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

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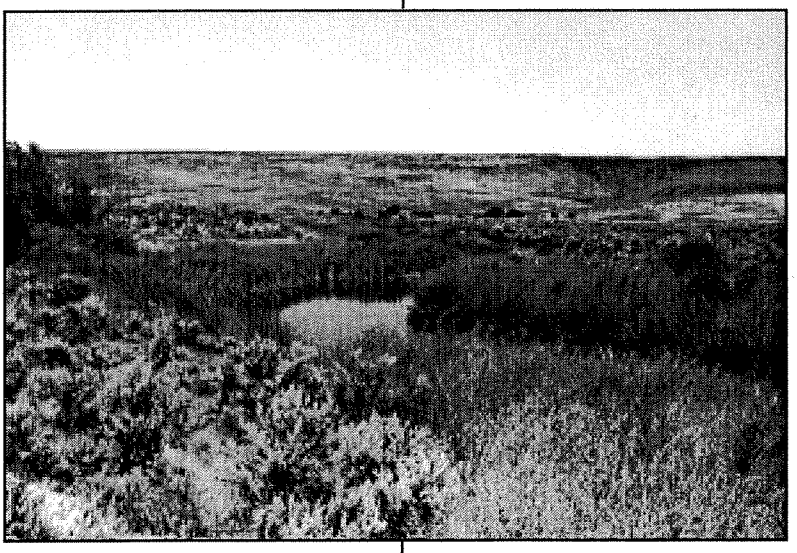


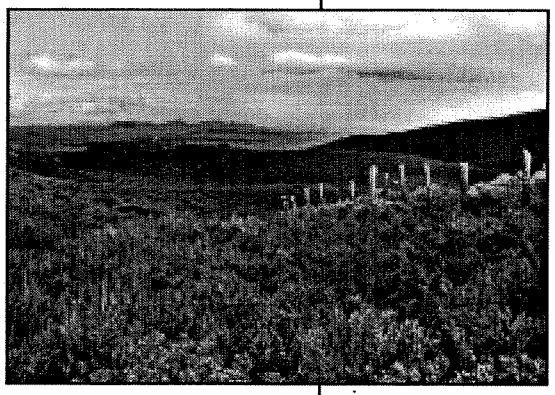
Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management

FINAL

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

August 1997

Dear Reader,



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

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

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

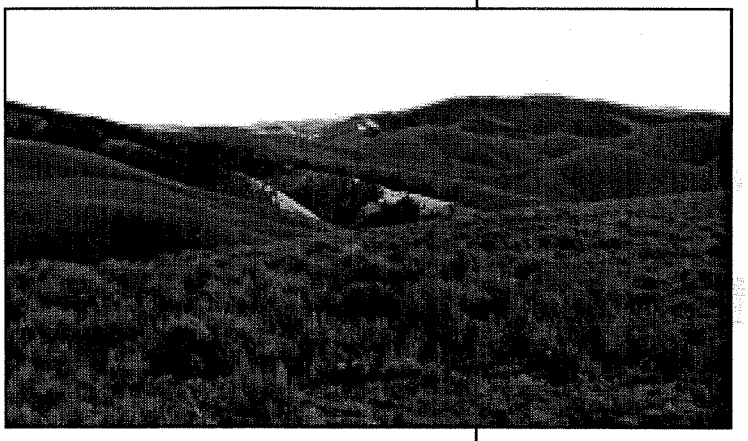
Now, we turn our attention away from developing standards and guidelines to implementing them. We are currently in the process of developing a strategy to prioritize our livestock grazing allotments and evaluate them to determine if standards and guidelines are being met or if significant progress towards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

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

Sincerely,

Martha J. Hahn

Martha Hahn
BLM Idaho State Director



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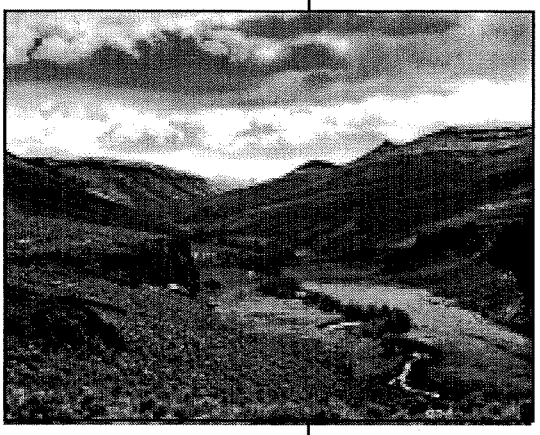


Standards for Rangeland Health

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

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

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

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

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

STANDARD 1 (WATERSHEDS)

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

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

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

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

STANDARD 2 (RIPARIAN AREAS AND WETLANDS)

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

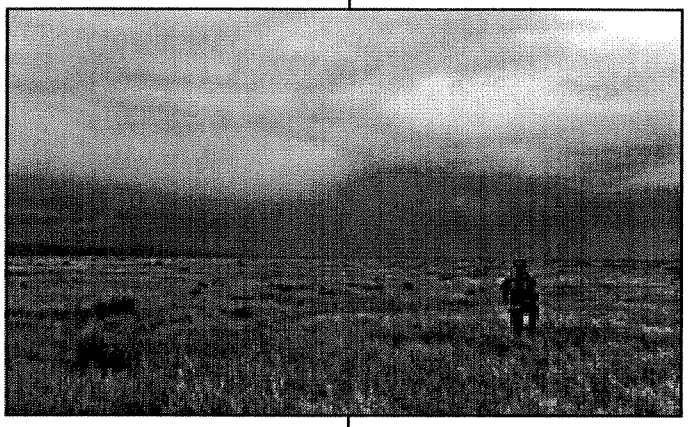
Indicators may include, but are not limited to, the following:

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

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

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

4. Noxious weeds are not increasing.



STANDARD 3 (STREAM CHANNEL/FLOODPLAIN)

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

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

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

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

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

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

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

6. Noxious weeds are not increasing.

STANDARD 4 (NATIVE PLANT COMMUNITIES)

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

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

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

2. The diversity of native species is maintained.

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

4. Noxious weeds are not increasing.

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

STANDARD 5 (SEEDINGS)

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

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

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

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

3. Noxious weeds are not increasing.

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

STANDARD 6 (EXOTIC PLANT COMMUNITIES, OTHER THAN SEEDINGS)

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

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

1. Noxious weeds are not increasing.

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

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

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

STANDARD 7 (WATER QUALITY)

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

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

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

STANDARD 8 (THREATENED AND ENDANGERED PLANTS AND ANIMALS)

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

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

1. Parameters described in the Idaho Water Quality Standards.

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

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

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

5. The diversity of native species is maintained.

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

7. Noxious weeds are not increasing.

Guidelines for Livestock Grazing Management

INTRODUCTION

Guidelines direct the selection of grazing management practices, and where appropriate, livestock management facilities to promote significant progress toward, or the attainment and maintenance of, the standards. Grazing management practices are livestock management techniques. They include the manipulation of season, duration (time), and intensity of use, as well as numbers, distribution, and kind of livestock. Livestock management facilities are structures such as fences, corrals, and water developments (ponds, springs, pipelines, troughs, etc.) used to facilitate the application of grazing management practices. Livestock grazing management practices and guidelines will be consistent with the Idaho Agricultural Pollution Abatement Plan.

Grazing management practices and facilities are implemented locally, usually on an allotment or watershed basis. Grazing management programs are based on a combination of appropriate grazing management practices and facilities developed through consultation, coordination, and cooperation with the Bureau of Land Management, permittees, other agencies, Indian tribes, and interested publics.

These guidelines were prepared under the assumption that regulations and policies regarding grazing on the public lands will be implemented and will be adhered to by the grazing permittees and agency personnel. Anything not covered in these guidelines will be addressed by existing laws, regulations, Indian treaties, and policies.

The BLM will identify and document within the local watershed all impacts that affect the ability to meet the standards. If a standard is not being met due to livestock grazing, then allotment management will be adjusted unless it can be demonstrated that significant progress toward the standard is being achieved. This applies to all subsequent guidelines.

GUIDELINES

1. Use grazing management practices and/or facilities to maintain or promote significant progress toward adequate amounts of ground cover (determined on an ecological site basis) to support infiltration, maintain soil moisture storage, and stabilize soils.

2. Locate livestock management facilities away from riparian areas wherever they conflict with achieving or maintaining riparian-wetland functions.

3. Use grazing management practices and/or facilities to maintain or promote soil conditions that support water infiltration, plant vigor, and permeability rates and minimize soil compaction appropriate to site potential.

4. Implement grazing management practices that provide periodic rest or deferment during critical growth stages to allow sufficient regrowth to achieve and maintain healthy, properly functioning conditions, including good plant vigor and adequate vegetative cover appropriate to site potential.

5. Maintain or promote grazing management practices that provide sufficient residual vegetation to improve, restore, or maintain healthy riparian-wetland functions and structure for energy dissipation, sediment capture, ground water recharge, streambank stability, and wildlife habitat appropriate to site potential.

6. The development of springs, seeps, or other projects affecting water and associated resources shall be designed to protect the ecological functions, wildlife habitat, and significant cultural and historical/archaeological/paleontological values associated with the water source.

7. Apply grazing management practices to maintain, promote, or progress toward appropriate stream channel and streambank morphology and functions. Adverse impacts due to livestock grazing will be addressed.

8. Apply grazing management practices that maintain or promote the interaction of the hydrologic cycle, nutrient cycle, and energy flow that will support the appropriate types and amounts of soil organisms, plants, and animals appropriate to soil type, climate, and landform.

9. Apply grazing management practices to maintain adequate plant vigor for seed production, seed dispersal, and seedling survival of desired species relative to soil type, climate, and landform.

10. Implement grazing management practices and/or facilities that provide for complying with the Idaho Water Quality Standards.

11. Use grazing management practices developed in recovery plans, conservation agreements, and Endangered Species Act, Section 7 consultations to maintain or improve habitat for federally listed threatened, endangered, and sensitive plants and animals.

12. Apply grazing management practices and/or facilities that maintain or promote the physical and biological conditions necessary to sustain native plant populations and wildlife habitats in native plant communities.

13. On areas seeded predominantly with non-native plants, use grazing management practices to maintain or promote the physical and biological conditions to achieve healthy rangelands.

14. Where native communities exist, the conversion to exotic communities after disturbance will be minimized. Native species are emphasized for rehabilitating disturbed rangelands. Evaluate whether native plants are adapted, available, and able to compete with weeds or seeded exotics.

15. Use non-native plant species for rehabilitation only in those situations where:

a. native species are not readily available in sufficient quantities;

b. native plant species cannot maintain or achieve the standards; or

c. non-native plant species provide for management and protection of native rangelands.

Include a diversity of appropriate grasses, forbs, and shrubs in rehabilitation efforts.

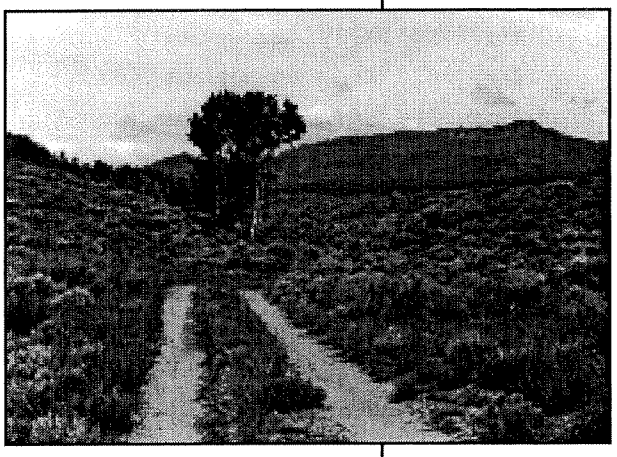
16. On burned areas, allow natural regeneration when it is determined that populations of native perennial shrubs, grasses, and forbs are sufficient to revegetate the site. Rest burned or rehabilitated areas to allow recovery or establishment of perennial plant species.

17. Carefully consider the effects of new management facilities (e.g., water developments, fences) on healthy and properly functioning rangelands prior to implementation.

18. Use grazing management practices, where feasible, for wildfire control and to reduce the spread of targeted undesirable plants (e.g., cheatgrass, medusa head, wildrye, and noxious weeds) while enhancing vigor and abundance of desirable native or seeded species.

19. Employ grazing management practices that promote natural forest regeneration and protect reforestation projects until the Idaho Forest Practices Act requirements for timber stand replacement are met.

20. Design management fences to minimize adverse impacts, such as habitat fragmentation, to maintain habitat integrity and connectivity for native plants and animals.



Glossary

ACCELERATED EROSION — Soil loss at a rate in excess of natural or geologic erosion as a result of human-caused disturbance.

AGE CLASS — A classification of woody plant species according to relative age, e.g., seedling, young, mature, or decadent.

ALLOTMENT MANAGEMENT PLAN — A documented program which applies to livestock grazing on public lands, prepared by consulting, cooperating, and coordinating with the permittee(s), lessee(s), or other interested publics.

ANIMAL HABITAT —T he place and environment where an animal lives including all biotic, climatic, and edaphic factors.

BEST MANAGEMENT PRACTICE (BMP) — A component practice or combination of component practices determined to be the most effective, practicable means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals. (Idaho Agricultural Pollution Abatement Plan, August 1993)

COMPONENT PRACTICES — Approved practices, used alone or in combination with other practices, are used to develop BMPs. (Idaho Agricultural Pollution Abatement Plan, August 1993)

CONNECTIVITY — The state of being functionally connected by movement of organisms, material, or energy. The opposite of habitat fragmentation.

CONSULTATION, COORDINATION, AND COOPERATION — A process prescribed by the Public Rangelands Improvement Act of involving the permittee(s), lessee(s), federally recognized Indian tribes, and interested publics in the development of allotment management plans and other management programs on public lands. The process also includes trust responsibilities to Federally recognized Indian tribes.

COLLABORATION —T o work jointly with others.

COVER — (See Ground Cover)

DEFERMENT — Nongrazing, either by delay or discontinuance of grazing, from the beginning of plant growth until the seed is set or the equivalent stage of vegetative reproduction.

DIVERSITY — (1) The absolute number of species in a community, species richness; and (2) a measure of the number of species and their relative abundance in a community; low diversity refers to few species or unequal abundances, high diversity to many species or equal abundances.

ECOLOGICAL SITES — A kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce distinctive kinds and amounts of vegetation and its response to management. Ecological site is synonymous with range site and ecological type.

ENERGY FLOW — The capture of sunlight energy by plants and the conversion through photosynthesis to biomass.

EXOTIC PLANT COMMUNITIES, OTHER THAN SEEDINGS — Assemblages of plants that are not indigenous to the area, such as cheatgrass, yellow star thistle, and medusa head rye.

FRAGMENTATION — The process of dividing habitats into smaller and smaller units until their utility as habitat is lost.

