Federal, state, and local fire and planning agencies who must consider residential development within and adjacent to wildlands. The 1995 USDA Forest Service Strategic Assessment of Fire Management (USDA Forest Service 1995) lists five principal fire management issues. One of those issues is the "loss of lives, property, and resources associated with fire in the wildland/urban interface." The report further identifies "the management of fire and fuels in the wildland/urban interface" as topic for further assessment. More than a Forest Service issue, the National Wildland/Urban Interface Fire Protection Program, a multi-agency endeavor, has been established for over a decade and is sponsored by the Department of Interior land management agencies, the USDA Forest Service, the National Association of State Foresters, and the National Fire Protection Association. This program also has an advisory committee associated with the multi-agency National Wildfire Coordinating Group. These examples indicate that the wildland fire threat to homes significantly influences fire management policies and suggests that this issue has significant economic impacts through management activities, direct property losses and associated tort claims.

The wildland fire threat to homes is commonly termed the wildland/urban interface (WUI) fire problem. This and similar terms (e.g., wildland/urban intermix) refer to an area or location where a wildland fire can potentially ignite homes. A senior physicist at the Stanford Research

Responses

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Comments

Institute, C.P. Butler (1974), coined the term "urban-wildland interface" and described this fire problem as follows:
"In its simplest terms, the fire interface is any point where the fuel feeding a wildfire changes from natural (wildland) fuel to man-made (urban) fuel. ...For this to happen, wildland fire must be close enough for its flying brands or flames to contact the flammable parts of the structure." In his definition, Butler provides important references to the characteristics of this problem. He identifies homes ("urban") as potential fuel and indicates that the distance between the wildland fire and the home ("close enough") is an important factor for structure ignition. How close the fire is to a home relates to how much heat the structure will receive.

These two factors, the homes and fire proximity, represent the fuel and heat "sides" of the fire triangle, respectively. The fire triangle--fuel, heat, and oxygen--represents the critical factors for combustion. Fires burn and ignitions occur only if a sufficient supply of each factor is present. By characterizing the home as fuel and the heat from flames and firebrands, we can describe a home's ignitability. An understanding of home ignitability provides a basis for reducing potential WUI fire losses in a more effective and efficient manner than current approaches.

Ignition and Fire Spread are a Local Process

Fire spreads as a continually propagating process, not as a moving mass. Unlike a flash flood or an avalanche where a mass engulfs objects in its path, fire spreads because the locations along the path meet the requirements for combustion. For example, C.P. Butler (1974) provides the following 1848 account by Henry Lewis about pioneers being caught on the Great Plains during a fire.
"...When the emigrants are surprised by a prairie fire, they mow down the grass on a patch of land large enough for the wagon, horse, etc., to stand on. They then pile up the grass and light it. The same wind which is sweeping the original fire toward them now drives the second fire away from them. Thus, although they are surrounded by a sea of flames, they are relatively safe. Where the grass is cut, the fire has no fuel and goes no further. In this way, experienced people may escape a terrible fate." It is important to note that the complete success of this technique also relies on their wagons and other goods not igniting and burning from firebrands. This account describes a situation that has similarities with the WUI fire problem.

A wildland fire does not spread to homes unless the homes meet the fuel and heat requirements sufficient for ignition and continued combustion. In the prairie fire situation, sufficient fuel was removed (by their escape fire) adjacent to the wagons to prevent burning (and injury) and the wagons were ignition resistant enough to not ignite and burn from firebrands. Similarly, the flammables adjacent to a home can be managed with the home's materials and design chosen to minimize potential firebrand ignitions. This can occur regardless of how intensely or fast spreading other fires are burning. Reducing WUI fire losses must involve a reduction in the flammability of the home (fuel) in relation to its potential severe-case exposure from flames and firebrands (heat). The essential question remains as to how much reduction in flammables (e.g., how much vegetative fuel clearance) must be done relative to the home fuel characteristics to significantly reduce the potential home losses associated with wildland fires.

Insights for Reducing Ignitions from Flames

Recent research provides insights for determining the vegetation clearance required for reducing home ignitions. Structure ignition modeling, fire experiments, and WUI fire case studies provide

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Comments

a consistent indication of the fuel and heat required for home ignitions.The Structure Ignition Assessment Model (SIAM) (Cohen 1995) assesses the potential ignitability of a structure related to the WUI fire context. SIAM calculates the amount of heat transferred to a structure from a flame source based on the flame characteristics and the flame distance from a structure. Then, given this thermal exposure, SIAM calculates the amount of time required for the occurrence of wood ignition and flaming (Tran and others 1992). Based on severe-case assumptions of flame radiation and exposure time, SIAM calculations indicate that large wildland flame fronts (e.g., forest crown fires) will not ignite wood surfaces (e.g., the typical variety of exterior wood walls) at distances greater than 40 meters (Cohen and Butler [In press]). Figure 1 illustrates this by displaying the amount of heat a wall would receive from flames depending on its distance from the fire (the incident radiant heat flux decreases as the distance increases). This figure also displays the calculated time required for a wood wall to ignite depending on its distance from a flame front of the given height and width. But the flame's burning time compared to the required ignition time is important. If at some distance the fire front produces a heat flux sufficient to ignite a wood wall, but the flaming duration is less than that required for ignition, then ignition will not occur. For example, Figure 1 shows that at a distance of 40 meters, the radiant heat flux is less than 20 kilowatts per square meter, which corresponds to a minimum ignition time of greater than 10 minutes. Crown fire experiments in forests and shrublands indicate that the burning duration of these large flames is on the order of one minute at a specific location . This is because these wildland fires depend on the rapid consumption of the fine dead and live vegetation (e.g., forest crown fires).

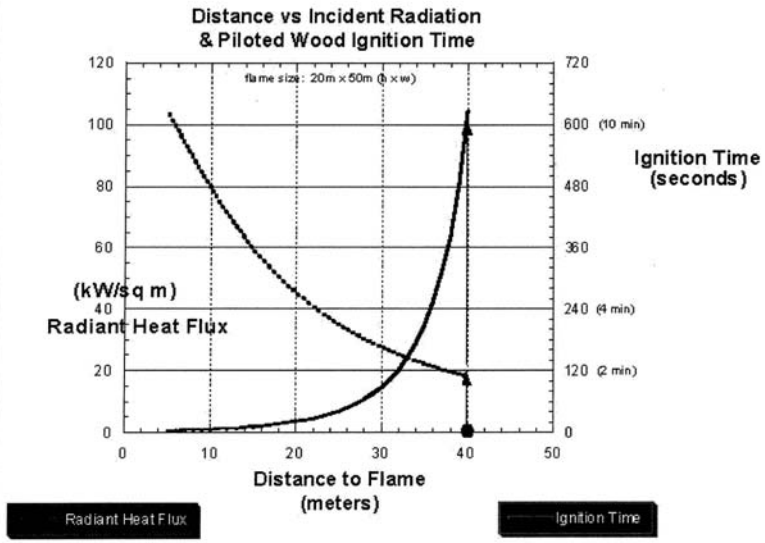

Figure 1-- SIAM calculates the incident radiant heat flux (energy/unit-area/time reaching a surface) and the minimum time for piloted ignition (ignition with a small ignition flame or spark) as a function of distance for the

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given flame size. The flame is assumed to be a uniform, parallel plane, black body emitter.

Experimental fire studies associated with the International Crown Fire Modeling Experiment (Alexander and others 1998) generally concur with the SIAM calculations. Data were obtained from instrumented wall sections that were placed 10 meters from the forest edge of the crown fire burn plots. Comparisons between SIAM calculations and the observed heat flux data indicate that SIAM overestimates the amount of heat received . For example, the SIAM calculated potential radiant heat flux for an experimental crown fire was 69 kW/sq meter as compared to the measured maximum of 46 kW/sq meter. This is expected since SIAM assumes a uniform and constant heat source and flames are not uniform and constant. Thus, the SIAM calculations in Figure 1 for an arbitrary flame front represent a severe-case estimate of the heat received and the potential for ignition. The distances in Figure 1 represent an upper estimate of the separation required to prevent flame ignitions.

Past fire case studies also generally concur with SIAM estimates and the crown fire observations. Analyses of southern California home losses done by the Stanford Research Institute for the 1961 Belair-Brentwood Fire (Howard and others 1973) and by the University of California, Berkeley, for the 1990 Painted Cave Fire (Foote and Gilless 1996) are consistent with SIAM estimates and the experimental crown fire data. Given nonflammable roofs, Stanford Research Institute (Howard and others 1973) found a 95 percent survival with a clearance of 10 to 18 meters and Foote and Gilless (1996) at Berkeley, found 86 percent home survival with a clearance of 10 meters or more.
The results of the diverse analytical methods are congruent and consistently indicate that ignitions from flames occur over relatively short distances--tens of meters not hundreds of meters. The severe-case estimate of SIAM indicates distances of 40 meters or less. Experimental wood walls did not ignite at 10 meters when exposed to experimental crown fires. And, case studies found that vegetation clearance of at least 10 meters was associated with a high occurrence of home survival.

As previously mentioned, firebrands are also a principal WUI ignition factor. Highly ignitable homes can ignite during wildland fires without fire spreading near the structure. This occurs when firebrands are lofted downwind from fires. The firebrands subsequently collect on and ignite flammable home materials and adjacent flammables. Firebrands that result in ignitions can originate from wildland fires that are at a distance of 1 kilometer or more. For example, during the 1980 Panorama Fire (San Bernardino, CA), the initial firebrand ignitions to homes occurred when the wildland fire was burning in low shrubs approximately one kilometer from the neighborhood. During severe WUI fires, firebrand ignitions are particularly evident for homes with flammable roofs. Often these houses ignite and burn without the surrounding vegetation also burning. This suggests that homes can be more flammable than the surrounding vegetation. For example, during the 1991 Spokane, WA fires , houses with flammable roofs ignited without the adjacent vegetation already burning. Although firebrands may be lofted over considerable distances to ignite homes, a home's materials and design and its adjacent flammables largely determine the firebrand ignition potential.

Research Conclusions

SIAM modeling, crown fire experiments, and WUI fire case studies show that effective fuel modification for reducing potential WUI fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home

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losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings. Those characteristics of a structure's materials and design and the surrounding flammables that determine the potential for a home to ignite during wildland fires (or any fires outside the home) will, hereafter, be referred to as home ignitability.

The evidence suggests that wildland fuel reduction for reducing home losses may be inefficient and ineffective. Inefficient because wildland fuel reduction for several hundred meters or more around homes is greater than necessary for reducing ignitions from flames. Ineffective because it does not sufficiently reduce firebrand ignitions. To be effective, given no modification of home ignition characteristics, wildland vegetation management would have to significantly reduce firebrand production and potentially extend for several kilometers away from homes.

Management Implications

These research conclusions redefine the WUI fire problem as a home ignitability issue largely independent of wildland fuel management issues. Consequently, this description has significant implications for the necessary actions and accompanying economic considerations for fire agencies.
One aspect of the USDA Forest Service approach to reducing their WUI fire problem is to determine where the problem is and focus fuel management activities in those areas. The Strategic Assessment of Fire Management (1995) states:

> "...The Forest Service should manage National Forest lands to mitigate hazards and enhance the ability to control fires in the wildland/urban interface. The risk of wildland fire to communities can be lessened by reducing hazards on Forest Service lands adjacent to built-up areas. ...Broad-scale assessment processes for the next generation of forest plans should identify high risk areas related to the wildland/urban interface. ...The highest risk areas within the United States should be identified and mitigation efforts directed to these locations."

The Strategic Assessment describes a costly, intensive and extensive WUI hazard mapping and mitigation effort specifically for reducing home fire losses. As described, this approach is not necessary.
The congruence of research findings from different analytical methods suggests that home ignitability is the principal cause of home losses during wildland fires. Any WUI home fire loss assessment method that does not account for home ignitability will be critically under specified and likely unreliable. Thus, land classification and mapping related to potential home loss must assess home ignitability. Home ignitability also dictates that effective mitigating actions focus on the home and its immediate surroundings rather than on extensive wildland fuel management. Because homeowners typically assert their authority for the home and its immediate surroundings, the responsibility for effectively reducing home ignitability can only reside with the property owner rather than wildland agencies. The next sections further address the management implications related to WUI hazard mapping, fuel reduction, and responsibilities.

Mapping Home Loss Potential

As stated, the evidence indicates that home ignitions depend on the home materials and design and only those flammables within a few tens of meters of the home (home ignitability). The wildland fuel characteristics beyond the home site have little if any significance to WUI home

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fire losses. Thus, the wildland fire threat to homes is better defined by home ignitability, an ignition and combustion consideration, than by the location and behavior of potential wildland fires.

This has implications for identifying WUI fire problem areas and suggests that the geographical implication of the term "wildland/urban interface" as a general area or zone misrepresents the physical nature of the wildland fire threat to homes. The wildland fire threat to homes is not where it happens related to wildlands (a location), but how it happens related to home ignitability (the combustion process). Therefore, to reliably map WUI home fire loss potential, home ignitability must be the principal mapping characteristic.

Wildland Fuel Hazard Reduction

Extensive wildland vegetation management does not effectively change home ignitability. This should not imply that wildland vegetation management is without a purpose and should not occur for other reasons. However, it does imply the imperative to separate the problem of the wildland fire threat to homes from the problem of ecosystem sustainability due to changes in wildland fuels. For example, a WUI area could be a high priority for extensive vegetation management due to high aesthetic, watershed, erosion, or other values, but not for reducing potential home fire losses. Vegetation management strategies would likely be different without including the WUI home fire loss issue. It also suggests that given a low level of home ignitability (reduced wildland fire threat to homes), fire use opportunities for sustaining ecosystems may increase in and around WUI locations.

WUI Home Loss Responsibility

Home ignitability implies that homeowners have the ultimate responsibility for WUI home fire loss potential. As shown, the ignition and flammability characteristics of a structure and its immediate surroundings determine the home fire loss potential. Thus, the home should not be considered a victim of wildland fire, but rather a potential participant in the continuation of the wildland fire. Home ignitability, i.e., the potential for WUI home fire loss, is the homeowner's choice and responsibility.
However, public and management perceptions may impede homeowners from taking principal responsibility. For example, the Federal Wildland Fire Management, Policy and Program Review (1995) observes, "There is a widespread misconception by elected officials, agency managers, and the public that wildland/urban interface protection is solely a fire service concern." In a Journal of Forestry article, Beebe and Omi (1993) concur, stating that, "Public reaction to wildfire suggests that many Americans want competent professionals to manage fire flawlessly, reducing the risks to life, property, and public lands to nil." These statements agree with Bradshaw's (1988) description of the societal roles in the WUI problem. He observes that homeowners expect that fire protection will be provided by others. Contrary to these expectations for fire protection, the fire services have neither the resources for effectively protecting highly ignitable homes during severe WUI fires, nor the authority to reduce home ignitability.

An Alternative

Home ignitability ultimately implies the necessity for a change in the relationship between homeowners and the fire services. Instead of pre-suppression and fire protection responsibilities

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residing with fire agencies, homeowners take the principal responsibility for assuring adequately low home ignitability. The fire services become a community partner providing homeowners with technical assistance as well as fire response in a strategy of assisted and managed community self-sufficiency (Cohen and Saveland 1997). For success, this perspective must be shared and implemented equally by homeowners and the fire services.

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Comments

From: Bennett Barr [bennett.barr@gmail.com]
Posted At: Monday, November 27, 2006 2:09 PM
Conversation: Cottonwood Resource Area Management Plan for Pubic Comment
Posted To: e-mail comments
Subject: Cottonwood Resource Area Management Plan for Pubic Comment

Dear BLM,

Please accept my comments toward public comment on the Cottonwood Resource Area Management Plan:

I3-1 The proposed plan needs critical consideration for protection and consideration of environmental protection for it's various wildlands.

I3-2 The plan has not used the latest science in developing its plans to log 40% of the area under the use of fire prevention, restoration and fuel reduction. BLM has proposed logging levels even greater than those of the US Forest Service, and this is not acceptable. BLM does not need to follow the footsteps of the Forest Service by running in the red in regards to logging these lands.

I3-3 The plan fails to analyze the roadless portions of the East Fork of the American River, Kirks Fork and other areas for protection. The East Fork American and Kirks Fork Wild Areas are actually part of the Meadow Creek Roadless Area on the Nez Perce National Forest and should be evaluated under section 202 of the Federal Land Policy Management Act. This provision is needed to correct BLM's faulty wilderness inventory that took place many years ago. Other areas near John Day should also be evaluated.

I3-4 Wildlands around Elk City are open to vehicles year round to cross country travel. In addition, Special Areas, Roadless Areas and Areas of critical environmental concern are open to logging and grazing. This must also be changed.

Thank you for your consideration.

Bennett W. Barr
PO BOX 9875
Moscow ID 83843

11/28/2006

Responses

I3-1: All Objectives and Actions under all alternatives in various resource sections of Chapter 2 in the DRMP/EIS, such as the Areas of Critical Environmental Concern and Research Natural Areas section, the Wilderness and Wilderness Study Areas section, the Livestock Grazing section, and the Transportation and Travel Management section (among others), address management direction for ACECs and WSAs. These actions include restrictions on some physical impacts, such as OHVs, logging, mining, and/or grazing. Please also see response to Comment Number O2-49.

I3-2: Refer to the response to Comment Number I7-4.

I3-3: See response to Comment Number O2-49.

I3-4: See response to Comment Number O3-3.

Comments

From: jo earth [showerdishes@yahoo.com]
Posted At: Monday, November 27, 2006 2:11 PM
Conversation: Draft RMP/EIS
Posted To: e-mail comments
Subject: Draft RMP/EIS

I4-1 To whom it concerns, I'm writing to you to please protect all special areas (roadless areas, wild and scenic river corridors, and areas of critical environemntal concern) from off-road vehicles, logging, mining, grazing.

I4-2 I have to say that fire, not logging, is an important part of the landscape and should be allowed to play its role. Logging does not mimic fire and has negative long-term consequences on public land.

Sincerely, Joseph Bayley
p.o. box 1633
Port Townsend,. Wa. 98368

Everyone is raving about the all-new Yahoo! Mail beta.

11/28/2006

Responses

I4-1: See response to Comment Number I3-1.

I4-2: Refer to the response to Comment Number O2-15.

Comments

From: William Boyd [willynillyboyd@wildmail.com]
Posted At: Monday, November 27, 2006 7:32 PM
Conversation: Subject line: Draft RMP/EIS
Posted To: e-mail comments

Subject: Subject line: Draft RMP/EIS

BLM Cottonwood Field Office
ATTN: Draft RMP/EIS
1 Butte Drive
Cottonwood, ID 83522
Email: comments@cottonwoodrmp.com

To whom it may concern:

These brief comments include a few concerns I have about the management of the scattered BLM lands in NC Idaho. Many of these lands are adjacent to National Forest Roadless Areas, but receive little attention or protection. It is essential that these wildland chunks remain intact as they are important puzzle pieces which provide connectivity for roaming wildlife, forest buffers for salmon spawning streams, and include recommended Wild & Scenic River Corridors (lower Lolo Creek). I5-1

Logging projects designed to improve forest health, reduce fuel loads, or abate pine beetle outbreaks are ill advised. Though this past fire season was the largest in many years, more wild country needs to be left to burn for natural cycles to return and do their important work of nutrient cycling. Pine beetles are also a part of the system and need to be allowed to play their important role in forest ecosystem dynamics. I5-2

The BLM needs to analyze all roadless parcels in their system. These areas should be protected as roadless areas in the National Forest system are currently protected. I5-3

I want to encourage the BLM to monitor lands in NC Idaho for the Idaho giant salamander, suspected imperiled, and for the Couer d'Alene Salamander, a Forest Service sensitive species. Lastly, I want to encourage you to designate Lower Lolo Creek as a Wild & Scenic River. I5-4 I5-5

We have been blessed with amazing lands that give us many benefits. May we manage them so that they reflect the creative genius of the Creator.

Sincerely,

Will Boyd
116 N. Howard
Moscow, ID 83843

Care2 make the world greener!

Stop the Forest Service from killing more wolves, bears, cougars, and other animals in the wild:
http://go.care2.com/99055

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1

Responses

I5-1: As stated in Wild and Scenic Rivers, Objective 2, Action 2 of the DRMP/EIS, the 24-mile Lolo Creek segment from the Clearwater National Forest Boundary to the mouth would be determined suitable but not recommended for congressional designation in the National Wild and Scenic Rivers System under the Scenic classification. Only Congress can designate rivers into the National Wild and Scenic Rivers System.

I5-2: Fire would be allowed to play its natural role where resource values can be protected. Refer to the response to Comment Number O2-15.

I5-3: See response to Comment Number O2-49.

I5-4: The Idaho giant salamander and Coeur d'Alene salamander are BLM sensitive species. Wildlife and Special Status Wildlife, Objective 8, Action 2 in the DRMP/EIS, "Promotes sensitive species surveys, monitoring, and studies that support conservation efforts while updating existing habitat records."

I5-5: Refer to response to Comment Number I5-1.

Comments

From: andrew carman [andyrunner@hotmail.com]
Posted At: Monday, November 27, 2006 10:35 PM
Conversation: Draft Cottonwood RMP/EIS
Posted To: e-mail comments

Subject: Draft Cottonwood RMP/EIS

Since this will likely be coded, I'll try to make this letter as easy on the coders as posible.

I6-1 Current draft RMP fails to sufficiently and specifically plan for areas like wild and scenic river corridors, roadless areas and areas of critical biological concern.

The BLM should properly plan for the designation and protect of all areas which meet criteria as critical biological areas.
Any accteptable management plan should properly plan for the designation and protect of all areas which meet criteria as wild and scenic river status.

I6-2 The BLM plan should properly plan for the designation and protect of all areas which meet criteria as roadless/widlerness study areas/wilderness areas.

Specifically,

I6-3 The BLM should analyze roadless portions of the Kirks Fork for proper and due protection as a wilderness/wild and scenic river area.

I6-4 The BLM should analyze the roadless portions of the East Fork of the American River for proper and due protection as a wilderness/wild and scenic river area.

I6-5 The BLM shold evlauate the East Fork American and Kirks Fork wild areas under section 202 of the Federal Land Policy Management Act.

Concerning extractive and other land intensive idustries:

I6-6 The BLM should take into heavier consideration the land in and of iteself rather than planning for how and when it could be of economic benefit.

I6-7 Logging as fuel control is weak science and a socio/economic copout of the stated role of this organization: to manage public land. Lets steer, the BLM from euphimistically stating management planning while providing easy ins for extractive industries.
Manage the land as land not as economic boon.

I6-8 The BLM should use the most current science to recognize the improtant role of wildfire in our forest ecologies.

I6-9 The BLM should use the most current, reliable science to properly weigh the negative environmental impacts of extractive industries, such as logging, and regulate and/or limit such activities according to said science.

I6-10 The BLM should use the most current, reliable science to properly weigh the negative environmental impacts of extractive industries, such as mining and regulate and/or limit such activities according to said science.