GRAZING MANAGEMENT PRACTICES — Techniques used to manage livestock and include season, duration (amount of the time grazing occurs), intensity of use, numbers of livestock, kind of livestock, and distribution (e.g., salting, herding, and water development).

GRAZING PLAN OR PROGRAM — A combination of grazing management and/or facilities used to ensure an expectation of meeting or making significant progress toward meeting the Standards for Rangeland Health.

GROUND COVER — The percentage of material, other than bare ground, covering the land surface. It may include live and standing dead vegetation, microbiotic crust, litter, cobble, gravel, stones, and bedrock. Ground cover, plus bare ground, totals 100 percent.

HUMAN ACTIVITIES — Any activity that is initiated or controlled by people, such as recreation, timber harvest, livestock grazing, road and other construction, and mining.

HYDROLOGIC CYCLE — The circulation of water in the atmosphere, on the surface of the earth, in the soil, and in the underlying rocks.

INDIAN TREATY — A contract in writing between the United States Government and Indian tribes formally signed by duly authorized representatives and ratified by the United States Senate.

INDICATOR — Components or attributes of a rangeland ecosystem that can be observed and/or measured that provides evidence of the function, productivity, health and/or condition of the ecosystem.

INFILTRATION — A soil, as influenced by soil texture, aspect, slope, and vegetation cover.

LANDFORM — A naturally formed element of the landscape that controls or influences hydrologic, physical, and ecological processes.

LANDSCAPE — Landform of a region in aggregate.

LAND USE PLAN — Land use plan means a resource management plan or management framework plan, developed under the provisions of 43 CFR 1600. These plans are developed through public participation in accordance with the provisions of the Federal Land Policy and Management Act of 1976 and establish management direction for resource uses of public lands. (43 CFR 4100)

LIFE FORM — Characteristic form or appearance of a plant species at maturity, e.g., tree, shrub, forb, grass, etc.

LITTER — Dead plant or animal material on the soil surface.

LIVESTOCK MANAGEMENT FACILITIES — Physical facilities, such as fences, water developments, and corrals that are used to handle and control livestock.

MICROBIOTIC CRUST — Community of non-vascular primary producers that occur as a "crust" on the surface of soils and made up of a mixture of algae, lichens, mosses, and cyanobacteria (bluegreen algae).

MONITORING — The orderly collection, analysis, and interpretation of resource data and information to evaluate progress toward meeting Standards for Rangeland Health and/or management objectives.

MULTIPLE USE — The definition of multiple use is defined in the Federal Policy and Management Act of 1976 as follows:

"The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resource or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform with changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historic values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of the uses that will give the greatest economic return or the greatest output."

NATIVE SPECIES — Plants or animals indigenous to the area.

NON-NATIVE SPECIES — Plants or animals that are not indigenous to the area.

NOXIOUS WEEDS — Exotic plants that are listed by the State of Idaho and subject to Idaho weed control laws.

NUTRIENT CYCLE — The cyclical process by which plants and animals use chemical compounds and elements in the soil, water, and atmosphere to produce plants and animals and the decomposition of plants and animals to return chemical compounds and elements to the soil, water, and air for future use.

PRODUCTIVITY — The ability of a site to produce vegetation.

PROPER FUNCTIONING CONDITION (RIPARIAN) —
"Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid floodplain development; improve floodwater retention and ground-water recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity."

USDI. 1993, Revised 1995. Riparian Area Management, Process for Assessing Proper Functioning Condition, Technical Report 1737-9, p. 4. Bureau of Land Management, BLM/SC/ST-93/003+1737+REV95, Service Center, CO. 51 pp.

USDI. 1994. Riparian Area Management, Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas. Technical report 1737-11. Bureau of Land Management, BLM/SC/ST-94/008+1737, Service Center, CO. 37 pp.

RANGELAND — A kind of land on which the native vegetation is predominately grasses, grass- like plants, forbs, or shrubs. Rangelands include natural grasslands, savannas, shrublands, most deserts, alpine communities, riparian areas, and wet meadows.

RANGELAND CONDITION — The present status of a unit in terms of specific values or potential.

RANGELAND HEALTH — The degree to which the integrity of the soil and ecological processes of rangeland ecosystems is maintained.

National Research Council. 1994. Rangeland Health: New Methods to Classify, Inventory and Monitor Rangelands.

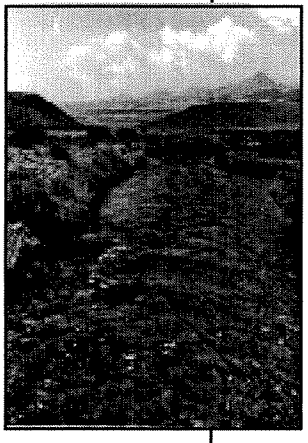
RESIDUAL VEGETATION — Amount, cover, and species composition of the vegetation on a site after it has been grazed for a period of time.

REST — Nongrazing for a specified period of time, generally a full growing season up to a full year.

RIPARIAN AREAS — A form of wetland transition between permanently saturated wetlands and uplands. The areas exhibit vegetation or physical characteristics that reflect permanent surface or subsurface water influence. Typical riparian areas include such areas as lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers, streams, glacial potholes, and shores of lakes and reservoirs with stable water levels. Riparian areas do not include ephemeral (permanently above the water table and flows only during or immediately after a rainstorm or snowmelt) streams that do not exhibit the presence of vegetation dependent upon free water in the soil. (Bureau of Land Management Technical Reference TR 1737-9 and 11)

SENSITIVE PLANTS AND ANIMALS — Plants and animals listed by the Bureau of Land Management State Directors.

SIGNIFICANT PROGRESS — Measurable and/or observable (i.e., photography, use of approved qualitative procedures) changes in the indicators that demonstrate improved rangeland health.



SPATIAL SCALE — The relative size of an area under consideration. For example, a small scale is a site, a mid-scale is a watershed, and a large scale is a basin.

SPECIAL STATUS SPECIES — Plant and animal species that are federally listed as threatened or endangered, proposed threatened or endangered, candidate species, State listed as threatened or endangered, or listed by a Bureau of Land Management State Director as sensitive.

SUSTAINED PRODUCTIVITY OF THE RANGE — Maintaining the production capability of the rangeland for long periods of time (100 years +).

TREND — The direction of change in ecological status or resource value rating observed over time.

USE — Human activities (e.g., mining, forestry, livestock grazing, vegetation manipulation, road construction and maintenance, other construction and maintenance activities, wild horses, recreation, habitat manipulation, and management facility construction and maintenance).

WATERSHED — An area that collects and discharges runoff to a given point. It is often used synonymously with drainage basin or catchment.

WETLAND — Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Typical wetlands include marshes, shallow swamps, sloughs, lake shores, bogs, wet meadows, and riparian areas. (Bureau of Land Management Technical Reference TR 1737-9 and 11)

APPENDIX B—BEST MANAGEMENT PRACTICES—ALTERNATIVES B, C, AND D

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

ROAD PLANNING—DESIGN AND LOCATION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MINOR ROAD CONSTRUCTION

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

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

3) Fuel storage and fueling of equipment will not occur within streamside RHCAS.

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

~~5)Implement erosion and sediment control measures as necessary to prevent sediment from reaching water bodies. Such measures may include sediment fences, sediment traps, mulch, seeding, and placement of woody debris and slash.~~

ROAD CONSTRUCTION

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

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

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

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

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

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

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

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

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

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

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

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

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

ROAD DRAINAGE

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

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

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

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

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

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

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

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

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

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

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

12) Design roads for minimal disruption of drainage patterns.

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

ROAD MAINTENANCE

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

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

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

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

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

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

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

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

ROAD MAINTENANCE PRECAUTIONS

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

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

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

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

SNOW REMOVAL

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

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

3) Sidecast material will not include dirt and gravel.

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

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

TIMBER HARVESTING

1) Stabilize or reclaim landings and temporary roads on completion of use. Landings and temporary roads should be deep ripped a minimum of 18 inches to improve site productivity, infiltration, and reduce overland flow. Preferred seed mixes would include native species and if needed annual rye (or similar species) to provide for faster establishment of ground cover. Sites should have a light layer of mulch to prevent erosion. Placement of woody debris and slash (generally 1 to 12 inches in diameter) should be placed over approximately 50 percent of the site.

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

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

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

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

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

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

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

Introduction

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

Context and Background

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

BLM as the management agencies for implementing BMPs on lands they manage to ensure that water quality standards are met.

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

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

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

BEST MANAGEMENT PRACTICES

Watershed Management Planning

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

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

3) Avoid destruction of wetlands.

4) Prevent contamination from accidental spills.

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

    - A Spill Prevention Control and Countermeasures (SPCC) Plan is required if the total amount of oil products on site in above-ground storage exceeds 1320 gallons, or if a single container exceeds a capacity of 660 gallons.

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

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

7) Minimize the amount of erosion and sedimentation at developed sites. (Source: General Water Quality Best Management Practices, Pacific Northwest Region, November 1988.)

8) Take active measures, if necessary, to avoid any activity within 300 yards of a spring used as a source of drinking water. (Source: US EPA Region 10 recommendations.)

Hardrock Mining

Concern for: Surface water, groundwater

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

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

Two documents available on the US EPA Region 10 website provide detailed information that should be reviewed when addressing mining issues:

US EPA and Hardrock Mining: A Source Book for Industry in the Northwest and Alaska, US EPA Region 10, January 2003 http://yosemite.epa.gov/r10/water.nsf/59f3b8c4fc8c923988256b580060f5d9/e4ba15715e97ef2188256d2c00783a8e!OpenDocument

Inactive Mine Site Characterization and Cleanup Handbook, US EPA 910-8-00-001, US EPA, August 2000 http://yosemite.epa.gov/R10/CLEANUP.NSF/9f3c21896330b4898825687b007a0f33/f4724f10ccdc2f4d8825699a007861dd?OpenDocument

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

Grazing

Concern for: Surface water

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

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

Best Management Practices:

1) Manage the timing and intensity of grazing to:

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

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

3) The exclusion of cattle from areas where cryptosporidium may be a concern (such as Source Water Areas) should be considered. If this is not feasible, livestock younger than four months should be kept out of the watershed, because calves have not yet developed resistance, and shed greater numbers of oocysts than older animals. (Source: Drinking Water from Forests and Grasslands: A Synthesis of Scientific Literature, United States Department of Agriculture Forest Service, General Technical Report SRS-39, September 2000, pp. 153-156.)

4) Locate new livestock handling and/or management facilities outside Riparian Reserves. For existing livestock handling facilities inside the Riparian Reserve, ensure that Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met, require relocation or removal of such facilities. (Source: Aquatic Conservation Strategy, Attachment A to the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within Range of the Northern Spotted Owl, pp. C-33.)

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

6) Construct fences or other barriers to keep livestock out of sensitive areas where loss of vegetative cover, soil compaction, or riparian impairment could adversely impact water quality. (Source: General Water Quality Best Management Practices, Pacific Northwest Region, US Forest Service, November 1988.)

Landfills

Concern for: Groundwater, surface water

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

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

Best Management Practices:

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

2) For historic landfills located in source water protection areas, examine existing data to determine whether they may pose a threat to the drinking water source. If a landfill may pose a threat, collect additional data to determine whether it does. If it does, plan and implement appropriate mitigative action. (Source: US EPA Region 10 recommendations.)

Recreation Sites

Concern for: Groundwater, surface water

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

Best Management Practices:

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

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

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

4) Avoid degradation of water quality by locating pack and riding stock facilities at safe locations away from springs, streams, lakes, wet meadows, and other surface waters. (Source: General Water Quality Best Management Practices, Pacific Northwest Region, Forest Service, November 1988.)

5) RV sewage waste should not be disposed of in septic system drainfields given the potential for chemicals in the sewage waste to kill the microorganisms that drainfields need to function. (Source: US EPA Region 10 recommendation.)

Timber Management

Concern for: Surface water

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

Best Management Practices:

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

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

3) Minimize site disturbance.

4) Reestablish vegetation as soon as practicable.

5) Keep pesticides and fertilizers out of surface waters. (Source: Drinking Water from Forests and Grasslands: A Synthesis of Scientific Literature, United States Department of Agriculture Forest Service, General Technical Report SRS-39, September 2000, pp. 108-113.)

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

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

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

9) Prevent pollutants such as fuels, lubricants, bitumens, raw sewage, wash water and other harmful materials from being discharged into or near rivers, streams, and impoundments or into natural or man-made channels leading thereto. (Source: General Water Quality Best Management Practices, Pacific Northwest Region, Forest Service, November 1988.)

Fire Management

Concern for: Surface water

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

Forest Service Emerging Contaminant: fire retardant.

Best Management Practices:

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

2) Utilize Burn Area Emergency Rehabilitation in appropriate circumstances.

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

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

   - installing water bars and other drainage diversions in fire roads, fire lines, and other cleared areas;
   - seeding, planting and fertilizing to provide vegetative cover;
   - spreading slash or mulch to protect bare soil;
   - repairing damaged road drainage facilities;
   - clearing stream channels of structures or debris that is deposited by suppression activities;
   - installing log erosion barriers (contour-felled and anchored trees);
   - installing channel stabilization structures;
   - installing trash racks above road drainage structures; and
   - installing debris-retention structures.

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

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

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

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

Pesticides

Concern for: Groundwater, surface water

Contaminants: Organic and inorganic chemicals

Best Management Practices:

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

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

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

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

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

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

7) Dispose of containers properly; recycle if possible. (Sources: Drinking Water Academy, Managing Large-Scale Application of Pesticides to Prevent Contamination of Drinking Water, EPA-916-F-01-030, July 2001, and WAC Chapter 222-38.)

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

9) Consider alternatives to pesticide and herbicide use including biological controls, prescribed fire, mechanical treatments, and silvicultural management systems which minimize or eliminate the need for chemical use (uneven aged management, single and group tree selection, etc.). (Source: US EPA Region 10 recommendations.)

Fertilizers

Concern for: Groundwater, surface water

Contaminants: Nitrogen and phosphorous, and other nutrients.

Best Management Practices:

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

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

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

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

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

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

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

Underground Injection Control Class V (Shallow) Wells

Underground injection control Class V wells are shallow subsurface fluid distribution systems that are designed to place fluids directly below the ground surface. Examples of Class V wells include septic system drainfields, storm water wells, drywells, industrial or commercial disposal wells, aquifer remediation wells, abandoned drinking water wells. Ditches and trenches may be classified as underground injection control wells. Hazardous waste injection through shallow wells is prohibited.

Concern for: Groundwater

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

Best Management Practices:

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

Septic Systems

Concern for: Groundwater

Contaminants: Nitrates, bacteria, viruses, septage

Best Management Practices:

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

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

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

4) Design should be completed by a licensed engineer.

5) Proper operation and maintenance are imperative.

6) Pump septic tanks every two to five years.

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

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

Abandoned Wells

Concern for: Groundwater

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

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

Best Management Practices:

1) Survey property to locate wells.