I6-11 The BLM should use the most current, reliable science to properly weigh the negative environmental impacts of land-intensive industries, such as grazing and regulate and/or limit such activities according to said science.

Concerning Recreation:

I6-12 The BLM should use the most current, reliable science to properly weigh the negative environmental impacts of land-revaging activities such as off-road vehicle use, and regulate and/or limit and/or eliminate such activities according to said science.

1

Responses

I6-1: See response to Comment Number I3-1. Regarding wild and scenic rivers, all Objectives and all Actions under Wild and Scenic Rivers in Chapter 2 of the DRMP/EIS address management direction for eligible and preliminarily suitable river segments. However, only Congress can designate rivers into the National Wild and Scenic Rivers System.

I6-2: See response to Comment Number O2-49.

I6-3: See response to Comment Number O2-49.

I6-4: See response to Comment Number O2-49.

I6-5: See response to Comment Number O2-49.

I6-6: Thank you for your comment.

I6-7: Thank you for your comment.

I6-8: Refer to the response to Comment Number O2-15.

I6-9: The DRMP/DEIS reflects currently available pertinent information and science of which the BLM is aware.

I6-10: Refer to the response to Comment Number I6-9.

I6-11: Refer to the response to Comment Number I6-9.

I6-12: Refer to the response to Comment Number I6-9. Alternatives B and C propose no off-road or cross country travel.

Comments

I6-13 The BLM should specifically monitor off-road vehicle use in the area of Elk City. The BLM should recognize that inasmuch as such activities as off road vehicle use are highly prejudicial to the land and its wild inhabitants, such activities should be highly regulated if not prohbitted outright.

Thanks,
Have a fine day,
Andy Carman

Talk now to your Hotmail contacts with Windows Live Messenger.
http://clk.atdmt.com/MSN/go/msnnkwme0020000001msn/direct/01/?
href=http://get.live.com/messenger/overview

2

Responses

I6-13: See response to Comment Number A3-8.

Comments

From: Dinda Evans [dindamcp4@yahoo.com]
Posted At: Monday, November 27, 2006 4:02 PM
Conversation: Protect Lolo Creek, Lower Salmon River and South Fork Clearwater Wildlands
Posted To: e-mail comments

Subject: Protect Lolo Creek, Lower Salmon River and South Fork Clearwater Wildlands

I7-1 protect all special areas (roadless areas, wild and scenic river corridors, and areas of critical environemntal concern) from off-road vehicles, logging, mining, grazing.

I7-2 3- Fire, not logging, is an important part of the landscape and should be allowed to play its role.
Logging does not mimic fire and has negative long-term consequences on public land.

I7-3 The 144,000 acre BLM Cottonwood RMP is very diverse.
It includes lower Lolo Creek, land near Elk City, the lower Salmon River corridor, and high country near Marshall Mountain. Many of these lands are adjacent to National Forest Roadless Areas, but receive little attention or protection because they are managed by the BLM. It is essential that these wildland chunks remain intact as they are important puzzle pieces which provide connectivity for roaming wildlife, forest buffers for salmon spawning streams, and include recommended Wild & Scenic River Corridors (lower Lolo Creek).

The Plan

The biggest problems with the proposed plan are listed below:

I7-4 --The BLM has not used the latest science in developing its plans to log 40% of the area under the ruse of fire prevention, restoration (?!) and fuel reduction. Indeed, BLM has proposed logging levels even greater than those of the US Forest Service!

I7-5 --BLM fails to analyze the roadless portions of the East Fork of the American River, Kirks Fork and other areas for protection. The East Fork American and kirks Fork wild areas are actually part of the Meadow Creek Roadless Area on the Nez Perce National Forest and should be evlauated under section 202 of the Federal Land Policy Management Act. This provision is needed to correct BLMs faulty wilderness inventory that took place many years ago. Other areas near John Day should also be evaluated.

I7-6 --Wildlands around Elk City are open to vehicles year round to cross country travel. Special areas, roadless areas and areas of critical environmental concern are open to logging and grazing. This must be changed.

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Learn how on Yahoo! Small Business.
http://smallbusiness.yahoo.com/r-index

1

Responses

I7-1: See response to Comment Number I3-1.

I7-2: Fire would be allowed to play its natural role where resource values can be protected. The DRMP/EIS does not intend to suggest that logging mimics fire, nor does it indicate that there would be negative long-term consequences for timber harvesting at the levels proposed in any alternatives. Also see response to Comment Number I2-2

I7-3: See response to Comment Number O2-49.

I7-4: The 40% figure referenced is the percent of moderate and high hazard areas that could be treated under DRMP/EIS Wildland Fire Management, Objective 2, Action 1, Alternative B. Fuels reduction would include the use of prescribed fire, mechanical and biological/chemical treatments. Actions 2, 3 and 4 under the same Objective in the DRMP/EIS describe the percentage of each of these methods.

I7-5: See response to Comment Number O2-49.

I7-6: See response to Comment Number O3-3.

Comments

From: Suzanne Fegelein [powderplease@hotmail.com]
Posted At: Monday, November 27, 2006 1:45 PM
Conversation: Cottonwood Resource Area Management Plan-Public comment
Posted To: e-mail comments
Subject: Cottonwood Resource Area Management Plan-Public comment

To whom it may concern:

Below are some problems with the Cottonwood Plan:

I8-1 The BLM has not used the latest science in developing its plans to log 40% of the area under the ruse of fire prevention, restoration and fuel reduction. Indeed, BLM has proposed logging levels even greater than those of the US Forest Service! The BLM has the capacity to use the latest science, and it should do so. Fire is a natural part of the ecological process, and logging does not mimic fire reduction.

I8-2 BLM fails to analyze the roadless portions of the East Fork of the American River, Kirks Fork and other areas for protection. The East Fork American and kirks Fork wild areas are actually part of the Meadow Creek Roadless Area on the Nez Perce National Forest and should be evaluated under section 202 of the Federal Land Policy Management Act. This provision is needed to correct BLMs faulty wilderness inventory that took place many years ago. Other areas near John Day should also be evaluated.

I8-3 Wildlands around Elk City are open to vehicles year round to cross country travel. Special areas, roadless areas and areas of critical environmental concern are open to logging and grazing. This must be changed.

I8-4 Roadless areas, wild and scenic river corridors, and areas of critical environmental concern require protection from off-road vehicles, logging, mining, grazing.

Suzanne M. Fegelein

Sandpoint, Idaho

View Athlete's Collections with Live Search

11/28/2006

Responses

I8-1: Refer to the response to Comment Number I7-4.

I8-2: See response to Comment Number O2-49.

I8-3: See response to Comment Number O3-3.

I8-4: See response to Comment Number I3-1.

Comments

From: Nelson, Lynne [olnelson@vetmed.wsu.edu]
Posted At: Monday, November 27, 2006 3:31 PM
Conversation: Cottonwood resource management plan
Posted To: e-mail comments
Subject: Cottonwood resource management plan

Dear Sir/ Madam,

I9-1 The BLM has not used the latest science in developing its plans to log 40% of the area in this plan. Logging has been clearly shown not to replace natural fires in restoration. Restoration and fuel reduction is a public ruse. BLM has proposed logging levels even greater than those of the US Forest Service!

I9-2 BLM also fails to analyze the roadless portions of the East Fork of the American River, Kirks Fork and other areas for protection. The East Fork American and kirks Fork wild areas are actually part of the Meadow Creek Roadless Area on the Nez Perce National Forest and should be evaluated under section 202 of the Federal Land Policy Management Act. This provision is needed to correct BLMs faulty wilderness inventory that took place many years ago. Other areas near John Day should also be evaluated.

I9-3 Wildlands around Elk City are open to vehicles year round to cross country travel. Special areas, roadless areas and areas of critical environmental concern are open to logging and grazing. This must be changed.

O. Lynne Nelson, DVM, MS
Diplomate ACVIM (Internal Medicine & Cardiology)
Associate Professor
Washington State University
College of Veterinary Medicine
Pullman, WA 99164
Tel: 509-335-0711
Fax: 509-335-0880

11/28/2006

Responses

I9-1: Refer to the response to Comment Number I7-4.

I9-2: See response to Comment Number O2-49.

I9-3: See response to Comment Number O3-3.

Comments

From: Chris Norden [cnorden@lcsc.edu]
Posted At: Monday, November 27, 2006 11:04 AM
Conversation: Draft RMP EIS
Posted To: e-mail comments

Subject: Draft RMP EIS

Dear BLM Managers,
I am writing on behalf of myself and my family in response to your draft Cottonwood Resource Area Management Plan. There are several problems with the plan as currently constituted, which I ask you to please address. First, the fact that these public BLM
I10-1 lands lie in direct proximity to existing roadless areas is not adequately taken into account, especially from the standpoint of their value as connecting habitat. Secondly, you need to consider the roadless portions of the Cottonwood Resource Area for stronger protection, including Kirks Fork and the east fork of the American river.
I10-2 These areas in particular should be considered as part of Meadow Creek Roadless Area, as per section 202 of the Federal Land Policy Management Act.

I10-3 In addition, your proposal to log something approaching half of the CRA in the name of fire protection and/or restoration does not correspond to current scientific understandings of fire ecology, and thus must be held suspect, specifically relative to local demands for more timber cutting.
This is 1980's vintage policy, folks! We look to the BLM for sound and responsible management of public lands that belong to all Americans, not just the few who want to liquidate forests for a quick profit!

I10-4 Finally, I would urge stricter regulation of off-road vehicle use, both in the Elk City area and generally, along with stronger restrictions pertaining to cattle grazing and logging generally, as these for-profit activities have been shown consistently to have a disproportionate negative impact on ecosystem health and integrity, and mitigation then proves to cost taxpayers more than the activities contribute either to tax coffers or even to local economies.

Thanks, and please be aware than BLM is no longer flying under the public radar!

Chris Norden & Family
428 E. 7th St.
Moscow ID 83843

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Responses

I10-1: See response to Comment Number O2-49.

I10-2: See response to Comment Number O2-49.

I10-3: Refer to the response to Comment Number I7-4.

I10-4: Refer to response to Comment Number A3-8.

Comments

From: fred Rabe [fredr@uidaho.edu]
Posted At: Monday, November 27, 2006 7:02 PM
Conversation: Draft RMP/EIS
Posted To: e-mail comments

Subject: Draft RMP/EIS

I11-1 Sirs: I am concerned about your plans to graze, log and mine much of the area especially if it affects wild and scenic river corridors. What do you mean by restoration? Many years ago I studied a numer of the streams which drain into the Salmon River in the Craig
I11-2 Mountain area. Some of these sites contain very different macroinvertebrate communities from most montane streams . If this is the locale you plan the above activities, care
I11-3 should be taken. Roadless areas and areas of ciritical environemental concern should also be off limits to any physical impact.
A special effort should be made to select ACECs or RNAs of some of the more pristine sites like in the East Fork American and Kirk's Fork wild areas. Presently BLM has
I11-4 proposed an ACED/RNA east of Freezeout Summit in Northern Idaho which provides an educational and research benefit to citizens and students especially in the Moscow-Pullman area.

Fred Rabe
1715 Appaloosa Rd
Moscow, ID 83843

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Responses

I11-1: As stated in Section 3.4.4, Wild and Scenic Rivers, of the DRMP/EIS, there are five rivers in the CFO planning area currently managed under the Wild and Scenic Rivers Act: four are designated in the National Wild and Scenic Rivers System, and one has been recommended to Congress for inclusion in the National Wild and Scenic Rivers System. None are managed by the BLM. Because none are under management by the BLM, the BLM cannot dictate what activities can or cannot occur on these segments.

For segments on BLM-administered lands, all Objectives and Actions in the Wild and Scenic Rivers section of Chapter 2 provide management direction of eligible and preliminarily suitable river segments.

I11-2: See response to Comment Number I2-5.

I11-3: See response to Comment Number I3-1.

I11-4: An ACEC has been proposed for the East Fork of the American River.

Comments

10:19am From- T-932 P.003/011
006 17:09 2089623275 BLM COTTONWOOD P/

RECEIVED
NOV 27 2006
BLM Cottonwood
Idaho 83522

November 24, 2006

The following is my response comment, with my concerns to the BLM Draft Resource Management Plan.

My participation in the development project of the RMP has been attending the Lewiston Public Review and Comment Meeting. I have all four copies of the Draft, and am reading them. I have read the Executive Summary of May 2006.

I am not certain where my comment concerns fit into which RMP Land Use alternative plan.

My concerns are in two areas:

I12-1 Area 1: The location, identification, and preservation of the historical placer gold mining sites of the Lower Salmon and Snake Rivers. With special attention given to Deer and Horse Creek mining ore process milling settlement. These mining areas are important and unique in that they provided a source of income to a large number of people and families during the Great Depression. I spent some time with Lewis A. Heckman in a cabin on Webb Ridge during the 1940's and 50's . Mr. Heckman spent the Depression years placer mining on the Salmon River.

I12-2 Area 2: The location, identification, and preservation of the small clan sites of the Pre-Horse Native Peoples' settlement. I would like to see a study undertaken to better locate and understand this very primitive native peoples' culture. These sites can be found on the Snake and Salmon Rivers.

I thank you very much for any value and consideration you can give these concerns.

Arlie A. Rudy
1128 Linden Drive
Lewiston, ID. 83501
208-743-3334

P.S.: I am a retired person, and am presently doing research to write the history of Craig Mountain. I offer my assistance in anyway you might want to use my services.

Responses

I12-1: The CFO is actively recording archeological sites (including historic mine sites), monitoring site condition, and developing site protection measures.

I12-2: The CFO is actively recording prehistoric archeological sites, monitoring site condition, and developing site protection measures. We also are working with universities through our challenge cost share program to gain a better understanding of past cultures.

Comments

11/03/2006 12:02 2089623275 BLM COTTONWOOD PAGE 02/

RECEIVED
NOV - 2 2006
BLM Cottonwood
Idaho 83522

4120 Edgemont Street
Boise, Idaho
83706-2404

BLM Cottonwood Field Office
ATTN: Draft RMP/EIS
1 Butte Drive
Cottonwood , ID 83522

October 26, 2006

Dear Resource Managers,

I have read the draft Resource Management Plan and Environmental Impact Statement for the lands under the jurisdiction of the Cottonwood Field Office.

I13-1 I am strongly in favor of Alternative C because of its emphasis on preserving and protecting (and hopefully improving) ecosystem health in the area in comparison with Alternatives A, B, and D.

I13-2 Alternative C provides the most protection for the river corridors/riparian areas. I am a whitewater enthusiast and someone who has enjoyed the unique beauty of this area from its rivers. River runners form a solid base of the regional economy and that base will stay and grow with an ecosystem that is pristine and preserves natural beauty. People floating the rivers already haul out all their garbage and waste and camp on sand below the high water line, thus having a minimal impact.

I13-3 Idaho's public lands are part of its wealth. Preservation and protection enable future generations to enjoy this wealth while supporting the local economy.

Thank you for the opportunity to comment on the RMP/EIS.

Sincerely,

Judi Steciak

Judi Steciak

NOV-03-2006 11:00 2089623275 97% P.02

Responses

I13-1: Thank you for your comment.

I13-2: Thank you for your comment.

I13-3: Thank you for your comment.

Comments

2pm From- T-950 P.002/002 F-365

5:53 2089623275 BLM COTTONWOOD PAGE 02/02

Mr. John R. Swanson
3400 Edmund Blvd
Minneapolis, MN 55406-2942

RECEIVED
NOV 30 2006
BLM Cottonwood
Idaho 83522

24 November 2006

(postmark Nov 27)

Bureau of Land Management
1 Butte Drive
Cottonwood, Idaho 83522

Dear Sirs:

Please accept my following comments concerning the Cottonwood Field Office Draft Resource Management Plan/Environmental Impact Statement.

I urge that this area be managed as Wildlife Fish Plant Habitat Preserve.

I propose preserve all areas, including the following:

Brushy Ridge — John Day Creek
Dewitt — Bear Dutch area
Haystack Mountain area
Dhan Meyenick
Pine Ban area
I14-1 Round Spring Creek
Burnt Creek
Billy Creek
Cottonwood Creek
Rattlesnake Ridge
Price Ridge
Divide area

I14-2 and to always protect biological, cultural, scenic and wilderness attributes.

Sincerely,

John R. Swanson

Responses

I14-1: Thank you for your comment.

I14-2: Thank you for your comment.

Comments

From: Susan Westervelt [suew@uidaho.edu]
Posted At: Monday, November 27, 2006 3:42 PM
Conversation: Draft RMP/EIS
Posted To: e-mail comments

Subject: Draft RMP/EIS

To Whom It Concerns:

Idaho is blessed to have some of the most undisturbed wildlands in the world. As the human population continues to grow and the demand for wild places increases, it would behoove the agencies in charge of our public lands to take into consideration the value of those wild places.

I15-1 There is increasingly more value in untrammeled places than in the resources we extract from public land. To that end, when the BLM is considering the Cottonwood RMP, please take into consideration the proximity of the land you propose to "develop" and "improve" to existing roadless lands - especially those lands that have wilderness qualities.

I15-2 Kirks Fork and the E. Fork of the American River are part of the Meadow Creek Roadless Area on the Nez Perce National Forest and should be totally left alone.

I15-3 Lower Lolo Creek, the lower Salman River corridor, areas around Marshall Mountain and Elk City are all adjacent to national forest roadless areas and should receive protection from the BLM. These areas provide travel corridors for wildlife and buffers for salmon streams. Lower Lolo Creek has been recommended for inclusion into Wild & Scenic River Corridors.

I15-4 Fire is a natural part of forest ecosystems, not logging. I implore the BLM to use the latest science available when developing plans for logging any public lands contiguous to roadless areas, and public lands that contain valuable wildlife habitat and salmon

I15-5 fisheries in particular; and to consider the damage caused by the unbridled use of off-road vehicles.

Thank you for the opportunity to comment on plans that affect public lands.

Sincerely,

Susan Westervelt
PO Box 223
Deary, ID 83823

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Responses

I15-1: See response to Comment Number O2-49.

I15-2: See response to Comment Number O2-49.

I15-3: See response to Comment Number O2-49.

I15-4: Thank you for your comment.

I15-5: Refer to the response to Comment Number I6-9.

APPENDIX V

APPENDIX V— 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 V-1** through **V-7**) are included in the second half of the appendix.

MANAGEMENT DIRECTION AND GUIDANCE FOR THE RMP

Under section 202 of FLPMA and 43 CFR 1600, 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 BLM must follow a number of principles and processes.

Management guidance for resource programs includes laws, Executive Orders, regulations, US Department of the Interior (DOI) 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 RMP. 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 utilize the applicable management actions listed in the Special Status Species program at the beginning of table for each specie(s) (**Tables V-1 through V-7**).

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, 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 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 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 V-5**), because specific measures are identified in Chapter 2 (Aquatic Resources, Fish, and Special Status Fish) and other appendices (**Appendix C**, Conservation and Restoration Watersheds; **Appendix F**, Aquatic and Riparian Management Strategy; and **Appendix W**, Desired Conditions and Watershed and Aquatic Condition Indicators). Other RMP programs (Chapter 2) also may have specific reference to conservation measures that would be applicable for federally listed and candidate species, specifically Chapter 2, Wildlife and Special Status Wildlife and Special Status Plants sections. Management actions and conservation measures are included in the following tables:

Table V-1: Gray Wolf;

Table V-2: Bald Eagle;

Table V-3: Canada Lynx;

Table V-4: Northern Idaho Ground Squirrel;

Table V-5: Sockeye Salmon, Spring/Summer Chinook Salmon, Fall Chinook Salmon, Steelhead Trout, and Bull Trout;

Table V-6: MacFarlane's Four-O'Clock and Spalding's Catchfly; and

Table V-7: Yellow-Billed Cuckoo.

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

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – 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 gray wolf. The conservation measures reflect BLM's commitment to support species recovery and meet ESA objectives. 1) In cooperation with Idaho Department of Fish and Game, Tribes, USFWS, and others: a) Determine the distribution of wolves and key gray wolf habitat areas (dens, rendezvous sites, and crucial big game winter ranges). b) Cooperate in maintaining and improving gray wolf habitat by focusing on reducing human/wolf interactions and improving big game winter range.	The implementation actions reflect BLM's commitment to support species recovery and meet ESA objectives. Actions apply to BLM lands and activities only. Habitat terms used throughout this document are defined in **Appendix S**: Species-Specific Habitat Definitions. 1) Following actions to be completed in cooperation with others: 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 key wolf habitat areas on BLM lands. Maintain this inventory information and update it as needed. ii) Cooperate to maintain a spatial database of key wolf habitat areas for BLM lands. iii) Continue to provide information on wolf occurrences to Idaho Department of Fish and Game. b) Take advantage of opportunities as they arise.	1) As stated below: a) CFO, in coordination with Idaho Department of Fish and Game, Tribes, Conservation Data Center, and USFWS (all actions). State Office support for mapping as needed. b) CFO in coordination with Idaho Department of Fish and Game, Tribes, and USFWS

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Special Status Animal and Plant Management Note: Common to All Programs	2) Ensure that ongoing federal actions support or do not preclude species recovery.	2) Review ongoing activities within pack territories and, where needed and feasible, modify BLM actions to promote species recovery.	2) CFO
Special Status Animal and Plant Management Note: Common to All Programs	3) Ensure that new federal actions support or do not preclude species recovery.	3) 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.	3) CFO
Special Status Animal and Plant Management Note: Common to All Programs	4) Protect gray wolves from disturbance that might result in displacement during critical periods.	4) Avoid implementing activities adjacent to active den and rendezvous sites or big game winter ranges while these are being used by wolves.	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

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
Upland Vegetation Management: Rangelands (includes weed management)	1) Within gray wolf territories, activities in the Rangeland **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 in rangelands that may affect the species will be designed and implemented in accordance with the approach described in the **Forest and Woodland Management and Forest Products (includes weed management)** program section.	2) See **Forest and Woodland Management and Forest Products (includes weed management)** program section.	2) CFO
Forest and Woodland Management and Forest Products (includes weed management)	1) Within gray wolf territories, 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) Projects involving the application of pesticides (herbicides, insecticides, etc.) in forested areas and woodlands 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	2) CFO

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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.	
	3) Implement forest management actions that maintain the integrity of gray wolf habitat.	3) Management actions: a) Avoid new road construction or reconstruction within 1 mile of active den sites. b) Use forest management practices to improve big game winter ranges, where appropriate. c) Apply appropriate spatial and temporal buffers to avoid human disturbance around den and rendezvous sites.	3) CFO (all actions)
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 to improve big game winter range conditions.	2) Coordinate and implement projects to improve big game forage quality and quantity, where appropriate.	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	1) Apply relevant conservation measures from the **Special Status Animal and Plant**	1) CFO