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

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

Parking Lots

Concern for: Groundwater, surface water

Contaminants: Oil, gasoline, automotive fluids.

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

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

Best Management Practices:

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

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

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

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

Aboveground Storage Tanks

Concern for: Surface water

Contaminants: Petroleum hydrocarbons, heating oil, other chemicals.

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

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

Best Management Practices:

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

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

3) Tanks should be protected from corrosion.

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

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

Source: New Mexico Environment Department Aboveground Storage Tank Program.

Underground Storage Tanks

Concern for: Groundwater, downgradient surface water

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

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

APPENDIX C—CONSERVATION AND RESTORATION WATERSHEDS—ALTERNATIVES B, C, AND D

INTRODUCTION

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

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

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

CONSERVATION WATERSHEDS

Conservation ~~sub~~watersheds have ~~watershed~~ processes and functions that occur in a relatively undisturbed and natural landscape setting. Hydrologic function, such as sediment amounts and stream flow regimes resulting from disturbance, are within a natural range of frequency, duration, and intensity. Waters are meeting designated or existing beneficial uses. Land uses and human

activities do not strongly influence aquatic and hydrologic functions, as indicated by low road density and few stream crossings. Examples of conservation areas typically include wilderness, roadless, and undeveloped ~~sub~~watersheds. However, conservation ~~areas~~watersheds may contain areas that have limited land uses, while maintaining natural processes.

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

RESTORATION WATERSHEDS

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

Active management may be required to restore the physical and biological function to their natural range of frequency, duration, and intensity. Identifying and assessing the adverse impacts on habitat will allow managers to focus restoration efforts in the most cost-effective manner to achieve hydrologic and biological recovery. This implies that there is a range of treatment intensities and desired landscape responses and not all impacts need be treated to achieve goals. ~~Within some watersheds, BLM management options for implementation of active restoration measures may be limited. Land uses (active or passive) on BLM lands that minimize or avoid adverse effects and does not delay achievement of desired conditions in the long term would support restoration. Decisionmaker discretion would balance short-term risks (to aquatic and other resources) with long-term benefits for multiple resources as actions are considered to move toward natural variability of conditions.~~

~~Vegetation management or land disturbing activities may occur in the same time frame (within 5 years) of 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.~~

PRIORITY RANKING FOR CONSERVATION AND RESTORATION WATERSHEDS

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

High Priority Criteria—Conserve Area Designation

1. Fish species assemblages contribute to high biological diversity. Habitats support productive or unique populations and key salmonid species exhibit full range of life history diversity. The assumption is that the aquatic community is largely intact, and is a potential source of individuals to nearby recovering populations; AND
2. Water quality supports designated and existing beneficial uses or municipal (public) water supplies.

Moderate Priority Criteria—Conserve Area Designation

1. Fish species assemblages represent moderate biological diversity; AND
2. Water quality supports designated and existing beneficial uses.

High Priority Criteria—Restore Area Designation

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

Moderate Priority Criteria—Restore Area Designation

1. Potential for moderately productive fish habitat with restoration efforts. Long-term loss of connected populations, competition or genetic introgression with nonnative species has caused the loss of diversity of some unique populations, such as key salmonid species. The assumption is that the aquatic community is largely intact but not resilient to landscape disturbance events, nor does it provide a source of individuals to nearby recovering populations; AND
2. Water quality may not support all designated and existing beneficial uses or municipal (public) water use a future possibility.

Low Priority Criteria—Restore Area Designation

1. There is a minor amount of fish habitat. Long-term loss of connected populations, competition, or genetic introgression with nonnative species has caused the loss of diversity of key salmonid species. The assumption is that the aquatic community is not intact and not

highly resilient to natural events, nor does it provide a source of individuals to nearby recovering populations; AND

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

MANAGEMENT STRATEGIES

Protection

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

Passive Restoration

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

Active Restore

Return functionally impaired aquatic-riparian ecosystems to a state that would occur naturally at the site by actively managing certain aspects of habitat recovery. Combine elements of natural recovery with management activities directs at accelerating development of self-sustaining, ecologically health riparian ecosystems. This management strategy applies to the high and some moderate restore priority watersheds. Many watershed, riparian, and stream restoration projects fall into this category, including vegetation treatments, stream channel restoration, stream crossings removal or improvement, reducing road densities, and improving road condition. Speed or recovery may be one to two decades once human caused disturbances are removed or mitigated.

Rehabilitation

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

Table C-1
Conservation and Restoration Management Watersheds—Alternative B

~~Subwatershed~~ Watershed Number	~~Subwatershed~~ Watershed Name[1]	Management Objective[2]	Subbasin Management Priority[3]	BLM Management Opportunities[4]
Lower Snake River Subbasin				
170601030302	Captain John Creek	Restoration	Moderate	Moderate
	Madden Creek			
	S. Fork Captain John Creek			
170601030403	Corral Creek	Restoration	Low	Moderate
Lower Salmon River Subbasin				
170602090103	China Creek	Restoration	Moderate	Low
170602090201 170602090202	Eagle Creek[7]	Restoration	Moderate	Moderate
170602090301	Deer Creek	Restoration	Moderate	Low
170602091101	Slate Creek	Restoration	High	Low
170602091202	John Day Creek	Restoration	High	Moderate
	E. Fork John Day Creek			
	M. Fork John Day Creek			
	S. Fork John Day Creek			
170602091303	Lake Creek	Restoration	Moderate	Low
170602091603	Partridge Creek	Restoration	Moderate	Low
170602091601	Elkhorn Creek	Restoration	Moderate	Low
170602091501	French Creek	Restoration	Moderate	Low
Middle Salmon River				
170602070101	Salmon River Face Drainages[5]			
	Carey Creek	Restoration	Low	Low
170602070301	Salmon River Face Drainages[5]			
	Bear Creek	Restoration	Low	Low
170602070305	California Creek	Restoration	Moderate	Low
	Maxwell Creek			
Little Salmon River				
170602100102	Elk Creek	Restoration	Low	Low
	Little Elk Creek			
170602100601	Boulder Creek	Restoration	High	Low
170602100201A	Little Salmon R. Face Drain[5]			
	Trail Creek	Restoration	Moderate	Moderate
170602100301	Hazard Creek	~~Restoration~~Conservation[6]	High	Moderate
170602100201B	Hard Creek	~~Restoration~~Conservation[6]	High	Moderate
South Fork Salmon River				
170602081501	Lake Creek	Restoration	High	Low

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

~~Subwatershed~~ Watershed Number	~~Subwatershed~~ Watershed Name[1]	Management Objective[2]	Subbasin Management Priority[3]	BLM Management Opportunities[4]
Clearwater River				
170603061001 170603061002 170603061003 170603061004 170603061005 170603061006 170603061007 170603061008	Big Canyon Creek[7]	Restoration	High	~~Moderate~~ Low
170603061101 170603061102	Little Canyon Creek[7]	Restoration	High	~~Moderate~~ Low
170603061502 170603061503 170603061504 170603061601	Lolo Creek[7]	Restoration	High	Moderate
South Fork Clearwater River Subbasin				
170603050403	South Fork Clearwater River–Face Drainages	Restoration	Moderate	Moderate
	Whiskey Creek	~~Restoration~~		
	Maurice Creek			
170603050801	Crooked River	Restoration	High	Low
170603050701	Red River	Restoration	High	Low
	Big Campbell Creek			
	Little Campbell Creek			
170603050601	Lower American River	Restoration	High	Moderate
	Buffalo Gulch			
170603050602	Elk Creek	Restoration	High	Moderate
	Big Elk Creek			
	Swale Creek			
	Monroe Creek			
	W. Fork Big Elk Creek			
	Little Elk Creek			
170603050605	Middle American River	Restoration	High	Moderate
	Kirks Fork Creek			
	Baboon Creek			
	Box Sing Creek			
	Queen Creek			
	Whitaker Creek			
	Telephone Creek			
170603050604	East Fork American River	Conservation[6]	Moderate	Moderate
170603050603	Upper American River	Restoration	High	Moderate
	Maggie Creek			
	Total Restoration Watersheds: 28 ~~32~~ *Total Conservation Watersheds: 36 ~~4~~*			

Table C-2
Conservation and Restoration Management Watersheds—Alternative C

~~Subwatershed~~ Watershed Number	~~Subwatershed~~ Watershed Name[1]	Management Objective[2]	Subbasin Management Priority[3]	BLM Management Opportunities[4]
Lower Snake River Subbasin				
170601030302	Captain John Creek	Restoration	Moderate	Moderate
	Madden Creek			
	S. Fork Captain John Creek			
170601030403	Corral Creek	Restoration	Low	High
170601030501	Snake River Face Drainages[5]			
	Cottonwood Creek	Restoration	Low	Low
Lower Salmon River Subbasin				
170602090102	Salmon River Face Drainages[5]			
	Wapshilla Creek	Restoration	Low	Low
170602090103	China Creek	Restoration	Moderate	Low
170602090201 170602090202	Eagle Creek	Restoration	Moderate	Moderate
170602090301	Deer Creek	Restoration	Moderate	Low
170602091101	Slate Creek	Restoration	High	Low
170602091202	John Day Creek	Restoration	High	Moderate
	E. Fork John Day Creek			
	M. Fork John Day Creek			
	S. Fork John Day Creek			
170602091303	Lake Creek	Restoration	Moderate	Low
170602091603	Partridge Creek	Restoration	Moderate	Low
170602091601	Elkhorn Creek	Restoration	Moderate	Low
170602091501	French Creek	Restoration	Moderate	Low
Middle Salmon River				
170602070101	Salmon River Face Drainages[5]			
	Carey Creek	Restoration	Low	Low
170602070301	Salmon River Face Drainages[5]			
	Bear Creek	Restoration	Low	Low
170602070305	California Creek	Restoration	Moderate	Low
	Maxwell Creek			
Little Salmon River				
170602100103	Squaw Creek	Restoration	Moderate	Low
170602100101	Little Salmon R. Face Drain [5]			
	Sheep Creek	Restoration	Low	Low
	Hat Creek	Restoration	Low	Moderate
	Denny Creek	Restoration	Low	Low
	Lockwood Creek	Restoration	Low	Low
	Rattlesnake Creek	Restoration	Low	Low
	N. Fork Rattlesnake Creek	Restoration	Low	Low
	Fall Creek	Restoration	Low	Low
170602100102	Elk Creek	Restoration	Low	Low
	Little Elk Creek			
170602100601	Boulder Creek	Restoration	High	Low

Table C-2
Conservation and Restoration Management Watersheds—Alternative C *(continued)*

~~Subwatershed~~ Watershed Number	~~Subwatershed~~ Watershed Name[1]	Management Objective[2]	Subbasin Management Priority[3]	BLM Management Opportunities[4]
170602100201 A	Little Salmon R. Face Drain[5]			
	Trail Creek	Restoration	Low	Moderate
170602100301	Hazard Creek	Conservation[6]	High	Moderate
170602100201B	Hard Creek	Conservation[6]	High	Moderate
South Fork Salmon River				
170602081501	Lake Creek	Restoration	High	Low
Clearwater River				
170603061001 170603061002 170603061003 170603061004 170603061005 170603061006 170603061007 170603061008	Big Canyon Creek	Restoration	High	Moderate
170603061101 170603061102	Little Canyon Creek	Restoration	High	Moderate
170603061502 170603061503 170603061504 170603061601	Lolo Creek	Restoration	High	Moderate
South Fork Clearwater River Subbasin				
170603050403	South Fork Clearwater River—Face Drainages	Restoration	Moderate	
	Whiskey Creek	Restoration	Moderate	High
	Maurice Creek		Moderate	High
170603050801	Crooked River	Restoration	High	Low
170603050701	Red River	Restoration	High	Low
	Big Campbell Creek			
	Little Campbell Creek			
170603050601	Lower American River	Restoration	High	Moderate
	Buffalo Gulch			
170603050602	Elk Creek	Restoration	High	Moderate
	Big Elk Creek			
	Swale Creek			
	Monroe Creek			
	W. Fork Big Elk Creek			
	Little Elk Creek			
170603050605	Middle American River	Restoration	High	Moderate
	Kirks Fork Creek			
	Box Sing Creek			
	Baboon Creek			
	Queen Creek			
	Whitaker Creek			
	Telephone Creek			

Table C-2
Conservation and Restoration Management Watersheds—Alternative C *(continued)*

~~Subwatershed~~ Watershed Number	~~Subwatershed~~ Watershed Name[1]	Management Objective[2]	Subbasin Management Priority[3]	BLM Management Opportunities[4]
	East Fork American River	Conservation6	Moderate	Moderate
	Upper American River	Restoration	High	Moderate
	Maggie Creek			
	Total Restoration Watersheds: 37~~40~~			
	Total Conservation Watersheds: 3~~6~~			

Table C-3
Conservation and Restoration Management Watersheds—Alternative D

~~Subwatershed~~ Watershed Number	~~Subwatershed~~ Watershed Name[1]	Management Objective[2]	Subbasin Management Priority[3]	BLM Management Opportunities[4]
Lower Snake River Subbasin				
170601030302	Captain John Creek	Restoration	Moderate	Moderate
	Madden Creek			
	S. Fork Captain John Creek			
170601030403	Corral Creek	Restoration	Low	Moderate
Lower Salmon River Subbasin				
170602090103	China Creek	Restoration	Moderate	Low
170602090201 170602090202	Eagle Creek	Restoration	Moderate	Moderate
170602090301	Deer Creek	Restoration	Moderate	Low
170602091101	Slate Creek	Restoration	High	Low
170602091202	John Day Creek	Restoration	High	Moderate
	E. Fork John Day Creek			
	M. Fork John Day Creek			
	S. Fork John Day Creek			
170602091303	Lake Creek	Restoration	Moderate	Low
170602091603	Partridge Creek	Restoration	Moderate	Low
170602091601	Elkhorn Creek	Restoration	Moderate	Low
170602091501	French Creek	Restoration	Moderate	Low
Middle Salmon River				
170602070305	California Creek	Restoration	Moderate	Low
	Maxwell Creek	Restoration	Moderate	Low
Little Salmon River				
170602100601	Boulder Creek	Restoration	High	Low
170602100201A	Little Salmon R. Face Drain~~.~~[5]			
	Trail Creek	Restoration	Moderate	Moderate
170602100301	Hazard Creek	~~Restoration~~ Conservation[6]	High	Moderate
170602100201B	Hard Creek	~~Restoration~~ Conservation[6]	High	Moderate

Table C-3
Conservation and Restoration Management Watersheds—Alternative D *(continued)*

~~Subwatershed~~ Watershed Number	~~Subwatershed~~ Watershed Name[1]	Management Objective[2]	Subbasin Management Priority[3]	BLM Management Opportunities[4]
South Fork Salmon River				
170602081501	Lake Creek	Restoration	High	Low
Clearwater River				
170603061502 170603061503 170603061504 170603061601	Lolo Creek	Restoration	High	Moderate
South Fork Clearwater River Subbasin				
170603050403	South Fork Clearwater River—Face Drainages	Restoration	Moderate	Moderate
	Whiskey Creek	Restoration	Moderate	Moderate
	Maurice Creek			
170603050801	Crooked River	Restoration	High	Low
170603050701	Red River	Restoration	High	Low
	Big Campbell Creek			
	Little Campbell Creek			
170603050601	Lower American River	Restoration	High	Moderate
	Buffalo Gulch			
170603050602	Elk Creek	Restoration	High	Moderate
	Big Elk Creek			
	Swale Creek			
	Monroe Creek			
	W. Fork Big Elk Creek			
	Little Elk Creek			
170603050605	Middle American River	Restoration	High	Moderate
	Kirks Fork Creek			
	Baboon Creek			
	Box Sing Creek			
	Queen Creek			
	Whitaker Creek			
	Telephone Creek			
170603050604	East Fork American River	Conservation[6]	Moderate	Moderate
170603050603	Upper American River	Restoration	High	Moderate
	Maggie Creek			
	Total Restoration Watersheds: 24~~27~~			
	Total Conservation Watersheds: 3~~6~~4			

[1]Watersheds will generally include a minimum of 50 percent BLM, Forest Service, or Idaho Department of Fish and Game ownership and will contain a minimum of 500 acres of BLM lands or have more than ten miles of fish-bearing stream flowing across BLM lands within a 5th code hydrologic unit code (HUC). Cooperative planning and management would be encouraged with partners to identify objectives and desired conditions and appropriate management actions to achieve these. The RMP will allow additions, deletions, or modifications (subwatersheds, desired conditions, partners, objectives) of prioritized conservation and restoration subwatersheds based on new information and partnership coordination.