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – 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.	
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 gray wolf habitat. Place a high priority on enhancing key gray wolf habitat areas	2) Fire management activities: a) Review Fire Management Plan for adequacy in addressing conservation measures. Modify the plan if needed. b) Apply minimum impact suppression tactics (MIST) within 1 mile of den sites or rendezvous sites, as appropriate. Consult with resource advisors to determine where MIST tactics should be applied to avoid or minimize negative impacts. c) Avoid fire base camps, staging areas, fueling areas, or other related activities within 1 mile of active den sites.	2) Responsibilities follow: a) FMO and CFO b) FMO, Resource Advisor, and Incident Commander for fire c) FMO, Resource Advisor, and CFO
	3) Coordinate with Forest Service, Idaho Department of Lands, or other applicable agency personnel regarding fire suppression activities in or near key gray wolf habitat areas.	3) Ongoing interagency coordination.	3) FMO, with support from CFO Resource Advisor

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
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.	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 rehabilitation projects involving the application of pesticides will be analyzed and implemented in accordance with the approach described in the **Forest and Woodland Management (includes weed management)** program section.	2) See **Forest and Woodland Management and Forest Products (includes weed management)** program section.	2) CFO and FMO
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) Where opportunities exist, wildland fire use projects will be designed to conserve and enhance gray wolf habitat.	2) When developing and implementing wildland fire use plans, include appropriate burn prescriptions that maximize the conservation of key wolf habitat.	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 V-1
Gray Wolf *(Canis lupus)* Experimental Population – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	2) Where opportunities exist, prescribed fire projects will be designed to conserve and enhance gray wolf habitat.	2) When developing and implementing prescribed fire plans, include appropriate burn prescriptions that maximize the conservation of key wolf habitat.	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 **Forest and Woodland Management (includes weed management)** program section.	2) See **Forest and Woodland Management (includes weed management)** program section.	2) CFO
	3) Where opportunities exist, non-fire fuels management projects will be designed to conserve and enhance gray wolf habitat.	3) When developing non-fire fuels plans, include appropriate prescriptions that maximize the conservation of key wolf habitat areas.	3) CFO
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
	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 V-1
Gray Wolf *(Canis lupus)* Experimental Population – 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 the **Livestock Grazing Management: 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
Livestock Grazing Management: Livestock Management Facilities	1) Activities within **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
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**	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the	1) CFO

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – 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.	beginning of this table.	
	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 within 1 mile of active den sites, 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 wolf recovery objectives. 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 within 1 mile of active den sites, 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 gray wolf recovery objectives. Consider the seasonal nature of the proposed activities, and whether this conflicts with gray wolf recovery needs.	2) Responsibilities: a) CFO b) CFO
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**	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

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – 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) 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 areas within one mile of active den sites), 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 (including access roads) within one mile of active den sites if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with gray wolf recovery needs. If a minerals lease or sale (including associated roads) is to be issued, apply stipulations to support or to not preclude species recovery.	2) CFO
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 and State Office
	2) Developed facilities (boat access, paved campgrounds, vault toilets, interpretive kiosks,	2) Management of existing and new facilities:	2) CFO (all actions)

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – 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 not to preclude species habitat conservation and recovery. This includes management of the physical facilities, as well as disturbances to the species from human uses.	a) For review of existing facilities, see **Special Status Animal and Plant Management** program section item (2). Where there is the potential for human/gray wolf conflicts, consider modifying existing facilities to reduce the impact. 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 that would have negative impacts on wolves.	
	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). As possible and where there is the potential to reduce human/gray wolf conflicts, move dispersed camps to other locations or modify them to mitigate negative impacts to gray wolves or their habitat.	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	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). Where there is the potential for human/gray wolf conflicts, modify the permit to reduce the impact.	4) CFO (all actions)

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	resulting from human uses.	b) For new permits, see **Special Status Animal and Plant Management** program section item (3). Avoid issuing recreation permits if negative impacts are expected. Avoid placement of new outfitter camps and issuance of permits that would increase human/gray wolf conflicts.	
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, off-highway vehicle (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) Travel management actions: a) For existing roads, designated OHV routes and areas, non-motorized trails, and designated non-motorized trails, see **Special Status Animal and Plant Management** program section item (2). Consider implementing effective closures if negative impacts are occurring within one mile of active den sites. b) For new roads, designated 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 within one mile of active den sites if negative impacts to wolves are anticipated.	2) CFO (all actions)

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		c) Close and reclaim unauthorized user-created OHV routes that negatively impact active den sites.	
	3) Manage recreational travel towards reducing human/gray wolf interactions within and adjacent to key habitat areas to promote gray wolf recovery.	3) Reduce human/gray wolf interactions: a) Eliminate, as appropriate, mechanized cross-country travel (designate areas as limited or closed) within one mile of active den sites. b) Evaluate the need for seasonal restrictions or permanent closure of sensitive areas to use by OHVs. Implement closures as needed to protect key wolf habitat areas. c) Avoid designation as "open" or development of OHV routes or non-motorized trails within one mile of active den sites.	3) CFO (all actions)
	4) Maintain regular compliance checks on road and OHV closures to protect key gray wolf habitat areas and to identify problems as soon as possible and take immediate corrective measures	4) Ongoing, day-to-day BLM activities.	4) 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

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	2) Where feasible and funding is available, acquire through land exchange or purchase private lands in or adjacent to key gray wolf habitat areas that could enhance habitat value for gray wolves.	2) Take advantage of opportunities as they arise.	2) CFO
	3) Retain key gray wolf habitat areas in federal ownership to the extent possible, while balancing other needs.	3) Review each land tenure decision in terms of species habitat. Retain key habitat areas in public ownership unless compelling circumstances necessitate the land tenure adjustment.	2) CFO
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 (apply to areas within suitable habitat), see **Special Status Animal and Plant Management** program section item (3). Avoid issuing new permits or leases within one mile of active den sites if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with gray wolf recovery needs. If a permit or lease is to be issued within one mile of active den sites, apply stipulations to the permit that support or do not preclude species recovery and that avoid	2) CFO

Table V-1
Gray Wolf *(Canis lupus)* Experimental Population – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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 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 rights-of-way, see **Special Status Animal and Plant Management** program section item (3). Avoid issuing rights-of-way within one mile of active den sites if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with gray wolf recovery needs. If a right-of-way is to be issued, apply stipulations to the right-of-way that support or do not preclude species recovery 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 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 V-2
Bald Eagle *(Haliaeetus leucoephalus)* – 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 bald eagle. The conservation measures reflect BLM's commitment to support species recovery and meet ESA objectives. 1) In cooperation with Idaho Department of Fish and Game, Tribes, USFWS, and others: a) Continue to cooperate in determining the distribution of populations and suitable habitats. b) Following current monitoring protocols, continue to cooperate in conducting systematic nest surveys and monitoring. c) Cooperate in the management of nest sites and communal roost sites to promote species recovery. d) Cooperate in the maintenance and improvement of habitat in key foraging areas, for example, mule deer winter range, and aquatic and riparian habitat for fish and waterfowl, where a need exists. e) Cooperate to maintain and develop nesting and roosting habitat for future use by bald eagles.	The implementation actions reflect BLM's commitment to support species recovery and meet ESA objectives. Actions apply to BLM lands and activities only. Habitat terms used throughout this document are defined in **Appendix S**: Species-Specific Habitat Definitions. 1) Following actions to be completed in cooperation with others: a) Mapping and data inventory: i) Continue to identify, record, and map the following habitats: nest sites, communal roost sites, key foraging areas, and other suitable habitat on BLM lands. ii) Maintain a spatial database of species population and habitat information for BLM lands. b) Cooperate with Idaho Department of Fish and Game and USFWS to accomplish regular nest surveys and other monitoring (such as winter counts). c) Update or develop management plans for nest sites, communal roost sites, or key foraging areas, as appropriate, for habitats located on BLM lands.	1) As stated below: a) CFO, in coordination with Idaho Department of Fish and Game regional office. State Office support for mapping as needed. b) CFO in coordination with Idaho Department of Fish and Game regional office and USFWS. c) CFO in coordination with USFWS and Idaho Department of Fish and Game regional office. d) CFO in coordination with Idaho Department of Fish and Game regional office. e) CFO in coordination with Idaho Department of Fish and Game regional office.

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	f) 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.	d) Take advantage of opportunities as they arise. e) Manage suitable habitat to maintain and promote tree regeneration, including plantings, fencing, or other management actions. Identify riparian areas that would be appropriate for cottonwood restoration. f) BMPs: i) State Office to coordinate development of BMPs with CFO, District Office, USFWS, and Idaho Department of Fish and Game. Instruction memorandum to be issued by State Office. ii) CFO to implement BMPs.	f) 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) As needed, review ongoing activities within 2.5 miles of bald eagle nests or within the area designated in the local bald eagle nest management plan, and within one mile of communal roost sites 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 negative impacts and, where feasible, promote species recovery.	2) CFO (all actions)

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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) c) CFO
	4) Protect bald eagles from disturbance that might result in displacement during critical periods.	4) Avoid implementing activities near nest sites during the breeding season (February 1 to August 15) or follow the local bald eagle plan guidance near communal roost sites and key foraging areas during the wintering season (November 1 to March 1).	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.

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	6) Support conservation easements, cooperative management efforts, and other programs on adjacent nonfederal lands to support recovery of the bald eagle.	6) Take advantage of opportunities as they arise.	6) 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. As a part of promoting recovery, the goals are to promote mature forested riparian 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 (herbicides, insecticides, etc.) in rangelands 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	2) CFO in consultation with USFWS (all actions)

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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.	
	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 mature riparian forests (i.e., cottonwood galleries) in suitable habitat to maintain their integrity for use as bald eagle nesting, roosting, or perching substrate.	4) Management actions: a) Emphasize eradication of non-native invasive species in riparian areas that compete with cottonwood 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 activities are consistent with the long-term maintenance of mature cottonwood forests. c) As needed, close suitable habitat in riparian forests to non-commercial firewood cutting	4) CFO (all actions)

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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 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 suitable bald eagle 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) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	2) CFO
Forest and Woodland Management and Forest Products (includes weed management)	1) Within bald eagle suitable 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. As a part of promoting recovery, the goals are to promote mature forest conservation in suitable habitat, 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) Conserve mature upland forests in suitable habitat to maintain their integrity for use as	2) Management actions:	2) CFO

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	bald eagle nesting, roosting, or perching substrate.	a) Allow commercial timber management projects or firewood cutting when negative impacts to suitable bald eagle habitat can be avoided or minimized. Within 1/2 mile, or as defined in the local bald eagle plan, of nest and communal roost sites ensure that such activities maintain or improve old growth stand characteristics. b) Avoid designating suitable habitat as open to non-commercial firewood cutting. Close suitable habitat areas to non-commercial firewood cutting if management problems arise.	
	3) Projects involving the application of pesticides in forested areas and woodlands adjacent to riparian and wetland areas that provide suitable bald eagle 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.	3) See **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	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
	2) Coordinate with Idaho Department of Fish and Game to improve big game winter range conditions in areas providing bald eagle winter	2) Coordinate and implement projects to improve big game forage quality and quantity,	2) CFO in cooperation with Idaho Department of

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	habitat.	where appropriate.	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. As a part of promoting recovery, the goals are to promote productive fish habitat as a prey species for bald eagles, 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) See **Appendix C** and **Appendix F** for additional watershed, riparian, and aquatic conservation measures that would promote function of riparian habitats and productive fish habitat.	2) Coordinate and implement management actions to improve riparian and aquatic 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 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 bald eagle 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 minimum impact suppression tactics	2) Responsibilities follow: a) FMO and CFO b) FMO, Resource Advisors, and Incident