[2]Do not undertake management activities that would degrade good quality habitat in conservation subwatersheds. Do not undertake management activities that would retard attainment of trends to improve aquatic habitats in restoration

subwatersheds. Short-term adverse effects are acceptable if they will not preclude attainment of long-term improvement to aquatic habitats.

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

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

[5]Restoration and/or conservation watersheds within this 6th code HUC only is applicable to listed 7th code HUCs.

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

[7]Contains several 6th code HUCS, however, combined subwatersheds counted as one composite watershed.

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APPENDIX D—DESIRED FUTURE CONDITIONS FOR FOREST VEGETATION/WILDLIFE HABITAT—ALTERNATIVES B AND C

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

Table D-1
Potential Vegetation Groups

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

Tree Size Class

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

Tree size class is based on the following diameter groupings:

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

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

Table D-2
Forest Vegetation/Wildlife Habitat Desired Future Conditions—Alternatives B and C

ALTERNATIVE B
Area-Wide Range of Desired Size Classes Expressed As a Percentage of Forested Vegetation (Alternative B) within Each PVG[1,2] (includes forested vegetation in RCAs)

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

ALTERNATIVE C
Area-Wide Range of Desired Size Classes Expressed As a Percentage of Forested Vegetation (Alternative C) within Each PVG[1,2] (includes forested vegetation in RCAs)

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

[1]Refer to *Characteristics of Old-Growth Forests in the Intermountain Region* (Hamilton 1993) and *Old-Growth Forest Types of the Northern Region* (Green et al. 1992, errata corrected 2005)
[2]The old forest (old growth) is a component of, and not in addition to, the large tree component.
G/F/S/S = Grass/Forb/Shrub/Seedling

Snags and Coarse Woody Debris

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

Snags and coarse wood are known to fluctuate both spatially and temporally. Snags are often found in clumps, whereas coarse wood recruitment ~~over time may form clumped~~is recruited from snags~~. Coarse wood may move around on the landscape, often resulting in a~~ and over time becomes more ~~even distribution than snags.~~evenly distributed. These tables are not meant to provide an even distribution of snags and coarse wood across every acre of the forested landscape but to provide a number that serves as a guide to approximate an average condition for an activity area.

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

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

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

~~**Table D-5** displays the desired amounts for each tree size class in ACECs identified for forest vegetation DFC objectives.~~

Table D-3
Desired Range of Snags ~~per~~Per Acre for Potential Vegetation Groups

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

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

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

Diameter Group	PVG-1	PVG-2	PVG-3	PVG-4	PVG-5	PVG-6	PVG-7	PVG-8	PVG-9	PVG-11
Dry weight (Tons per acre) In Decay Classes I and II	3 - 10	4 - 14	4 - 14	4 - 14	4 - 14	4 - 14	5 - 19	5 - 19	5 - 19	4 - 14
Distribution[1] >15"	>75%	>75%	>65%	>65%	>75%	>65%	>50%	>25%	>25%	>25%
~~10"-20"~~	~~0.4-0.5~~	~~1.8-2.7~~	~~1.8-4.1~~	~~1.8-2.7~~	~~1.8-5.5~~	~~1.8-5.5~~	~~1.8-5.5~~	~~1.8-7.5~~	~~1.8-7.5~~	~~1.4-2.2~~
~~>20"~~	~~0.4-2.3~~	~~0.4-3.0~~	~~0.2-2.8~~	~~0.2-2.1~~	~~0.4-3.5~~	~~0.2-3.5~~	~~0.2-3.5~~	~~0.2-3.0~~	~~0.2-3.0~~	~~1.4-2.2~~
~~Total~~	~~0.8-2.8~~	~~2.2-5.7~~	~~2.0-6.9~~	~~2.0-4.8~~	~~2.2-9.0~~	~~2.0-9.0~~	~~2.0-9.0~~	~~2.0-10.5~~	~~2.0-10.5~~	~~2.8-4.4~~
~~Min. Ht.~~	~~15'~~	~~30'~~	~~30'~~	~~30'~~	~~30'~~	~~30'~~	~~30'~~	~~30'~~	~~30'~~	~~15'~~

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

Green Tree Snag Replacement

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

Protecting existing large diameter snags will not assure long-term snag occurrence on BLM lands. Managing live trees for long-term snag recruitment is as important as protecting existing snags (Thomas et al., 1979, Hichcox, 1996). Green tree replacements may be lost to other causes before becoming available as desirable snags. Causes of loss include wind throw, salvage, falling for safety concerns, or slash burning. Therefore, the recommendations for green tree replacement snags are greater than the desired range of snags.

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

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

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

Table D-5
Green Tree Snag-Replacement Guidelines

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

Scale at Which to Apply Snag and Snag Recruitment Prescriptions

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

Clumping of snags and retention green trees in 1-2 acre patches within the stand level or project area is acceptable and even desirable for nesting birds and other wildlife species (Raphael and Morrison, 1984) recognizing it is necessary to provide for safety, operability, and long-term retention of leave trees. Look for natural clumps of snags or for areas where snags and green trees can be most logically maintained through logging and slash treatments.

Operational Considerations in Snag and Green Tree Retention

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

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

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

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

ACEC Alternative Recommendations for DFC

Table D-~~5~~6 displays the desired amounts for each tree size class in ACECs identified for forest vegetation DFC objectives.

Table D-~~5~~6
Forest Vegetation/Wildlife Habitat Desired Future Conditions—ACECs

Captain John Creek ACEC—Alternatives B, C, and D
Range of Desired Size Classes Expressed as a Percentage of Forested within Each PVG (includes forested vegetation in RCAs)

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

Craig Mountain Wildlife Management Area ACEC—Alternative C
Range of Desired Size Classes Expressed as a Percentage of Forested within Each PVG (includes forested vegetation in RCAs)

Tree Size	PVG-1	PVG-2	PVG-3	PVG-4	PVG-5	PVG-6
G/F/S/S	1-18	5-7	9	14-15	3-7	7-9
Saplings	2-12	3-7	9	7-9	3-7	7-9
Small	2-18	5-21	18-27	19-22	4-22	11-27
Medium	3-29	7-35	23-36	24-36	7-30	18-36
Large	50-91	50-80	25-41	25-34	50-84	20-56
Old Forest[1,2]	30	30	25	15	30	15

Table D-~~5~~6
Forest Vegetation/Wildlife Habitat Desired Future Conditions—ACECs *(continued)*

Partridge/Elkhorn ACEC—Alternative C
Range of Desired Size Classes Expressed as a Percentage of Forested within Each PVG (includes forested vegetation in RCAs)

Tree Size	PVG-1	PVG-2	PVG-3	PVG-4	PVG-5	PVG-6
G/F/S/S	1-18	5-7	9	14-15	3-7	7-9
Saplings	2-12	3-7	9	7-9	3-7	7-9
Small	2-18	5-21	18-27	19-22	4-22	11-27
Medium	3-29	7-35	23-36	24-36	7-30	18-36
Large	50-91	50-80	25-41	25-34	50-84	20-56
Old Forest[1,2]	30	30	25	15	30	15

Little Salmon River ACEC—Alternative C
Range of Desired Size Classes Expressed as a Percentage of Forested within Each PVG (includes forested vegetation in RCAs)

Tree Size	PVG-1	PVG-2	PVG-3	PVG-4	PVG-5	PVG-6
G/F/S/S	1-18	5-7	9	14-15	3-7	7-9
Saplings	2-12	3-7	9	7-9	3-7	7-9
Small	2-18	5-21	18-27	19-22	4-22	11-27
Medium	3-29	7-35	23-36	24-36	7-30	18-36
Large	50-91	50-80	25-41	25-34	50-84	20-56
Old Forest[1,2]	30	30	25	15	30	15

Lower Lolo Creek ACEC—Alternative B
(Existing Lower Canyon ACEC Portion Only—3,464 acres)
Range of Desired Size Classes Expressed As a Percentage of Forested within Each PVG (includes forested vegetation in RCAs)

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

Lower Lolo Creek ACEC—Alternative C
(Existing Lower Canyon ACEC Portion Only—3,464 acres)
Range of Desired Size Classes Expressed As a Percentage of Forested within Each PVG (includes forested vegetation in RCAs)

Tree Size	PVG-1	PVG-2	PVG-3	PVG-4	PVG-5	PVG-6
G/F/S/S	1-18	5-7	9	14-15	3-7	7-9
Saplings	2-12	3-7	9	7-9	3-7	7-9
Small	2-18	5-21	18-27	19-22	4-22	11-27
Medium	3-29	7-35	23-36	24-36	7-30	18-36
Large	50-91	50-80	25-41	25-34	50-84	20-56
Old Forest[1,2]	30	30	25	15	30	15

Table D-~~5~~6
Forest Vegetation/Wildlife Habitat Desired Future Conditions—ACECs *(continued)*

Upper Lolo Creek ACEC—Alternative C
(Upper Canyon ACEC—1,625 acres)
Range of Desired Size Classes Expressed As a Percentage of Forested Vegetation (Alternative C) within Each PVG (includes forested vegetation in RCAs)

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

[1]Refer to *Characteristics of Old-Growth Forests in the Intermountain Region* (Hamilton 1993) and *Old-Growth Forest Types of the Northern Region* (Green et al. 1992, errata corrected 2005)
[2]The old forest is a component of, and not in addition to, the large tree component.
G/F/S/S = Grass/Forb/Shrub/Seedling

APPENDIX E—BEST MANAGEMENT PRACTICES FOR WEED PREVENTION—ALTERNATIVES B, C, AND D

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

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APPENDIX F—AQUATIC AND RIPARIAN MANAGEMENT STRATEGY—ALTERNATIVES B, C, AND D

INTRODUCTION

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

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

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

AQUATIC AND RIPARIAN GOALS

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

1. Water quality, to a degree that provides for stable and productive riparian and aquatic ecosystems.
2. Stream channel integrity, channel processes, and the sediment regime (including the elements of timing, volume, and character of sediment input and transport) under which the riparian and aquatic ecosystems developed.
3. Instream flows to support healthy riparian and aquatic habitats, which promote the stability and effective function of stream channels, and the ability to effectively route flood discharges.

4. Natural timing and variability of the water table elevation in meadows and wetlands.
5. Diversity and productivity of native and desired ~~nonnative~~ plant communities in riparian zones.
6. Riparian vegetation to:
    a. Provide an amount and distribution of large woody debris characteristic of natural aquatic and riparian ecosystems;
    b. Provide adequate summer and winter thermal regulation within the riparian and aquatic zones; and
    c. Help achieve rates of surface erosion, bank erosion, and channel migration characteristic of those under which the communities developed.
7. Riparian and aquatic habitats necessary to foster the unique genetic fish stocks that evolved within the specific geo-climatic region.
8. Habitat to support populations of well-distributed native and nonnative plant, vertebrate, and invertebrate populations that contribute to the viability of riparian-dependent communities.

AQUATIC AND RIPARIAN MANAGEMENT DIRECTION

~~The BLM is encouraged to establish area-wide riparian management objectives (RMO) to apply them where analysis for determining area-wide specific RMOs has not been done.~~

Desired Conditions and Watershed and Aquatic Condition Indicators (WACIs)

Description and Management Intent

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

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

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

Desired conditions are more specific to stream or reach specific aquatic and riparian objectives. WACIs are used to provide baseline condition rating information at a watershed level. WACIs provide context and decision support information to determine whether combined actions would contribute to attainment of objectives (desired WACIs) at the watershed and larger scales. The WACIs, should be used as a suite of integrated indicators. They should not be used individually as fixed targets toward which to manage or as specific thresholds from which to make "go/no go" project implementation decisions. However, they should be used to help design appropriate

management actions or alter or mitigate proposed activities to move watersheds toward desired conditions. If certain indicators highlight a concern in a watershed, then analysis should disclose how proposed management actions would be designed to take into account the concerns, and/or when the proposed action is needed to achieve aquatic/riparian/hydrologic objectives. WACI criteria values are not absolute criteria, and are rated in regards to a functional condition or ecological/biological condition. The WACIs are rated using the following watershed and aquatic habitat condition ratings (see **Appendix W** [Volume III]).

Relative Watershed and Aquatic Habitat Quality Condition	**Relative Watershed and Aquatic Habitat Quality Condition**	**Relative Watershed and Aquatic Habitat Quality Condition**
High Watershed and Aquatic Condition Rating	High Watershed and Aquatic Condition Rating	High Watershed and Aquatic Condition Rating
Moderate Watershed and Aquatic Condition Rating	Moderate Watershed and Aquatic Condition Rating	Moderate Watershed and Aquatic Condition Rating
Low Watershed and Aquatic Condition Rating	Low Watershed and Aquatic Condition Rating	Low Watershed and Aquatic Condition Rating

Watershed and Aquatic Condition Indicators

To achieve the "Watershed, Riparian, and Aquatic Goals and Objectives," specific riparian and aquatic desired conditions and WACIs are identified (**Appendix W** [Volume III]). Aquatic and riparian habitat condition indicators are rated for functional condition using the Matrix of Pathways and Indicators of Watershed ~~Condition~~and Watershed and Aquatic Conditions, which has local adaptation (1997 and modified 1998) and ~~use~~is used by the North Central Idaho Level 1 Team (BLM CFO, Nez Perce National Forest, Clearwater National Forest, National Marine Fisheries Service (NMFS), and US Fish and Wildlife Service (USFWS). ~~With updated monitoring, science/literature, and supporting rationale, watershed indicators~~The general objective is to achieve the "functioning appropriately" condition rating for WACIs. However, it is recognized that optimum conditions may ~~be changed in the future to more accurately depict local planning area aquatic, riparian, and watershed condition indicators~~not always be achieved for specific WACIs and watersheds. **Table F-1** ~~depicts the Watershed Condition Indicators~~ identifies the WACIs included in the referenced matrices (**Appendix W** [Volume III]).