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		(MIST) within suitable bald eagle 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 or adjacent to nest sites and communal roosts. Avoid conducting other related activities in these areas	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 nest sites and communal roost areas.	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 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 (ES&R) activities to promote bald eagle habitat rehabilitation.	2) ES&R activities: a) If needed and if natural recovery would not achieve habitat objectives, implement ES&R activities to promote rehabilitation of suitable habitat. Plant locally appropriate nesting and roosting trees, if natural recovery of such trees is doubtful. b) As needed, protect disturbed areas using	2) CFO (all actions)

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		temporary closures or other measures until the cottonwood saplings (or other target tree species) are 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** 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 bald eagle habitat.	2) When developing wildland fire use plans, avoid burning suitable habitat and develop appropriate burn prescriptions that promote conservation of suitable habitat for bald eagles	2) FMO and 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 bald eagle habitat.	2) When developing and implementing prescribed fire plans, avoid or minimize negative impacts to suitable habitat, and use	2) CFO and FMO

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		prescribed fire as a tool for assisting with species conservation (for example, for enhancement of big game winter range used by bald eagles).	
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 **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 bald eagle habitat.	3) Incorporate conservation actions into the fuels projects, as needed. For example, design seed mixes that will enhance or promote the growth of cottonwoods or other target tree species.	2) CFO
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
	2) Follow all measures included throughout the **Fire Management** program sections.	2) See actions within **Fire Management** program sections. Incorporate into	2) CFO

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		community assistance agreements.	
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 nesting and roosting tree growth and recruitment, healthy riparian communities, or a combination of these objectives. Maintain and promote suitable habitat and restore areas for the bald eagle while implementing rangeland health standards and guidelines (S&Gs).	2) Permit or lease renewal actions: a) For review of ongoing actions, see **Special Status Animal and Plant Management** program section item (2). b) For new actions, see **Special Status Animal and Plant Management** program section item (3).	2) CFO

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	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 cottonwood saplings (or other target tree species) are re-established and self-sustaining.	3) CFO
	4) Maintain regular compliance checks on grazing allotments with nest sites and communal roost sites 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 nesting and roosting tree growth and recruitment, healthy riparian communities, or a combination of these objectives. Maintain and promote suitable habitat and restore areas for the bald eagle while implementing rangeland health S&Gs.	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 V-2
Bald Eagle *(Haliaeetus leucoephalus)* – 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 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 2.5 miles of bald eagle nests or within the area designated in the local bald eagle nest management plan, and within one mile of communal roost sites), 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 bald eagle 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	2) CFO

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		that conflict with bald eagle management objectives in suitable habitat. Consider the seasonal nature of the proposed activities, and whether this conflicts with bald eagle 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.	
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 (applying to areas either within 2.5 miles of bald eagle nests or within the area designated in the local bald eagle nest management plan, and within one mile of communal roost sites), see **Special Status Animal and Plant Management** program section item (2). Modify existing mineral leases if negative impacts are occurring.	2) CFO

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		b) For new sales or leases (applying to areas within 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.	
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 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 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	2) CFO (all actions)

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		recreation facilities or expansion of existing facilities within 0.5 mile of bald eagle nests and traditional communal roosting areas, or follow the local bald eagle plan guidance.	
	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 0.5 mile of bald eagle nests and traditional communal roosting areas, or follow the local bald eagle plan guidance 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 providing bald eagle 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 bald eagle recovery needs. In particular, avoid	4) CFO (all actions)

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		permitting new recreation activities within 0.5 mile of occupied bald eagle nests and traditional communal roosting areas, or follow the local bald eagle plan guidance. If a recreation permit is to be issued, apply stipulations to the permit to support or to not preclude species conservation and recovery.	
	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 bald eagle 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 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, off-highway vehicle (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 roads, routes, or trails within 0.5 mile of nest sites or communal roosts, or follow the local bald eagle plan guidance, if negative impacts are occurring. Evaluate the need for seasonal OHV use restrictions within or adjacent to occupied nest sites, communal	2) CFO (all actions)

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		roosts, or key foraging areas. Implement restrictions to reduce disturbance. Seek opportunities to close and revegetate OHV routes or non-motorized trails and use areas in and adjacent to nest sites and communal roosts, 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 bald eagle recovery needs. In particular, avoid opening new roads, trails, routes, and areas within 0.5 mile of occupied bald eagle nests, communal roosting areas, or key foraging areas, or follow the local bald eagle plan guidance.	
	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
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	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	section to promote recovery.		
	2) Where feasible and funding is available, acquire through land exchange or purchase private lands in suitable habitat areas that could enhance habitat for bald eagles.	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 nesting, communal roost, or important winter habitat areas.	2) CFO
	3) Retain bald eagle habitat in federal ownership to the extent possible, while balancing other needs.	3) Review each land tenure decision in terms of species habitat. Retain active nest sites 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.	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 so as not to preclude species habitat conservation	2) For new permits and renewal of existing permits (apply to areas within suitable	2) CFO

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	habitat), see **Special Status Animal and Plant Management** program section item (3). Avoid issuing new permits or leases, or renewing existing permits or leases in or near nest sites or communal roosts if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with bald eagle recovery 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 recovery 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 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 item (3). Avoid issuing rights-of-way, or renewing existing rights-of-way, in or near nest sites or communal roosts if negative impacts are expected. Consider the seasonal nature of the proposed activities, and whether this conflicts with bald eagle recovery needs. If a right-of-way is to be issued or re-issued in	2) CFO

Table V-2
Bald Eagle *(Haliaeetus leucoephalus)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		suitable habitat, apply stipulations to the right-of-way that support or do not preclude species recovery and that avoid or minimize negative impacts.	
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, such as relict, good-condition, cottonwood galleries.	2) Take advantage of opportunities as they arise.	2) CFO

Table V-3
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 2005). The conservation measures reflect BLM's commitment to support species	The implementation actions reflect BLM's commitment to support species recovery and meet ESA objectives. Actions apply to BLM lands and activities only. Habitat terms used throughout this document are defined in **Appendix S**: Species-Specific Habitat Definitions.	1) As stated below: a) CFO, in coordination with Forest Service. SO support for mapping as needed. b) CFO in coordination

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	recovery, meet ESA objectives, and strive to support recovery efforts in any future developed Recovery Plan and revisions. 1) In cooperation with Idaho Department of Fish and Game, Forest Service, Tribes, USFWS, and others: a) Continue to cooperate in determining the distribution of populations and suitable habitats. b) Following current monitoring protocols, cooperate in conducting lynx surveys and habitat monitoring. c) Participate in research essential to conservation of the species. Cooperate in determining specific limiting factors in terms of habitat needs and characteristics. d) Cooperate in the maintenance and improvement of habitat in key foraging areas, for example, snowshoe hare habitat, and other suitable lynx habitats.	1) Following actions to be completed in cooperation with others: a) Mapping and data inventory: i) Continue to identify, record, and map the following habitats: foraging habitats, denning habitats, Lynx Analysis Units (Landscape Analysis Units), and other suitable habitat on BLM lands. For additional information regarding lynx habitat, see **Appendix S**, Species Specific Habitat Definitions. ii) Maintain a spatial database of species population and habitat information for BLM lands and Landscape Analysis Units. b) Cooperate with USFWS, Forest Service, and other partners to accomplish lynx surveys and habitat monitoring. c) BLM will participate as funding allows.	with Forest Service and USFWS. c) CFO in coordination with Forest Service and USFWS. d) CFO in coordination with Forest Service and USFWS. e) CFO in coordination with State Office, 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.	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 Landscape Analysis Units. e) Utilize guidance and BMPs to avoid or	

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		minimize adverse effects to lynx and support species recovery.	
	2) Ensure that ongoing federal actions support or do not preclude species recovery. a) Utilize *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.	2) Ongoing BLM activities: a) As needed, review ongoing activities occurring within Landscape 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) Where needed, complete Section 7 consultation for ongoing activities that may affect this species and its habitat.	2) CFO (all actions)
	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	3) CFO (all actions)

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		this species and its habitat.	
	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 Landscape 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 Landscape Analysis Unit and in linkage area. b) Identify potential highway crossings and fencing when highway or forest highway construction or reconstruction is proposed. c) Changes in Landscape Analysis Unit boundaries shall be based on site-specific habitat information and after review by Forest Service, USFWS, and the BLM Idaho State Office.	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). 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

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	8) Map locations of "over-snow motorized" designated and groomed routes occurring within Landscape Analysis Units.	8) Map the location and intensity of snow-compacting activities, and designated and groomed routes that occur within Landscape Analysis Units 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
Soil and Water Resources: Riparian/Wetland Areas (includes weed management)	1) Within Landscape 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,	2) CFO in consultation with USFWS (all actions)

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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.	
	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 or restore riparian habitats in functional condition to maintain their integrity for use as travel and/orr foraging areas.	4) Management actions: a) Emphasize eradication of non-native invasive species in riparian areas that occur within Landscape 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 Landscape Analysis Units.. c) As needed, close suitable habitat in riparian forests to non-commercial firewood cutting	4) CFO (all actions)

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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 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
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 Landscape 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	2) CFO in coordination with USFWS and Forest Service (all actions)

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		that substantiates different historic levels of stand initiation structural stages (early seral), limit disturbance in each Landscape Analysis Unit as follows: a) If more than 30 percent of the lynx habitat in a Landscape 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. c) Cumulative total of fuel treatment projects that do not meet the vegetation standards shall not exceed 6% of mapped lynx habitat in the Landscape 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.	

Table V-3
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) Provide for snowshoe hare habitat within Landscape 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 Landscape Analysis Units.	4) Denning habitat should be distributed in each Landscape 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 Landscape 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)
	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 Landscape Analysis Units, focus vegetation management in areas to improve	6) Within Landscape Analysis Units, focus vegetation management in areas that have	6) CFO in coordination with Forest Service (all

Table V-3
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..	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 an Landscape 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 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	actions)

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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.	

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		uneven age 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 Landscape Analysis Unit.	
	7) Report types and amounts of vegetation treatments affecting lynx habitat within Landscape Analysis Units.	7) Document and report treatments affecting lynx habitat within Landscape 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, Landscape 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	7) CFO (all actions), State Office, and USFWS.

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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 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 Landscape 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 C**, **Appendix F**, and **Appendix W** for additional watershed, riparian, and aquatic conservation measures that would promote functional riparian habitats	2) Coordinate and implement management actions to improve riparian habitats/travel corridors.	2) CFO

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	within Landscape Analysis Units.		
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 conserve and restore lynx habitat within Landscape Analysis Units.	2) Fire management activities: a) Review Fire Management Plan for adequacy in addressing conservation measures. Modify the plan if needed. b) Apply minimum impact suppression tactics (MIST) within Landscape Analysis Units, 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 or adjacent to known den sites. Avoid conducting other related activities in these areas.	2) Responsibilities follow: a) FMO and CFO b) FMO and Incident Commander for fire 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	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	promote recovery.		
	2) Implement Emergency Stabilization and Rehabilitation (ES&R) activities to promote lynx habitat rehabilitation.	2) ES&R activities: a) If needed and if natural recovery would not achieve habitat objectives, implement ES&R activities to promote rehabilitation of suitable habitat. b) As needed, protect disturbed areas using temporary closures or other measures until desired vegetation is re-established and self-sustaining.	2) CFO (all actions)
	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 utilized to conserve and restore suitable lynx habitat.	2) Wildland fire use projects will be utilized to conserve and restore suitable habitats by avoiding or minimizing negative impacts to suitable habitat and other resources within Landscape Analysis Units.	2) CFO, Idaho Department of Fish and Game, Forest Service, and USFWS (all actions)

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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 utilized 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.	
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.	2) CFO and FMO

Table V-3
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) 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.	
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 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 **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 Landscape Analysis Units.	3) Non-fire fuels projects will be designed to conserve and enhance habitat within Landscape 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.	3) CFO (all actions)

Table V-3
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)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.	
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
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	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	recovery.		
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 Landscape 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 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.	2) CFO

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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 Landscape 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 S&Gs.	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 in lynx habitat, modify existing and avoid placement of new livestock facilities.	