Table F-1
Pathways—Indicators of Watershed/Aquatic Conditions[1]

Watershed Conditions	**Habitat Elements**
1. Watershed road density	1. Cobble embeddedness
2. Streamside road density	2. Percent surface fines
3. Landslide prone road density	3. Percent fines by depth
4. Riparian vegetation condition	4. Large woody debris
5. Peak/base flow	5. Pool frequency
6. Water yield (equivalent clearcut acres)	6. Pool quality
7. Sediment yield	7. Off-channel habitat
	8. Habitat refugia
Channel Condition and Dynamics	**Take**
1. Width/depth ratio	1. Harassment
2. Streambank stability	2. Redd disturbance
3. Floodplain connectivity	3. Juvenile/adult harvest

Table F-1
Pathways—Indicators of Watershed/Aquatic Conditions[1] *(continued)*

Water Quality	Subpopulation Characteristics and Habitat Integration
1. Temperature—spawning 2. Temperature—rearing/migration 3. Suspended sediment 4. Chemical contaminants/nutrients	1. Subpopulation size 2. Growth and survival 3. Life history diversity, isolation 4. Persistence and genetic integrity 5. Integration of species and habitat condition
Habitat Access	
1. Physical barriers—adults 2. Physical barriers—juveniles	

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

~~Desired and achievable Watershed Condition Indicators need to be identified~~ Desired WACIs that are ~~specific to~~ appropriate for the ~~project/activity plan implementation at the subwatershed level~~watershed scale and baseline ratings (for example, 5th , 6th, 7th code HUC~~).~~) are included in Appendix W (Volume III). The functional condition ratings for ~~Watershed Condition Indicators~~WACIs is an objective and may be a quantifiable or subjective rating for desired aquatic, riparian, and watershed ~~functional~~ conditions adapted locally~~ for providing for~~ , and identify optimal aquatic, riparian, and watershed conditions. Appendix W (Volume III)~~,~~ identifies the desired functional condition (functioning appropriately – good/excellent condition) WACIs. It is acknowledged that "optimum" conditions may not always be achievable for every watershed because of legacy land uses, land ownerships (e.g., private ownership and non-BLM land uses) and specific watershed characteristics.

Existing Conditions for Watersheds (WACIs)

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

Updating Ratings for Desired Conditions and Watershed and Aquatic Condition Indicators

Based on monitoring, surveys, science/literature, watershed analysis, and supporting rationale; specific condition ratings for desired conditions and WACIs may be changed in the future (e.g., poor condition, good condition, etc.) to more accurately depict local planning area aquatic and riparian characteristics, range of natural variability. Desired conditions and WACIs may be refined at the watershed scale to illustrate the variability of conditions among watersheds within a landscape context. As needed for updated ratings, local experts (e.g., Fisheries Biologist, Ecologist, Botanist, Hydrologist) shall establish this environmental baseline and identify rationale supporting the change.

RIPARIAN CONSERVATION AREAS~~, ALTERNATIVE B~~

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

Important values to consider in identifying and managing RCAs ~~include fine organic litter, bank stability, sediment control, nutrients and other dissolved materials, riparian microclimate and productivity, wind throw, importance of small (perennial and intermittent) streams, importance of hill slope steepness, parent soil material and erosion risks, potential and active large woody debris, and~~ may be specific to the riparian ~~functional condition.~~area/stream channel, life stage of specific fish, watershed characteristics, and land uses. Refer to **Appendix W** (Volume III) for a list of desired conditions and WACIs.

RCA Delineation and Modification

~~Default~~ Specific default RCA widths apply~~ where~~, unless a watershed analysis or site-specific (local) analysis has ~~not~~ been completed. ~~Establishment~~Modification of RCAs requires watershed or site specific analysis to provide the ecological basis for the change~~. However,~~ or may be specific to land uses taking place or proposed to take place within the RCA.

RCA Widths (Alternative B)

RCAs ~~may be modified by amendment in~~ are portions of watersheds where riparian-dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines. RCAs are lands that are most sensitive to land uses that are likely to affect the condition and/or function of aquatic habitat, and include areas adjacent to streams, ponds, lakes, and wetlands. The dimensions of such lands and uses that promote or do not preclude achievement of functional conditions may be best defined by site-specific analysis or watershed analysis. In the absence of ~~watershed~~such analysis~~ where stream reach or site-specific data support~~, the ~~change. In all cases, the rationale supporting~~ following default RCA widths apply.~~and their effects would be documented. Refer to previous listed important values for managing RCAs; pertinent values need to be specifically addressed in supporting rationale for modifying RCAs.~~

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

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

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

Category 4—Seasonally flowing or intermittent streams and wetlands less than one acre: This category includes features with high variability in size and site-specific characteristics. The RCA is the area from the edges of the stream channel, the wetland, the extent of riparian vegetation, or **~~80~~100 feet** slope distance, whichever is greatest.

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

RIPARIAN CONSERVATION AREAS, ALTERNATIVE C

RCA Widths (Alternative C)

RCAs are portions of watersheds where riparian-dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines.

~~RCA widths apply where watershed analysis has not been completed. Establishment of~~ RCA~~s requires watershed analysis~~are lands that are most sensitive to ~~provide~~land uses that are likely to affect the ~~ecological basis for the change. However, RCAs~~condition and/or function of aquatic habitat, and include areas adjacent to streams, ponds, lakes, and wetlands. The dimensions of such lands and uses that promote or do not preclude achievement of functional conditions may be ~~modified~~best defined by ~~amendment in the absence of watershed analysis, where stream reach or~~ site-specific ~~data support the change.~~analysis or watershed analysis. In ~~all cases, the rationale supporting~~the absence of such analysis, the following default RCA widths ~~and their effects would be documented~~apply.

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

Category 2—Permanently flowing non-fish-bearing streams: RCAs consist of the stream and the area on either side of the stream. This area extends from the edges of the active channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of the riparian vegetation, or **225 feet** slope distance (400 feet, including both sides of the stream channel), whichever is greatest.

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

Category 4—Seasonally flowing or intermittent streams and wetlands less than one acre: This category includes features with high variability in size and site-specific characteristics. The RCA is the area from the edges of the stream channel, the wetland, the extent of riparian vegetation, or **125 feet** slope distance, whichever is greatest.

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

RIPARIAN CONSERVATION AREAS, ALTERNATIVE D

RCA Widths (Alternative D)

RCAs are portions of watersheds where riparian-dependent resources receive primary emphasis~~,~~ and management activities are subject to specific standards and guidelines.

~~RCA widths apply where watershed analysis has not been completed. Establishment of~~ RCAs ~~requires watershed analysis~~are lands that are most sensitive to ~~provide~~land uses that are likely to affect the ~~ecological basis for the change. However, RCAs~~condition and/or function of aquatic habitat, and include areas adjacent to streams, ponds, lakes, and wetlands. The dimensions of such lands and uses that promote or do not preclude achievement of functional conditions may be ~~modified~~best defined by ~~amendment in the absence of watershed analysis where stream reach or~~ site-specific ~~data support the change.~~analysis or watershed analysis. In ~~all cases, the rationale supporting~~the absence of such analysis, the following default RCA widths ~~and their effects would be documented~~apply.

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

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

Category 3—Ponds, lakes, reservoirs, and wetlands greater than one acre: RCAs consist of the body of water or wetland and the area to the outer edges of the riparian vegetation, or to the extent of the seasonally saturated soil, or **50 feet** slope distance, whichever is greatest.

Category 4—Seasonally flowing or intermittent streams and wetlands less than one acre: This category includes features with high variability in size and site-specific characteristics. The RCA is the area from the edges of the stream channel, the wetland, the extent of riparian vegetation, or **50 feet** slope distance, whichever is greatest.

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

RCA Delineation

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

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

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

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

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

The second tier applies the RCA criteria to specific areas on the ground while designing and planning proposed management actions. The intent is that the associated site-specific analysis and decision would disclose how the criteria would be used to delineate RCAs on the ground and the degree to which they provide for riparian processes and functions and contribute to meeting aquatic and riparian management objectives. Any necessary, site-specific refinements of the criteria would also be documented in the analysis and decision document.

RCA Modification (Alternatives B, C, and D)

RCAs may be modified by amendment in the absence of watershed analysis where stream reach or site-specific data support the change. Watershed analysis or site-specific analysis is not a decision process, it would provide information for ecologically appropriate criteria that would support site-specific analysis and determination on RCA delineation. In all cases, the rationale supporting RCA

widths and their effects would be documented. Refer to previous listed important values for managing RCAs; pertinent site-specific, stream reach, and watershed values (e.g., desired conditions, WACIs, specific riparian or aquatic characteristics, slope, soils, etc.) need to be specifically addressed in supporting rationale for modifying RCAs and land uses occurring in these areas.

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

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

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

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

- In general, these areas are at the scale of the species' subpopulation and contribute to their conservation and recovery.
- Characteristics/considerations for stronghold delineation include high genetic integrity, connectivity, relationship of the subpopulation to the species as a whole, and restoration and population expansion potential into adjoining watersheds.
- The plan provides for additions to, deletions from, or modifications of strongholds and conservation watersheds based on new information.
- As with RCAs, management activities in strongholds and conservation watersheds should emphasize achieving or maintaining the riparian and aquatic values, including key processes, for which they are being managed. Active management within strongholds may be required to achieve and maintain these values. Passive management strategies can also be an effective tool for meeting stronghold objectives in some watersheds.
- Conservation ~~sub~~watersheds have watershed, riparian, and aquatic processes and functions that occur in a relatively undisturbed and natural landscape setting.
- Watersheds may also be identified for such purposes as protecting other emphasis species or other high value riparian-dependent resources.

MULTISCALE ANALYSIS AND ECOSYSTEM ANALYSIS AT THE WATERSHED SCALE

Watershed Analysis

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

Objectives of Watershed Analysis

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

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

3. Monitor the effectiveness of watershed protection measures – *process for adaptive management feedback loop.*

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

Appropriate Methodology

The Federal Guide for Watershed Analysis—Ecosystem Analysis at the Watershed Scale Version 2.2 (Forest Service 1995) was used as a guide. This six-step process is not issue-driven but focuses on analysis topics, along with specific watershed problems and concerns. This analysis is not a decision making process but will help identify opportunities for future management actions, including planning, project development, and regulatory compliance. Below is a summary of each of the six steps taken to develop an ecosystem analysis at the watershed scale.

Step 1—Characterization of the Watershed

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

Step 2—Identification of Issues and Key Questions

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

Step 3—Description of Current Conditions

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

Step 4—Description of Reference Conditions

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

Step 5—Synthesis and Interpretation of Information

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

Step 6—Recommendations

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

Multiple-~~scaled~~Scaled Assessments

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

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

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

4. Site-scale (e.g., reach analysis, project/site analysis).

Management considerations for multiscale analysis includes the following:

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

Cottonwood Field Office Watershed and Site-Specific Analysis Direction

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

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

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

and subbasin assessments that have been completed within the planning area that provide guidance for BLM planning and management efforts.

Table F-2
Summary of Watershed Analyses and Subbassin Assessments Within the Planning Area

Name	Type of Analysis or Assessment (Watershed/Subbasin)	Year Completed	Lead Agency
LOWER SNAKE RIVER SUBBASIN			
Lower Snake River Ecosystem Analysis at the Watershed Scale	Watershed Analysis – Captain John Creek, Corral Creek, Snake River Face Drainages	2002	BLM Cottonwood Field Office
LOWER SALMON RIVER SUBBASIN			
John Day Creek Watershed Analysis	John Day Creek	1999	BLM Cottonwood Field Office
Slate Creek Ecosystem Analysis at the Watershed Scale	Watershed Analysis – Slate Creek	2000	Nez Perce National Forest
Lower Salmon River Ecosystem Analysis at the Watershed Scale	Watershed Analysis – China Creek, Eagle Creek, Deer Creek, and Salmon River Face Drainages	2002	BLM Cottonwood Field Office
LITTLE SALMON RIVER SUBBASIN			
Boulder Creek Watershed Analysis, Working Draft	Watershed Analysis – Boulder Creek	1999	Payette National Forest
Little Salmon River Subbasin Review	Subbasin Assessment – Little Salmon River Subbasin	2003	Payette National Forest
CLEARWATER RIVER SUBBASIN			
Clearwater Subbasin Ecosystem Analysis at the Watershed Scale	Watershed Analysis – Potlatch River, Orofino Creek, Lolo Creek, Clearwater River	1997	Clearwater River National Forest
SOUTH FORK CLEARWATER RIVER SUBBASIN			
South Fork Clearwater River Landscape Assessment	Subbasin Assessment – South Fork Clearwater River	1998	Nez Perce National Forest
Red River Ecosystem Analysis at the Watershed Scale	Watershed Analysis – Red River	2003	Nez Perce National Forest

MONITORING AND ADAPTIVE MANAGEMENT

Monitoring and Evaluation of the Resource Management Plan

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

Monitoring is an essential component of natural resource management because it provides information on the relative success of management strategies. The implementation of the RMP will be monitored to ensure that management actions follow prescribed management direction

(implementation monitoring), meet desired objectives (effectiveness monitoring) and are based on accurate assumptions (validation monitoring).

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

Adaptive Management

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

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

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

Implementation and Effectiveness Monitoring

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

Management considerations for monitoring include the following:

- Focus monitoring on key questions that inform decision making and allow adjustments to management.
- Monitoring emphasis and intensity should be commensurate with the importance of the question being asked. For example, if adaptive decision making is being used, it will be important to monitor the key parameters to the degree necessary to support the current course of action or to trigger an alternate approach.
- Plan level monitoring should make use of, and not duplicate, broad-scale monitoring programs. To the extent practicable, monitoring done at the plan scale should be compatible with, and complementary to, broader and finer scale monitoring.
- Monitoring should be coordinated with, and where possible consolidated with, similar efforts of other agencies.
- Outcome-based management approaches rely on monitoring for their success. These approaches typically require a different level and type of monitoring than prescriptive approaches.
- Monitoring commitments in plans should be feasible and achievable.

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

- Implementation monitoring is used to determine if management practices are implemented as identified in an activity plan, environmental assessment, EIS, Biological Assessment, or Biological Opinion.
- Effectiveness monitoring is used to determine if management practices, as designed and executed, are effective in meeting project goals and objectives as defined in an activity plan, environmental assessment, EIS, Biological Assessment, or Biological Opinion.