Table V-3
Canada Lynx *(Lynx canadensis)* – 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 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.	a) For review of existing plans of operation and notice-level operations (applying to areas either within Landscape 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 conflicts with lynx recovery needs. For notice-level operations, notify the operator that modifications to proposed activities will	2) CFO (all actions)

Table V-3
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 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 Landscape 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)

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
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 (applying to lynx habitat within Landscape 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 Landscape 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

Table V-3
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) 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 J** of the RMP) 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, 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.	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 within lynx habitat when such has negative effects.	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	3) For review of ongoing activities, see **Special Status Animal and Plant Management** program section item (2). In addition, minimize human activity within	3) CFO

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
	conservation and recovery. This includes limiting disturbances to the species resulting from human uses.	Landscape 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.	
	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 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.	4) CFO (all actions)
	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	5) CFO, in cooperation with Idaho Department of Fish and Game, USFWS, and Forest Service.

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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.	
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, off-highway vehicle (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 management of roads, routes, or trails within Landscape 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 Landscape 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	2) CFO (all actions)

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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. 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.	4) CFO (all actions)

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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 Landscape Analysis Unit or in a combination of immediately adjacent Landscape 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 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	5) CFO in coordination with other state and federal agencies (all actions)

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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 Landscape Analysis Units.	2) CFO
	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.	2) CFO and State Office

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		Such measures must be approved by the State Director.	
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 Landscape Analysis Units if negative impacts are expected. a) Consider the seasonal nature of the proposed activities, and whether this conflicts with lynx recovery needs. b) If a permit or lease is to be issued or re-issued within Landscape 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	2) CFO (all actions)

Table V-3
Canada Lynx *(Lynx canadensis)* – Management, Conservation, and Restoration Measures for CFO *(continued)*

RMP Programs Evaluated	Conservation and Restoration Measures	BLM Implementation Actions	BLM Responsibilities
		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 be located to maintain and provide lynx diurnal security habitat.	3) CFO (all actions)
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**	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table V-3
Canada Lynx *(Lynx canadensis)* – 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) 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 Landscape Analysis Units.	2) Take advantage of opportunities as they arise.	1) CFO

Table V-4
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 BLM's commitment to support species conservation and meet ESA objectives. 1) In cooperation with Idaho Department of Fish and Game, USFWS, Forest Service, and others: a) Cooperate to identify and map populations and suitable habitats. b) If populations are found on BLM lands, cooperate in monitoring northern Idaho ground squirrel population trends and habitat conditions. c) Cooperate in the management of suitable habitat areas to promote species recovery. 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.	The implementation actions reflect BLM's commitment to support species recovery and meet ESA objectives. Actions apply to BLM lands and activities only. Habitat terms used throughout this document are defined in **Appendix S**: Species-Specific Habitat Definitions. 1) Following actions to be completed in cooperation with others: a) Mapping and data inventory: i) Identify, record, and map known populations, suitable habitat, restoration areas, and connectivity corridors on BLM lands. ii) 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.	1) As stated below: 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. b) CFO in coordination with Idaho Department of Fish and Game regional office and USFWS c) CFO in coordination with Idaho Department of Fish and Game regional office (all actions) d) CFO in coordination with Idaho Department of Fish and Game regional office. e) CFO

Table V-4
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
	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.	b) Cooperate with Idaho Department of Fish and Game and USFWS to conduct regular species monitoring. 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. d) Take advantage of opportunities as they arise. e) Implement BMPs as described, if needed.	
	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	2) CFO (all actions)

Table V-4
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
		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.	
	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)
	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	4) CFO

Table V-4
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
		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.	
	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 **Forest and Woodland Management**	2) See **Forest and Woodland Management (includes weed management)** program section.	2) CFO in consultation with USFWS (all actions)

Table V-4
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
	(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
Forest and Woodland Management and Forest Products	1) Activities within the **Forest and Woodland Management (includes weed management)** program will implement relevant conservation	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the	1) CFO

Table V-4
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
(includes weed management)	measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	beginning of this table.	
	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 V-4
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	2) Coordinate and implement projects to improve quality and quantity of suitable habitat for northern Idaho ground squirrels,	2) CFO in cooperation with Idaho Department of

Table V-4
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
	Idaho ground squirrels..	where appropriate.	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
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 minimum impact suppression tactics (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	2) Responsibilities follow: a) FMO and CFO b) FMO, Resource Advisor, and Incident Commander for fire c) FMO, Resource Advisor, and CFO

Table V-4
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
		locating fire base camps and staging areas in suitable habitat.	
	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 (ES&R) activities to promote northern Idaho ground squirrel habitat rehabilitation.	2) ES&R activities: a) If needed and if natural recovery would not achieve habitat objectives, implement ES&R 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	2) CFO (all actions)

Table V-4
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
		self-sustaining.	
	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	1) Activities within the **Fire Management: Non-Fire Fuels Management** program will	1) Apply relevant conservation measures from the **Special Status Animal and Plant**	1) CFO

Table V-4
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
Management	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) 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	4) CFO (all actions)

Table V-4
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
		suitable habitat.	
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
	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	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table V-4
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
	promote recovery.		
	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 (S&Gs).	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 S&G 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.	2) CFO (all actions)
	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

Table V-4
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
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 squirrel habitat while implementing rangeland health S&Gs.	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 negative impacts, modify existing and avoid placement of new livestock facilities in northern Idaho ground squirrel habitat.	2) CFO
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	2) CFO (all actions)

Table V-4
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
		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 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

Table V-4
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) 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 minerals lease or sale is to be issued in suitable habitat, apply stipulations to support or to not preclude species recovery.	2) CFO (all actions)
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	2) CFO (all actions)

Table V-4
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
		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.	
	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 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 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	4) CFO (all actions)

Table V-4
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
		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.	
	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
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, off-highway vehicle (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.	2) CFO (all actions)

Table V-4
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
		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, 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	2) Take advantage of opportunities as they arise. Priority should be given to lands that	2) CFO

Table V-4
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
	private with known populations or that could enhance habitat for northern Idaho ground squirrels.	are adjacent to or near public lands.	
	3) 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
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	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,	2) CFO

Table V-4
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
	species resulting from human uses.	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.	
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 habitat, only issue or re-issue rights-of-way with stipulations to avoid negative impacts to northern Idaho ground squirrel 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

Table V-4
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 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 V-5
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 BLM's commitment to support species recovery. 1) In cooperation with National Marine Fisheries Service, USFWS, Idaho Department of Fish and Game, Tribes, Forest Service, and others: a) Continue to cooperate in determining the distribution of populations and suitable habitats.	The implementation actions reflect BLM's commitment to support species recovery and meet ESA objectives. Actions apply to BLM lands and activities only. 1) Following actions to be completed in cooperation with others: 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.	1) As stated below: a) CFO, in coordination with IDFG, Tribes, National Marine Fisheries Service, USFWS, and Forest Service (all actions)

Table V-5
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
	b) Following acceptable monitoring protocols, continue to cooperate in monitoring for species presence, population status, and habitat condition on a regular basis. c) Participate in research essential to recovery of the species. Cooperate in determining specific limiting factors in terms of habitat needs and characteristics. d) Cooperate in the management and improvement of watershed, riparian, and aquatic habitat to promote species recovery. 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.	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. b) Cooperate with Idaho Department of Fish and Game, Tribes, National Marine Fisheries Service, USFWS, and Forest Service to conduct regular monitoring of populations and habitat conditions on BLM lands. See **Appendix W** – 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) BLM will participate as funding allows. d) Where appropriate, update or develop management plans for suitable habitat, particularly in areas with known populations, with emphasis in restoration watersheds (see **Appendix C** – Conservation and Restoration Watersheds).	

Table V-5
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
		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 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 F** – 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.	2) CFO, in coordination with National Marine Fisheries Service, USFFWS, Idaho Department of Fish and Game, and Tribes (all actions)

Table V-5
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
	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 F** – Aquatic and Riparian Management Strategy for additional management direction. c) Avoid implementing activities that have the potential to adversely impact suitable habitat 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.	3) CFO, in coordination with National Marine Fisheries Service, USFWS, Idaho Department of Fish and Game, and Tribes (all actions)
	4) Implement adaptive management as needed	4) Conduct site-specific implementation and effectiveness monitoring. Adjust management	4) CFO

Table V-5
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
	to achieve recovery objectives.	as needed to ensure that management objectives are met. See **Appendix W** – Desired Conditions and Watershed and Aquatic Condition Indicators.	
	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
	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 condition riparian and wetland habitats) in watersheds with listed fish and to avoid negative impacts, or to minimize impacts if avoidance is not possible.	1) Apply relevant conservation measures from the **Special Status Fish Management** program section at the beginning of this table.	1) CFO
Vegetation – Riparian and Wetlands Resources: (includes weed management)	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;	2) CFO in consultation with National Marine Fisheries Service and USFWS (all actions)

Table V-5
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
		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.	
	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
	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 C** (Conservation and Restoration Watersheds). Riparian and aquatic restoration opportunities would also be promoted where opportunities exists or in partnership with others.	4) CFO (all actions)

Table V-5
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
		b) See **Appendix F** (Aquatic and Riparian Management Strategy) and **Appendix W** (Desired Conditions and Watershed and Aquatic Condition Indicators) for appropriate management direction and desired conditions.	
	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
Aquatic Resources, Fish, and Special Status Fish Management	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 C** -Conservation and Restoration Watersheds, **Appendix F** -Aquatic and Riparian Management Strategy, and **Appendix W** – Desired Conditions and Watershed and Aquatic Condition Indicators for additional direction, strategy, and desired conditions.	1) CFO, Idaho Department of Fish and Game, Tribes, National Marine Fisheries Service, USFWS, and Forest Service.

Table V-6
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 BLM's commitment to support species recovery and meet ESA objectives. 1) In cooperation with Idaho Department of Fish and Game Conservation Data Center, USFWS, and others: a) Cooperate to develop consistent interagency inventory and monitoring methods, or use established USFWS protocols. b) Cooperate to identify and map populations and suitable habitats. Participate in surveys within suitable habitats, and map new populations as found. c) Following current monitoring protocols, cooperate in monitoring MacFarlane's four-o'clock and Spalding's catchfly population trends and habitat conditions. d) Cooperate in the management of high-priority habitat areas and populations to promote species recovery.	The implementation actions reflect BLM's commitment to support species recovery and meet ESA objectives. Actions apply to BLM lands and activities only. Habitat terms used throughout this document are defined in **Appendix S**: Species-Specific Habitat Definitions. 1) Following actions to be completed in cooperation with others: a) Cooperate in the development of interagency inventory methods and data standards for mapping or database management. 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) 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. If funding permits, the CFO will target a systematic	1) As stated below: a) CFO, in coordination with Conservation Data Center, USFWS, and other partners b) CFO, in coordination with Conservation Data Center and USFWS (all actions) c) CFO d) CFO in coordination with USFWS. e) CFO in coordination with Conservation Data Center and USFWS. f) CFO and State Office g) Responsibilities: i) CFO and USFWS ii) CFO h) CFO in coordination with and USFWS

Table V-6
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
	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. f) Support seed banks in a long-term seed storage facility. 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. 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.	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) Conduct regular monitoring of populations on BLM lands. d) Update or develop areas of critical environmental concern (ACEC) plans or other implementation-level plans as needed. e) BLM will participate as funding allows. f) As needed, provide funding to a suitable repository to support a seed bank. g) BMPs: i) Coordinate development of BMPs with CFO and USFWS.	