The results of ~~all~~ monitoring will be summarized and shared, as requested, with state and federal agencies, and tribes~~, private groups, or individuals~~.

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

- Review Environmental Assessment, Biological Assessment, and Biological Opinion identified project specifications and terms and conditions to ensure that monitoring is provided for in contract or ~~plan~~plans of operation (project design and mitigation criteria);
- Review designs and plans of operation;
- Review contract administration reports (daily diaries); and
- Review activities on the ground before, during, and after implementation.

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

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

RESTORATION PRIORITIES AND GUIDANCE

Refer to **Appendix C,** Conservation and Restoration Watersheds (Volume II), for criteria and identification of restoration watersheds, ~~which have priority~~and prioritization for restoration projects and achievement of desired conditions. Restoration subwatersheds were identified because biological and physical processes and functions do not reflect natural conditions because of past and long-term land disturbances. Refer to **Figures 3** (Alternative B), **4** (Alternative C), and **5** (Alternative D) in Volume IV of the Draft RMP/EIS for maps of Conservation and Restoration Watersheds identified for various alternatives. Management consideration for these watersheds includes the following:

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

STANDARDS AND GUIDELINES

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

Standards and Guidelines	Conservation Measures
Riparian Conservation Areas	

Standards and Guidelines	Conservation Measures
RCA-1	~~Activities~~ New activities in RCAs or activities outside RCAs that affect desired conditions for WACIs must be designed to enhance, restore, or maintain the physical and biological characteristics of the RCA by implementing the following: • Activities outside or in RCAs that are intact and functioning in a desired condition, as indicated by ~~RMOs~~specific desired conditions and WACIs (**Appendix W**) or other measures, must be designed to at least maintain that desired condition; • Activities outside or in RCAs that are not at desired condition, as indicated by ~~RMOs~~specific desired conditions and WACIs (**Appendix W**) or other measures, should include a restoration component as part of the project~~;~~ when such may be practical and appropriate for the scope of the project; and • ~~c.~~ Activities outside or in RCAs must not result in long-term degradation to aquatic conditions. Limited short-term adverse effects from activities in the RCA may be acceptable when outweighed by the long-term benefits to the RCA and aquatic resources. • New road construction, landings, timber harvest, salvage logging, or construction of recreation sites within RCAs will require a watershed analysis and/or site-specific analysis prior to implementation. The level of analysis will be commensurate with the scope, magnitude, and issues of the project and related aquatic resources and values.
Timber Management	
TM-1	~~Vegetation~~Apply vegetation management practices, such as timber harvest, salvage logging, fuelwood cutting and fuels treatments, ~~may be used in RCAs.~~within RCAs where needed to acquire desired vegetation characteristics essential to achieving functional desired conditions~~WACIs~~. Vegetation treatments will be allowed only to maintain, restore, or enhance physical and biological characteristics of the RCA. Implemented treatments will, at a minimum, maintain existing conditions and not impede achievement of desired conditions in the long term ~~RMOs.~~WACIs. Management actions will balance short-term risks (to aquatic and other resources) with long-term benefits as actions are considered to move toward a natural variability of conditions. Complete watershed analysis and/or site-specific analysis prior to conducting timber harvest or salvage logging in RCAs. RCAs are not included in the land base when determining PSQ.
TM-2	New management activities within or affecting RCAs shall be conducted only if they are consistent with the RCA management objectives of not precluding attainment of, or maintaining functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional (~~WACIs~~desired conditions).

Standards and Guidelines	Conservation Measures
TM-3	When management activities are conducted within the sediment delivery influences area, ground disturbance shall be minimized and sufficient ground cover shall be retained (existing vegetation and/or by seeding, plantings, and erosion control measures) to limit soil movement into or within the RCA to allow attainment of RCA objectives (desired conditions). Buffer widths, vegetation cover, and/or natural topography features should be sufficient to minimize risks for erosion/sediment reaching stream channels and other water bodies.
TM-4	Management activities in RCAs shall be implemented to maintain or support attainment of aquatic and RCA management objectives (WACIs).
Roads Management	
RF-1	Cooperate with federal, tribal, state, and county agencies and cost-share partners to achieve consistency in road design, operation, and maintenance necessary to ~~attain RMOs.~~reduce adverse effects and support achievement of desired conditions and WACIs in the long term.
RF-2	For ~~planned~~new or existing roads ~~in an RCA, manage achieve RMOs~~(authorized across BLM lands or BLM easement across other lands), strive to support achievement of desired conditions and WACIs and ~~to~~ avoid ~~or minimize~~ adverse effects ~~on TES~~to native fish.
RF-2a	Complete a watershed or site-specific analysis, ~~tiering to existing watershed analyses where available,~~ before building new roads or landings in RCAs. Site-specific analysis will reference to existing watershed analysis when available. The level of analysis should be commensurate with the scope and issues of the project and related aquatic resources. ~~At a minimum, the analysis should in all cases address sediment, LWD supply/recruitment, water temperature, and floodplain and riparian encroachment. Analysis will include the site scale, in the context of the reach scale, and watershed scales.~~
RF-2b	Minimize new road and landing locations in RCAs. Permanent new roads are not allowed unless long-term resource management and public resource needs can be identified through the development of a Road Management Plan or System Road Analysis. Analysis should be specific to why alternative routes outside of RCA are not practical and how road design features would minimize or avoid adverse effects to aquatic and riparian resources at site-specific, reach, and watershed scales.

Standards and Guidelines	Conservation Measures
RF-2c	Initiate development and implementation of a road management plan or a transportation management plan for BLM-controlled roads. At a minimum, address the following items in the plan: • Road design criteria, elements, and standards that govern construction, reconstruction, and maintenance; • The long-term management needs for each road; • Road management objectives for each road; • Criteria that govern road operation, maintenance, and management; • Guidance for inspections and maintenance before, during, and after storms; • Traffic regulation during wet periods to minimize erosion and sediment delivery; • Monitoring plans for road stability, drainage, and erosion control; and • Mitigation plans for road failures.
RF-2d	Temporary roads within RCAs will be decommissioned a maximum of three years after their construction.
RF-2e	Avoid or minimize sediment delivery to streams from the road surface to allow attainment of appropriate WACIs through implementation of the following. • Outsloping the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe; • ~~Route~~Where practical or feasible, route road drainage away from potentially unstable ~~stream channels,~~ fills~~,~~ and hillslopes~~.~~; • Where practical or feasible, route road drainage so it cannot reach streams, this may be accomplished with road drainage directed off roads prior to reaching streams and being filtered through adequate vegetation buffers; and • When management activities are conducted within the sediment delivery influence area, ground disturbance shall be minimized and sufficient ground cover shall be retained (existing vegetation and/or by seeding, plantings, and erosion control measures) to limit soil movement into and within the RCA.
RF-2f	~~Avoid or minimize adverse impacts on natural hydrologic flow paths.~~Avoid sidecasting road surface material which may reach streams and fish bearing water bodies.
~~RF-2g~~	~~Avoid sidecasting road surface material, which is prohibited on road segments within or leading into RCAs.~~

Standards and Guidelines	Conservation Measures
RF-3	Avoid adverse effects on TES and other native fish by implementing the following: • Relocating or reconstructing roads and drainage features that are not effective at controlling sediment delivery; • Prioritizing reconstruction based on the current and potential habitat damage and the ecological value of the riparian resources affected; and • Stabilizing, closing, or obliterating roads not needed for future management activities. Prioritize these actions based on the current and potential damage to native fish and the ecological value of riparian resources affected.
RF-4	New, ~~and~~ replacement, and reconstructed stream crossings (culverts, bridges, and other stream crossings) must be designed to: • Accommodate a 100-year flood, including associated bedload and debris; • Maintain fish and aquatic organism passage; ~~and~~ • Maintain channel integrity~~.~~; and • Accommodate mean bankfull channel widths. ~~For replacement crossings, potential benefits will be greater than the potential degradation to riparian conditions.~~ ~~See road construction and maintenance BMPs RF2c-1.~~
RF-5	Refer to Road Management Guidelines in **Appendix B** (Best Management Practices) (Volume II) for a complete list of road management standards and guidelines.

Standards and Guidelines	Conservation Measures
Grazing Management	
GM-1	~~Modify grazing practices (e.g., accessibility of riparian areas to livestock, length of grazing season, stocking levels, and timing of grazing) that retard or prevent attainment of RMOs or that are likely to adversely affect TES fish. Suspend grazing if adjusted practices are not effective in meeting RMOs and avoiding adverse effects on TES fish.~~Range project plans, allotment management plans, and annual plans of operation shall be developed, revised, and maintained where needed to achieve desired conditions and functional WACIs. These plans establish objectives and identify actions for managing vegetation resources to achieve desirable riparian and aquatic conditions. This may include grazing schedule, grazing system, season of use, class of livestock, stocking levels, forage products and utilization rates, and improvements needed to achieve functional desired conditions. The results of monitoring riparian and streamside condition will be used to determine the need for change.
GM-2	~~Locate new livestock handling and management facilities outside of RCAs. Ensure that existing livestock handling facilities inside RCAs do not prevent attainment of RMOs or adversely affect TES fish. Relocate or close facilities where these objectives cannot be met.~~ New management activities within or affecting RCAs shall be conducted only if they are consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional (desired conditions).
GM-3	~~Limit livestock~~ Existing land uses (trailing, bedding, watering, salting, loading, ~~and~~ other handling efforts~~ to those areas and times that would not prevent or retard attainment of RMOs or adversely affect TES fish.~~ , etc.), facilities (e.g., livestock handling and management facilities), and actions within or affecting RCAs shall be modified, discontinued, or relocated if they are not maintaining fully functional aquatic/riparian conditions and processes, or improving conditions and processes (through either active or passive measures) that are not fully functional.
GM-4	Develop and implement grazing practices in areas of known or suspected TES fish spawning to avoid or ~~reduce~~restrict trampling of redds (may require fencing) and other direct and indirect effects that may result in adverse impacts on the species.
GM-5	Following is a summary of the grazing management monitoring protocol for the riparian and aquatic strategy for the Cottonwood Field Office. 1. All grazing allotments will have an established designated monitoring area (DMA). A DMA is the location in riparian areas and along the streambanks of a livestock grazing unit where monitoring takes place. The DMA would be permanently marked (e.g., reference tags, rebar) and identified (e.g., mapped, GPS). The DMA should reflect typical livestock use where they enter and use vegetation in riparian areas immediately adjacent to the stream. 2. Within an allotment, emphasis for selection of DMAs would be on stream reaches with TES species, where spawning and/or early rearing occur (typically tributary streams to large mainstem rivers or 3rd to 5th order streams), or non-fish bearing streams that may affect TES streams, or mainstem rivers if riparian/streambank impacts are occurring from livestock use. 3. Monitoring requirements may include various levels or combinations of

Standards and Guidelines	Conservation Measures
	effectiveness monitoring and/or implementation monitoring. Examples of effectiveness monitoring would include greenline vegetation composition, woody species regeneration, streambank stability, and stream channel morphology. Examples of implementation monitoring would include residual vegetation measurement (e.g., stubble height), streambank alteration, compliance with season of use, and stocking rates. Effectiveness and implementation indicators monitored would be dependent on riparian and aquatic conditions and resource concerns. 4. Three intensities (e.g., high, moderate, and low) of grazing allotment monitoring will be conducted, and is dependent on sensitivity of the stream channel and potential for grazing effects to riparian areas, streambanks, and TES species. • High intensity monitoring (e.g., low gradient B and C channels, spawning and early rearing TES habitat, with high potential for grazing effects to TES species and habitats) and would include establishment of a streambank and riparian monitoring site (DMA) and monitoring a minimum of every one to three years. • Moderate intensity monitoring (e.g., low gradient B and C channels, spawning and early rearing TES habitat, with moderate potential for grazing effects to TES species and habitats) and would include establishment of a streambank and riparian monitoring site (DMA) and monitoring a minimum of every four to five years. • Low intensity monitoring (e.g., high gradient A channel, intermittent/perennial non-fish bearing stream, low potential for grazing effects to TES species or habitats), may include establishment of a photo point(s) and narrative description of channel, streambank, and riparian habitat, and monitoring would be conducted every 10 to 15 years. 5. The results of monitoring and BLM land attributed grazing effects to TES species and habitats would be evaluated for needed changes. If warranted, needed changes to grazing would be implemented to support achievement of desired conditions. Coordination would take place with BLM grazing leasees on actions that would change existing grazing authorizations. As needed, coordination would also occur with other federal and state agencies.

Standards and Guidelines	Conservation Measures
Recreation Management	
RM-1	~~Design, construct, and operate recreation facilities, including trails and dispersed sites, in a manner that does not retard or prevent attainment of the RMOs and that avoids adverse effects on TES fish. Complete watershed analysis before building recreation facilities in RCAs. The level of watershed or site-specific analysis should be commensurate with the scope and issues of the project and related aquatic resources. For recreation sites, the level of analysis would be more detailed for 5th-code HUCs and smaller, while for mainstem rivers (4th-code HUCs) the ability to adversely affect RMOs may not be as significant.~~ ~~At a minimum, the analysis should in all cases address sediment, LWD supply/recruitment, water temperature, and floodplain and riparian encroachment. Analysis will include the site scale, in the context of the reach scale, and watershed scales. Depending on site characteristics, additional factors may be included.~~ ~~For existing recreation facilities inside RCAs, ensure that the facilities or use of the facilities will not prevent attainment of RMOs or adversely affect TES fish. Relocate or close recreation facilities where RMOs cannot be met or adverse effects on TES fish cannot be avoided.~~Existing land uses, facilities (e.g., dispersed and developed recreation facilities and practices), and actions within or affecting RCAs shall be modified, discontinued, or relocated if they are not maintaining fully functional aquatic/riparian conditions and processes, or improving conditions and processes (through either active or passive measures) that are not fully functional. Avoid or minimize adverse effects on TES fish and habitats and desired conditions.
RM-2	~~Adjust dispersed and developed recreation practices that retard or prevent attainment of RMOs or adversely affect TES fish. Eliminate the practice or occupancy in cases where adjustment measures, such as education, use limitations, traffic control devices, increased maintenance, facilities relocation, and specific site closures are not effective in meeting RMOs and avoiding adverse effects on TES fish.~~Developed recreation sites will have a plan for each site that addresses site vegetation management, riparian/streambank management, implementation and effectiveness monitoring, and operating plans. Plan will identify actions needed to avoid or minimize adverse effects on TES fish and habitats and desired conditions.
RM-3	~~Address attainment of RMOs and potential effect on TES fish in Wild and Scenic Rivers, Wilderness, and other Recreation Management Plans.~~Complete watershed analysis and/or site-specific analysis prior to construction of a new developed recreation site in an RCA.
RM-4	New management activities within or affecting RCAs should be conducted only if they are consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional. New recreation site development and operation will avoid or minimize adverse effects on TES fish and habitats and desired conditions.

Standards and Guidelines	Conservation Measures
RM-5	When management activities are conducted within the sediment delivery influences area, ground disturbance shall be minimized and sufficient ground cover shall be retained to limit soil movement into the RCA to allow attainment of RCA objectives (desired conditions). Buffer widths, vegetation cover, and/or natural topography features should be sufficient to minimize risks for erosion/sediment reaching stream channels and other water bodies.
RM-6	Management activities and land uses in RCAs shall be implemented to attain proper functioning condition as an initial step to move habitat conditions of streams, riparian areas, lakes, and ponds toward achieving aquatic and RCA management objectives (desired conditions).
Minerals Management	
MM-1	~~(PACFISH) Avoid adverse effects on listed species and designated critical habitat from mineral operations. Require a reclamation plan, approved plan of operations (or other governing document), and reclamation bond if the notice of intent indicates that a mineral operation would be located in an RCA or could affect attainment of RMOs or adversely affect listed anadromous fish. For effects that cannot be avoided, plans and bonds must address the costs of removing facilities, equipment, and materials; recontouring disturbed areas to the topography before the land was mined; isolating and neutralizing or removing toxic or potentially toxic materials; salvaging or replacing topsoil; and preparing and revegetating seedbeds to attain RMOs and avoid adverse effects on listed anadromous fish. Ensure reclamation plans contain measurable attainment and band release criteria for each reclamation activity.~~For those management activities conducted pursuant to valid existing rights that may pose risks to achievement of RCA management objectives (desired conditions), existing authorities shall be used to mitigate and/or require, to the extent authorized, design features that would contribute to the maintenance of banks, shorelines, bottom configuration, water quality, amount and distribution of woody debris, thermal regulation, characteristic erosion rates, and amount and distribution of source habitats.
MM-2	~~Locate structures, support facilities, and roads outside RCAs. Where there is no alternative to siting facilities in RCAs, locate and construct the facilities in ways that avoid impacts on RCAs and streams and adverse effects on TES fish. Where there is no alternative to road construction, keep the number of roads to the minimum necessary for the approved mineral activity. Close, obliterate, and revegetate roads no longer required for mineral or land management activities.~~ Management activities and land uses in RCAs shall be implemented to attain proper functioning condition as an initial step to move habitat conditions of streams, riparian areas, lakes, and ponds toward achieving aquatic and RCA management objectives (WACIs).

Standards and Guidelines	Conservation Measures
MM-3	~~Prohibit solid and sanitary waste facilities in RCAs. If there is no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in RCAs and if releases can be prevented and stability can be ensured, then:~~ When management activities are conducted within the sediment delivery influences area, ground disturbance shall be minimized and sufficient ground cover shall be retained (existing vegetation and/or by seeding, plantings, and erosion control measures) to limit soil movement into the RCA to allow attainment of RCA objectives (desired conditions). Buffer widths, vegetation cover, and/or natural topography features should be sufficient to minimize risks for erosion/sediment reaching stream channels and other water bodies.
~~MM-3a~~	~~Analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics;~~
~~MM-3b~~	~~Locate and design the waste facilities using the best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials; if the best conventional technology is not sufficient to prevent releases and ensure stability over the long term, prohibit these facilities in RCAs;~~
~~MM-3c~~	~~Monitor waste and waste facilities to ensure chemical and physical stability, and make adjustments to operations as needed to avoid adverse effects on TES fish and RMOs;~~
~~MM-3d~~	~~Reclaim and monitor waste facilities to ensure chemical and physical stability and revegetation to avoid adverse effects on TES fish and to attain the RMOs; and~~
~~MM-3e~~	~~Require reclamation bonds adequate to ensure long-term chemical and physical stability and successful revegetation of mine waste facilities.~~
MM-4	New management activities (subject to existing mineral laws) within or affecting RCAs shall be designed to be consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional (desired conditions). New mineral management projects and operation will avoid or minimize adverse effects on TES fish and habitats, and desired WACIs.~~For leasable minerals, prohibit surface occupancy within RCAs for oil, gas, and geothermal exploration and development activities where contracts and leases do not already exist, unless there are no other options for location and RMOs can be attained and adverse effects on TES fish can be avoided. Adjust the operating plans of existing contracts to eliminate impacts that prevent attainment of RMOS and avoid adverse effects on TES fish.~~
MM-5	Locate structures, support facilities, solid and sanitary waste facilities, and roads outside RCAs. Where there is no alternative to locating facilities or mine waste (waste rock, spent ore, tailings) in RCAs, locate and construct the facilities or manage mine waste in ways that avoid impacts on RCAs and streams and adverse effects on TES fish and habitats, and desired conditions. Where there is no alternative to road construction, keep the number of roads to the minimum necessary for the approved mineral activity. Close, obliterate, and revegetate roads no longer required for mineral or land management activities.~~Permit sand and gravel mining and extraction within RCAs only if no alternatives exist, if the action would not retard or prevent attainment of RMOs, and adverse effects on TES fish would be avoided.~~

Standards and Guidelines	Conservation Measures
MM-6	Permit sand and gravel mining and extraction within RCAs only if no alternatives exist, if the action would not retard or prevent attainment of desired conditions, and adverse effects on TES fish would be avoided.~~Develop inspection, monitoring, and reporting requirements for mineral activities. Evaluate and apply the results of inspection and monitoring to modify mineral plans, leases, or permits as needed to eliminate impacts that prevent attainment of RMOs and avoid adverse effects on TES fish.~~
MM-7	Develop inspection, monitoring, and reporting requirements for mineral activities. Evaluate and apply the results of inspection and monitoring to modify mineral plans, leases, or permits as needed to eliminate impacts that prevent attainment of desired conditions and avoid adverse effects on TES fish and habitats.
Fire Management	
FM-1	~~Design and implement fire suppression strategies, practices, and actions so as not to retard or prevent attainment of RMOs in the long term (see RA-6). Strategies should recognize the role of fire in ecosystem function and identify those instances where fire suppression actions could perpetuate or be damaging to long-term ecosystem function or TES fish.~~ Fire Suppression strategies, practices, and actions in RCAs should be designed to maintain desired conditions and minimize disturbances of riparian ground cover and vegetation. Minimum impact suppression techniques shall be used within RCAs unless safety to human live or property is an issue.
FM-2	~~Locate incident~~An interdisciplinary team, including a fishery biologist, to the extent practical shall be used to predetermine incident base, dipping, and helibase locations during pre-suppression planning. Incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities shall be located outside of RCAs. If the only suitable location for these activities is within the RCA, an exemption may be granted following a review and recommendation by a resource advisor. The advisor ~~will~~should prescribe the location, use conditions, and rehabilitation requirements, with avoidance of adverse effects ~~on TES fish~~to terrestrial, aquatic, and riparian resources as a primary goal.~~ Use an interdisciplinary team, including a fishery biologist, for fire prevention planning to determine incident base and helibase.~~
FM-3	Avoid delivery of chemical retardant, foam, or additives to, or discharge of gray water into, surface waters. An exception is warranted where overriding immediate safety imperatives exist~~ or if these materials are approved for aquatic use~~, or, following a review and ~~pose no risk to TES fish. An exception may be warranted~~ recommendation by a resource advisor, when the action agency~~, with concurrence from the resource advisor, fisheries biologist, or line officer~~ determines a~~n escape~~ fire would cause more long-term damage to fish habitats than chemical delivery to surface waters.
FM-4	~~Design prescribed burn projects and prescriptions to contribute to the attainment of the RMOs.~~Management activities and land uses in RCAs shall be implemented to attain proper functioning condition for aquatic and riparian habitats as an initial step to move habitat conditions of streams, riparian areas, lakes, wetlands, and ponds toward achieving aquatic and RCA management objectives (desired conditions).

Standards and Guidelines	Conservation Measures
FM-5	New management activities within or affecting RCAs shall be conducted only if they are consistent with the RCA management objectives of not precluding or maintaining functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional (desired conditions). Management actions will balance short-term risks (to aquatic and other resources) with long-term benefits as actions are considered to move toward a natural variability of conditions.
FM-6	Immediately establish an interdisciplinary team to develop a rehabilitation plan to support achievement of desired conditions and avoid adverse effects on TES species whenever RCAs or uplands have experienced severe damage to soils and vegetation from fire.
Lands and Realty	
~~LH-1~~LR-1	New management activities (subject to existing laws) within or affecting RCAs shall be designed and implemented to be consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions and processes (through either active or passive measures) that are not fully functional (WACIs). New lands and realty projects will avoid or minimize adverse effects on TES fish and habitats, and desired conditions. ~~Require instream flows and habitat conditions for hydroelectric and other surface water development proposals that maintain or restore riparian resources, favorable channel conditions, and fish passage, reproduction, and growth. Coordinate this process with the appropriate state agencies. When relicensing hydroelectric projects, provide written and timely license conditions to the Federal Energy Regulatory Commission that require fish passage and flows and habitat conditions that maintain/restore riparian resources and channel integrity. Coordinate relicensing projects with the appropriate state agencies.~~
~~LH-2~~LR-2	For those management activities conducted pursuant to valid existing rights that may pose risks to achievement of RCA management objectives (desired WACIs), existing authorities shall be used to mitigate and/or require, to the extent authorized, design features that would contribute to the maintenance of banks, shorelines, bottom configuration, water quality, amount and distribution of woody debris, thermal regulation, characteristic erosion rates, and amount and distribution of source habitats. ~~Locate new hydroelectric ancillary facilities outside RCAs. For existing ancillary facilities inside the RCA that are essential to proper management, provide recommendations to Federal Energy Regulatory Commission to ensure that the facilities would not prevent attainment of the RMOs and that adverse effects on TES fish are avoided. Where these objectives cannot be met, recommend to Federal Energy Regulatory Commission that these ancillary facilities should be relocated. Locate, operate, and maintain hydroelectric facilities that must be located in RCAs to avoid effects that would retard or prevent attainment of the RMOs and avoid adverse effects on TES fish.~~

Standards and Guidelines	Conservation Measures
~~LH-3~~LR-3	When management activities are conducted within the sediment delivery influences area, ground disturbance shall be minimized and sufficient ground cover shall be retained (existing vegetation and/or by seeding, plantings, and erosion control measures) to limit soil movement into the RCA to allow attainment of RCA objectives (WACIs). Buffer widths, vegetation cover, and/or natural topography features should be sufficient to minimize risks for erosion/sediment reaching stream channels and other water bodies. ~~Issue leases, permits, rights-of-way, and easements to avoid effects that would retard or prevent attainment of the RMOs and TES fish. Where the authority to do so was retained, adjust existing leases, permits, rights-of-way, and easements to eliminate effects that would retard or prevent attainment of the RMOs or adversely affect native aquatic species or water quality. Priority for modifying existing leases, permits, rights-of-way, and easements would be based on the current and potential adverse effects on TES fish and the ecological value of the riparian resources affected.~~
~~LH-4~~LR-4	During licensing or relicensing of hydroelectric projects, terms and conditions that achieve aquatic and RCA management objectives (i.e., desired conditions) over the new license term shall be submitted to the Federal Energy Regulatory Commission, where appropriate. ~~Use land acquisition, exchange, and conservation easements to meet RMOs and facilitate restoration of fish stocks and other species at risk of extinction.~~
LR-5	Use land acquisition, exchange, and conservation easements to support achievement of desired conditions and facilitate restoration of TES species.
General Riparian Area Management	
RA-1	Management activities and land uses in RCAs shall be implemented to attain proper functioning condition as an initial step to move habitat conditions of streams, riparian areas, lakes, wetlands, and ponds toward achieving aquatic and RCA management objectives (desired conditions).~~Identify and coordinate with federal, tribal, state, and local governments to secure instream flows needed to maintain riparian resources, channel conditions, and aquatic habitat.~~
RA-2	~~Trees may be felled in~~New management activities within or affecting RCAs ~~when~~shall be conducted only if they ~~pose a safety risk. Keep felled trees on-site when needed to meet woody debris~~are consistent with the RCA management objectives of maintaining fully functional aquatic/riparian conditions and processes, and improving conditions (WACIs) and processes (through either active or passive measures) that are not fully functional. Riparian management actions will avoid or minimize adverse effects on TES and other native fish and habitats, and desired conditions. Management actions will balance short-term risks (to aquatic and other resources) with long-term benefits as actions are considered to move toward a natural variability of conditions.
RA-3	Identify and coordinate with federal, tribal, state, and local governments to secure instream flows needed to maintain riparian resources, channel conditions, and aquatic habitat. ~~Apply herbicides, pesticides, and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of RMOs and avoids adverse effects on TES fish.~~

Standards and Guidelines	Conservation Measures
RA-4	Trees may be felled in RCAs when they pose a safety risk. Keep felled trees on-site when needed to meet woody debris objectives. ~~Prohibit storage of fuels and other toxicants and refueling within RCAs unless there are no other practicable alternatives. Refueling sites and storage areas within an RCA must be approved and have an approved spill containment plan.~~
RA-5	~~Locate water drafting sites to avoid adverse effects on TES fish~~Apply pesticides (herbicides, insecticides, etc.), and ~~instream flows~~other toxicants, and other chemicals in a manner that does not retard or prevent attainment of ~~RMOs.~~ desired conditions~~WACIs~~ and avoids adverse effects on TES fish. When applying pesticides, etc. in a RCA, a spill kit will onsite at all times. Prohibit storage and mixing of pesticides (herbicides, insecticides, etc.) within RCA's unless there are no other practicable alternatives.
RA-6	Prohibit storage of fuels and other toxicants and refueling within RCAs unless there are no other practicable alternatives. Refueling sites and storage areas within a RCA will have an approved refueling and spill containment plan.~~Do not undertake management activities that would retard attainment of trends toward improving aquatic and riparian habitats in restoration subwatersheds. Short-term adverse effects (discountable or negligible effects) are acceptable, if they would not preclude attainment of long-term improvement to aquatic and riparian habitats. Because of past land uses and habitat degradation (e.g., road encroachment on streams, dredge mining, fish passage barrier culverts), it is acceptable to have short-term adverse effects to achieve long-term benefits.~~
RA-7	Locate water drafting sites to avoid adverse effects on TES and other native fish and instream flows and in a manner that does not retard or prevent attainment of desired conditions.
RA-8	Do not undertake management activities that would retard attainment of trends toward improving aquatic and riparian habitats in restoration subwatersheds. Short-term adverse effects are acceptable, if they would not preclude attainment of long-term improvement to aquatic and riparian habitats. Because of past land uses and habitat degradation (e.g., road encroachment on streams, dredge mining, fish passage barrier culverts), it is acceptable to have short-term adverse effects to achieve long-term benefits.
Watershed and Habitat Restoration	
WR-1	Management activities and land uses in RCAs shall be implemented to help promote achievement or maintenance of desired WACIs. ~~Design and implement watershed restoration projects in a manner that promotes the long-term ecological integrity of ecosystems, conserves the genetic integrity of native species, and contributes to attainment of RMOs.~~

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

Standards and Guidelines	Conservation Measures
FW-3 ~~FW-2~~	Design, construct, and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of the ~~RMOs~~ desired conditions or adversely affect TES fish. For existing fish and wildlife interpretive and other user-enhancement facilities inside RCAs, ensure the RMOs are met and adverse effects on TES fish are avoided. Where RMOs cannot be met or adverse effects on TES fish avoided, relocate or close these facilities.
FW-4	Cooperate with federal and state wildlife management agencies to identify and eliminate wild ungulate impacts that prevent attainment of the desired conditions or adversely affect TES fish.
FW-5 ~~FW-4~~	Cooperate with federal and state fish management agencies to identify and eliminate adverse effects on native anadromous fish associated with habitat manipulation, fish stocking, fish harvest, and poaching.