Table V-6
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
		ii) CFO to implement BMPs. h) Maintain and conserve the population of MacFarlane's four-o'clock (BLM transplants) at Lucile Caves (designated RNA/ACEC), 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.	
	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 recovery. c) Where needed, complete Section 7 consultation for ongoing activities that may affect this species and its habitat.	2) CFO (all actions)

Table V-6
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
	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) Responsibilities: a) CFO b) CFO c) CFO
	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
Soil and Water Resources: Riparian/Wetland	1) Activities within the **Soil and Water Resources: Riparian/Wetlands Areas (includes weed management)** program will	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the	1) CFO

Table V-6
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
Areas (includes weed management)	implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote recovery.	beginning of this table.	
	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 conservation and recovery and minimize risks	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 V-6
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
	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 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
Forest and Woodland Management and	1) Activities within the **Forest and Woodland Management (includes weed management)**	1) Apply relevant conservation measures from the **Special Status Animal and Plant**	1) CFO

Table V-6
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 Products (includes weed management)	program will implement relevant conservation measures as described in **Special Status Animal and Plant Management** program section to promote recovery.	**Management** program section at the beginning of this table.	
	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 V-6
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 minimum impact suppression tactics (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	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table V-6
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
	promote recovery.		
	2) Implement projects involving the application of pesticides in accordance with the approach described in **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 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

Table V-6
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
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 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	2) CFO

Table V-6
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
		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.	
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
	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

Table V-6
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
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 guidelines (S&Gs).	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 occurrence information is available for S&G 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.	2) CFO
	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

Table V-6
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
	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-o'clock and Spalding's catchfly habitat while implementing rangeland health S&Gs.	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 in high-priority habitat areas.	2) CFO
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	2) Approval of plans of operations and notice-level operations:	2) CFO

Table V-6
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 conservation and recovery. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.	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 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.	

Table V-6
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
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 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.	2) CFO
Recreation Management	1) Activities within the **Recreation 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 V-6
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.		
	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 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 high-priority habitat areas 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	4) Issuance and review of existing and new permits:	

Table V-6
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
	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.	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, off-highway vehicle (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 in and adjacent to high-	2) CFO (all actions)

Table V-6
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
		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 V-6
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	2) CFO

Table V-6
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
		the permit that support or do not preclude species recovery 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

Table V-6
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
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 V-7
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 BLM's commitment to support species conservation. 1) In cooperation with Idaho Department of Fish and Game (IDFG), Tribes, U.S. Fish and Wildlife Service (USFWS), and others: a) Continue to cooperate in determining the distribution of populations and suitable habitats.	The implementation actions reflect BLM's commitment to support species recovery and meet ESA objectives. Actions apply to BLM lands and activities only. Habitat terms used throughout this document are defined in **Appendix S**: Species-Specific Habitat Definitions. 1) Following actions to be completed in cooperation with others: a) Mapping and data inventory:	1) As stated below: a) CFO, in coordination with Idaho Department of Fish and Game regional office. State Office support for mapping as needed. b) CFO in coordination with Idaho Department of Fish and Game and USFWS.

Table V-7
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
	b) Following current monitoring protocols, continue to cooperate in monitoring for species presence on a regular basis. c) Participate in research essential to conservation of the species. Cooperate in determining specific limiting factors in terms of habitat needs and characteristics. d) Cooperate in the management and improvement of suitable habitat to promote species conservation. 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.	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. 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. c) BLM will participate as funding allows. d) Where appropriate, update or develop management plans for suitable habitat, particularly in areas with known populations, as well as in restoration areas. e) BMPs: i) CFO will coordinate with USFWS, Idaho Department of Fish and Game, and State Office in the development of BMPs..	c) CFO in coordination with USFWS and Idaho Department of Fish and Game. d) CFO, with support from State Office e) Responsibilities: i) State Office, District Office, and CFO with USFWS and Idaho Department of Fish and Game. ii) CFO

Table V-7
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
		ii) CFO to implement BMPs.	
	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 potential to disturb or displace known populations of cuckoos during the breeding season (May through September).	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	4) CFO

Table V-7
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
		objectives are met.	
	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 applications will support conservation 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	2) CFO in consultation with USFWS (all actions)

Table V-7
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
		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 activities are consistent with the long-term maintenance of suitable habitat and	4) CFO (all actions)

Table V-7
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
		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	2) See **Soil and Water Resources: Riparian/Wetland Areas (includes weed management)** program section.	2) CFO

Table V-7
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
	and implemented in accordance with the 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 C** (Conservation and Restoration Watersheds) and **Appendix F** (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	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the	1) CFO

Table V-7
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
	the **Special Status Animal and Plant Management** program section to promote **conservation**. Human life and firefighter safety and property take priority over species protection.	beginning of this table.	
	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 minimum impact suppression tactics (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	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) CFO

Table V-7
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 conservation.		
	2) Implement Emergency Stabilization and Rehabilitation (ES&R) activities to promote yellow-billed cuckoo habitat rehabilitation.	2) ES&R activities: a) If needed and if natural recovery would not achieve habitat objectives, implement ES&R 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.	2) CFO (all actions)
	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-	2) When developing wildland fire use plans, avoid burning suitable habitat, and develop	2) FMO and CFO

Table V-7
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
	billed cuckoo habitat.	appropriate burn prescriptions that maximize the conservation of suitable habitat for yellow-billed cuckoo.	
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

Table V-7
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
	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
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

Table V-7
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
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 promote suitable habitat and restore areas for the yellow-billed cuckoo while implementing rangeland health standards and guidelines (S&Gs).	2) Permit or lease renewal actions: a) For review of ongoing actions, **see Special Status Animal and Plant Management** program section item (2). 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.	2) CFO (all actions)
	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	1) Activities within the **Livestock Grazing Management: Livestock Management Facilities** program will implement relevant	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the	1) CFO

Table V-7
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
Facilities	conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	beginning of this table.	
	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 S&Gs.	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
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	2) CFO (all actions)

Table V-7
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
		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 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

Table V-7
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
	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)
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	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	2) CFO (all actions)

Table V-7
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 resulting from human uses.	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.	
	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 species and 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 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	4) CFO (all actions)

Table V-7
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, 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, off-highway vehicle (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). 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	2) CFO (all actions)

Table V-7
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
		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 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

Table V-7
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
	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 proposed activities, and	2) CFO

Table V-7
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
		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

Table V-7
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
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 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) 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 W

APPENDIX W—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 non-native 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 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 (15-20 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 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° 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 less than 12° C;
- Bull trout spawning temperature is 4 to 9° C; and
- Bull trout egg incubation 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% C channels (e.g., pool tails); spawning gravels surface fines < 5% A and B channels; spawning gravel fines by depth, < 25%; or cobble embeddedness less than 30% 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% for A and B and E channel types; greater than 90% for C channel types within 80% 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% (good and excellent ecological condition). Over 75% 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 W-1** below.

AQUATIC SPECIES

Desired Conditions

Native and desired non-native aquatic species (fish, amphibians, invertebrates, plants and other aquatic-associated species) are present and generally well distributed in historically occupied habitats, when the majority of the watershed is in federal ownership. In some watersheds where the majority of lands are private, species may not be well distributed in historically occupied habitats. Stronghold populations continue to thrive and expand into neighboring unoccupied habitats and depressed populations increase in numbers. Native aquatic animals exhibit genetic integrity and life history strategies necessary to assure 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 non-native 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, non-native 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, 3) not properly functioning to rankings of 1) high, 2) moderate, 3) low indicators of habitat condition. 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-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 (below) identifies a rating of environmental baseline conditions.

The order of the pathways was revised. 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 W-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%**. Over 75% 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%.** 50-75% 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% or less**. Less than 50% 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 W-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]
Watershed Condition *(continued)*	Water Yield[3] (ECA)	**<15%** ECA (entire watershed), and all subwatersheds (6th code HUC) **<15%** ECA and **low concentration** of disturbance in landslide prone, streamside, or 0-1 order headwater areas.	**15-20%** ECA (entire watershed), or one or more subwatersheds **15-30%** ECA or **concentration** of disturbance in landslide prone, streamside, or 0-1 order headwater areas.	**>20%** ECA (entire watershed), or one or more subwatersheds **>30%** ECA and/or **concentration** of disturbance in landslide prone, streamside, or 0-1 order headwater areas.
	Sediment Yield Clearwater NF[4]	A channels <=**100%** B channels <=**45%** C channels <=**35%**	A channels <=**100%, <=110%** B channels <=**45%, <=55%** C channels <=**35%, <=50%**	A channels **>110%** B channels **>55%** C channels **>50%**
	Sediment Yield Nez Perce NF[5]	Current chronic sediment yield **<=5%** over natural base.	Current chronic sediment yield **6-15%** over natural base.	Current chronic sediment yield **>15%** over natural base.
Channel Conditions & 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**
	Streambank Stability	A & B ct's **>95%** C ct's **>90%** E ct's **= 100%**	A & B ct's **90-95%** C ct's **80-90%** E ct's **95-100%**	A & B ct's <**90%** C ct's **<80%** E ct's **<95%**

Table W-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]
Channel Conditions & Dynamics *(continued)*	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 channeltype 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 (14 degrees Celsius)	**57-60** degrees Fahrenheit (14-15.5 degrees Celsius)	**>60** degrees Fahrenheit (15.5 degrees Celsius)
	Temperature (Steelhead) - Rearing & Migration[8]	**<57** degrees Fahrenheit (14 degrees Celsius)	**57-6**4degrees Fahrenheit (14-17.8 degrees Celsius)	**>64** degrees Fahrenheit (17.8 degrees Celsius)
	Temperature (Bull Trout)[9]	7-day average maximum temperature in a reach during the following life history stages: incubation = 2 - 5 degrees Celsius rearing = 4 - 12 degrees Celsius spawning = 4 - 9 degrees Celsius Also temperatures do not exceed 15 degree 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 degrees Celsius rearing = <4 or 13-15 degrees Celsius spawning = <4 or 10 degrees Celsius Also temperatures in areas used by adults during migration sometimes exceeds 15 degrees Celsius.	7-day average maximum temperature in a reach during the following life history stages: incubation = <1 or >6 degrees Celsius rearing = >15 degrees Celsius spawning = <4 or >10 degrees Celsius Also temperatures in areas used by adults during migration regularly exceed 15 degrees Celsius (thermal barriers present).

Table W-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 Quality *(continued)*	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.
	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%**	**20-30%**	**>30%**
	Percent Surface Fines (<= 6 mm)	**A & B CT's <= 10%** **C & E CT's <= 20%**	**A & B CT's = 11-20%** **C & E CT's = 21-30%**	**A & B CT's >= 21%** **C & E CT's >= 31%**
	Percent Fines by Depth (<= 6 mm)[12]	**<20%**	**20-25%**	**>25%**

Table W-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]
Habitat Elements *(continued)*	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.
	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 CT's)	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).

Table W-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]
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**.
	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 (5 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 (5 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 W-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]
Subpopulation Characteristics (continued)	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 (5 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 W-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 (5 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 (5 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 (5 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 NF, and Nez Perce NF, 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 7-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 catagories 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]

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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 Cond. & 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						
Pool Quality						

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