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APPENDIX G—SPECIAL STATUS SPECIES

INTRODUCTION

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

SPECIAL STATUS PLANT SPECIES

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

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

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

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

Common Name *Scientific Name*	Habitat	Idaho BLM Status	Number of Populations[1]
Deer-fern *Blechnum spicant*	Occurs at lower elevations (less than 4,200 ft.) within dense, moist, generally mature western red cedar and western hemlock forests. Most often grows in western redcedar/wild ginger (*Asarum caudatum*), western hemlock/wild ginger, or western hemlock/oakfern (*Gymnocarpium dryopteris*) habitat types. Usually on northern aspects and moderate slopes (10–60%).	3	1
Green-band mariposa lily *Calochortus macrocarpus* var. *maculosus*	Endemic to the canyons of the Lower Salmon, Lower Clearwater, and Lower Snake Rivers. Most commonly associated with bluebunch wheatgrass communities and to a lesser extent, Idaho fescue communities. It occurs primarily on dry, warm, south-facing slopes.	2	22
Broad-fruit mariposa lily *Calochortus nitidus*	Endemic to the Palouse Prairie and canyon grasslands and associated with canyon rims, ridges and upper slopes. It also occurs within natural forest openings and open ponderosa pine and/or Douglas-fir communities in forested uplands. The plant is shade-intolerant that occurs on flat to gentle or occasionally steep slopes, on all aspects.	2	47
Case's corydalis *Corydalis caseana* ssp. *hastata*	Primarily found along streams within the riparian area. Commonly found in cedar, Engelmann spruce and grand fir habitat types.	3	18
Idaho hawksbeard *Crepis bakeri* ssp. *idahoensis*	Found in Snake River canyonlands. It is widely scattered on dry to seasonally mesic open grassland slopes, benches, and ridges. It occurs on loamy and skeletal soils within canyon grasslands, primarily bluebunch wheatgrass-Sandberg's bluegrass and Idaho fescue/bluebunch wheatgrass communities.	2	1
Dwarf gray rabbitbrush *Chrysothamnus nauseosus* ssp. *nanus*	Primarily restricted to exposed, dry, rocky ridges, outcrops, and associated stable, erosional debris. Most often found in the Craig Mountain area above 4,000 feet elevation. Soils are very shallow, rocky, and often with a gravelly and hard texture approaching an erosional pavement surface.	5	7
Chatterbox orchid *Epipactis gigantean*	Occurs within moist riparian habitats associated with springs, seeps, stream banks, and thermal sites.	3	1
Palouse goldenweed *Haplopappus liatriformis*	Palouse Prairie and canyon grasslands, generally within the Idaho fescue and bluebunch wheatgrass habitat types. Other typical associated species include: prairiesmoke, western yarrow, northwest cinquefoil, and Nootka rose. Occurs from 1,900 to 3,000 feet.	2	2
Puzzling halimolobos *Halimolobos perplexa* var. *perpleja*	Found in the main Salmon River and Little Salmon River drainages and their tributaries. Commonly found on road cuts and other areas with disturbed soils.	5	5

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

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

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

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

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

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

Idaho BLM Special Status Plants Include Type 1 Through Type 4

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

Idaho BLM Sensitive Plant Species Include Type 2 Through Type 4

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

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

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

Idaho BLM Watch List Plant Species Include Type 5

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

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

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

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

Common Name ***Scientific Name***	**Habitat**	**ESA Status (Idaho BLM Status)[1]**
Gray wolf *Canis lupus*	Key components of wolf habitat are sufficient year-round prey base of ungulates and alternative prey, suitable and semi-secluded denning and rendezvous sites, and sufficient space with minimal exposure to humans.	Experimental – Nonessential Population
Bald eagle *Haliaeetus leucocephalus*	Winter habitat for the bald eagle is primarily associated with the larger rivers and corridors, such as the Snake, Salmon, Clearwater River, South Fork Clearwater Rivers; and Dworshak Reservoir. Bald eagles will also utilize lower elevation uplands and prairie areas during winter periods, particularly if carrion is available. Winter habitat for bald eagles is a function of perch and roost site availability, as well as access to fish, waterfowl, and ungulate carrion as forage/prey. Nest sites have been documented in the Dworshak Reservoir area.	Threatened
Canada lynx *Lynx canadensis*	Preferred habitats are Engelmann spruce/subalpine fir habitats above 4,000 feet in elevation. Lynx foraging habitat corresponds with snowshoe hare habitat because the hare is the lynx's primary prey. Snowshoe hare are most abundant in seedling/sapling lodgepole pine, subalpine fir, and Engelmann spruce. Den sites typically in hollow logs or rootwads within mesic, mature, or old growth coniferous forest.	Threatened
Northern Idaho Ground Squirrel *Spermophilus brunneus brunneus*	Preferred habitats include dry, rocky, sparsely vegetated meadows surrounded by forests of ponderosa pine or Douglas-fir. Meadow sites generally consist of dry, shallow soils with no tree encroachment. Ponderosa pine-shrub steppe habitat is also a characteristic of preferred habitat, below 6,000 feet. Recently found in a sub-alpine fire habitat along a ridge at approximately 7,500 feet. Within the planning area, only documented occurrences to date in Adams County.	Threatened
Yellow-billed cuckoo *Coccyzus americanus*	Prefers riparian habitats with large dense stands of cottonwood and willow.	Candidate

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

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

Common Name ***Scientific Name***	**Habitat**
Mammals	
Wolverine *Gulo gulo luscus*	Forested areas with minimal human intrusions at higher elevations provide preferred habitats.
Fisher *Martes pennanti*	Dense canopied, late seral timber types at higher elevations. Dead and down timber in grand fir, Douglas-fir, or other conifer types are most preferred.
California myotis *Myotis californicus*	Found in lower elevation areas up to approximately 5,500 feet. Uses a variety habitats, such as canyons, riparian areas, and grasslands. Within Idaho, primarily found in Adams County.
Fringed myotis *M. thysanodes*	Large trees, caves, mine tunnels, attics of old buildings. Insectivorous.
Townsend's big-eared bat *Plecotus townsendii*	Caves, mine tunnels, and buildings for roosts, obligate cave/mine user, may also feed on ground or in shrubs. Insectivorous.
Coast mole *Scapanus orarius*	Found in agricultural lands, grassy meadows, coniferous and deciduous forests and woodlands, and along streams. In Idaho, primarily found in Adams County.
Birds	
Peregrine falcon *Falco peregrinus anatum*	Primarily open country; specifically cliff localities adjacent to mountain valleys, rivers, and large bodies of water. Nest is cape on ledge of high cliff. Foods are primarily small birds.
Northern goshawk *Accipiter gentilis*	Forests, forest edge, open woodlands. Most common in ponderosa pine, lodgepole pine and Douglas-fir forests. Riparian habitats in winter. Nests are masses of twigs in tall conifers. Foods are tree squirrels, jackrabbits, ground squirrels, small birds, and occasionally grouse.
Ferruginous hawk *Buteo regalis*	Open sagebrush, foothills, and grasslands with meadows interspersed. In winter open areas. Nests of sticks, grass, weeds, located on ground, rocks, trees, and large shrubs. Foods are rabbits, mice, and small rodents.
Prairie falcon *Falco mexicanus*	Steppe, canyon grasslands, to forests with cliffs. Nest is sticks and twigs on niche of cliff. Foods are ground squirrels, rodents, small birds.
Flammulated owl *Otus flammeolus*	Montane forests, open stands of fire-climax ponderosa pine or Douglas-fir forests. Nests in abandoned woodpecker holes. Primarily insectivorous.
Harlequin duck *Histrionicus histrionicus*	In Idaho, breeds on forested mountain streams of relatively low gradient free of human disturbance. Breeds primarily on crustaceans, mollusks, insects, and a few small fishes. Has been found in Lochsa River and Lolo Creek drainages.
Lewis woodpecker *Melanerpes lewis*	Open or logged forests, river groves in mountains. Nest is a hole in a tree. Foods are insects, berries, and fruits.
White-headed woodpecker *Picoides albolarvatus*	Montane coniferous forests, primarily dry open forests with ponderosa pine and Douglas-fir. Nest is a hole in tree or stump, often close to ground. Food is primarily insects.
Williamson's sapsucker *Sphyrapicus thryoideus*	Coniferous forests and burns at higher elevations in mountains. Nest is hole in tree. Foods are sap, insects, and inner bark.

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

Common Name ***Scientific Name***	**Habitat**
Mountain quail *Oreotys pictus*	Riparian areas, shrub mountainsides, coniferous forests, and forest edge. Nests on ground. Foods are buds, seeds, grain, and insects.
Olive-sided flycatcher *Contopus borealis*	Open timber at meadow margins in sparse timber, burns, partially logged areas. Nest is woven twigs near end of a horizontal limb of a conifer. Food are insects caught while flying.
Hammond's flycatcher *Empidonax hammondii*	Found in coniferous forests and woodlands. Uses mature to over-mature forests; they are found in areas with large, tall trees and nest in mature trees. Prefer old-growth to mature stands of ponderosa pine and Douglas-fir. Nest is woven cup of vegetation in deciduous tree. Eats such insects as beetles, moths, flies, bees, and wasps.
Willow flycatcher *E. traillii*	Riparian areas, swamps, willow thickets, open woodlands. Builds cup-shaped nest in shrub or deciduous tree. Insectivorous.
Calliope hummingbird *Stellula calliope*	Foothills and forested mountains. Nests in conifers. Foods are nectar and insects.
Brewer's sparrow *Spizella breweri*	Lowest elevations to highest (8,000 feet or more) in sagebrush valleys, dry grassy ridges of foothills, brushy plains to tree line, cultivated areas with brushy fence rows or patches. Nest is cup of grass and twigs usually in sagebrush. Foods are insects and seeds.
Reptiles	
Common garter snake *Thamnophis sirtalis*	Inhabits wet or moist habitats. Preys primarily on earthworms, frogs, toads, salamanders, and fish.
Amphibians	
Northern leopard frog *Rana pipiens*	From desert low land to high mountains. Springs, creeks, rivers, ponds, canals, reservoirs where there is permanent water and growth of cattails or other aquatic vegetation. Insectivorous.
Coeur d'Alene salamander *Plethodon idahoensis*	Found in three primary habitats, which include springs or seepages, spray zones of waterfalls, and edges of streams. Often associated with fractured rock. Found in forested areas of northern Idaho. Areas within north--central Idaho include the North Fork Clearwater River, Lochsa River, and Selway River drainages.
Idaho giant salamander *Dicamptodon aterrimus*	Larvae usually inhabit clear cold streams but are also found in mountain lakes and ponds. Adults are found under rocks and logs in humid forests, near mountain streams, or on rocky shores of mountain lakes. Larvae feed on wide variety of aquatic invertebrates as well as some small vertebrates (e.g., fishes, tadpoles, or other larval salamanders). Adults eat terrestrial invertebrates, small snakes, shrews, and salamanders.
Western toad *Bufo boreas*	Streams, springs, grasslands, woodlands, mountain meadows. Usually in or near ponds, lakes, reservoirs, rivers, streams. Insectivorous.
Woodhouse toad *B. woodhousii*	Found in grasslands, shrub steppe, woods, river valleys, floodplains, and agricultural lands, usually in areas with deep, friable soils. Metamorphosed toads eat various small, terrestrial invertebrates. Larvae eat suspended matter, organic debris, algae, and plant tissue. Within north-central Idaho, primarily found in suitable habitats in Clearwater River subbasin (e.g., Nez Perce and Lewis Counties and northwest portion of Idaho County).

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

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

SPECIAL STATUS FISH SPECIES

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

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

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

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

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

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

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

APPENDIX H—WILDLAND FIRE MANAGEMENT—ALTERNATIVES A, B, C, AND D

WILDLAND FIRE MANAGEMENT OPTIONS—ALTERNATIVES A, B, C, AND D

Summary of ~~FMU~~ FMA Priorities

Fire management priorities were identified to rank fire management ~~units~~ areas (~~FMU~~FMA) and were derived using specific ~~FMU~~FMA condition assessments and fire management goals from the National Fire Plan and the MFP. In the event of multiple wildland fire ignitions or limited resources/funding, these CFO priorities should be considered. Priorities were established among ~~FMU~~FMAs for fire suppression, fuels treatment, and community assistance/protection actions using a rating system of Low, Moderate, and High. ~~FMU~~FMAs are depicted on **Figure 11**, Fire Management Units (see Volume IV of the Cottonwood Draft RMP/EIS).

Table H-1
Priority Ranking Among ~~FMU~~FMAs in the CFO

~~FMU~~FMA	Suppression	Wildland Fire Use	Prescribed Fire Treatments	Non-Fire Fuels Treatment	Emergency Stabilization and Rehabilitation	Community Assistance/ Protection
Clearwater	Low	No	Low	Low	N/A	High
Craig Mountain	Moderate	Yes*	Moderate	Moderate	N/A	Low
Elk City	Moderate	No	High	High	N/A	Moderate
Salmon	High	No	High	High	N/A	High

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

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

Suppression Priorities

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

1. Firefighter and public safety is the first priority.

2. Other priorities will support BLM fire policy and the MFP, as amended, and will be reflected in all Wildland Fire Situation Analyses. CFO priorities include:

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

Suppression Protocols Common to All ~~FMU~~FMAs

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

- Follow the Programmatic Biological Assessment of the Fire Management Program or appropriate updated or amended Programmatic Biological Assessment of the Fire Management Program (BLM 1999b).
- Fire line construction should avoid cultural resource sites and Endangered Species Act listed plant populations when feasible.
- Avoid dozer line construction within RHCAs where practical. Prior to the construction of machine fire lines, an aquatic specialists or qualified resource advisor, will review the flagged location for the fire line and identify concerns and recommendation.
- Within WSAs, fuels and vegetation treatments and wildland fire management activities should follow BLM Manual H-8550-1, Interim Policy for Lands Under Wilderness Review. The use of earth-moving equipment within these areas requires approval of the authorized officer.
- Fire camps and staging areas should be placed outside of special management areas. Encourage use of natural firebreaks and existing roads to contain a wildland fire.
- Encourage the use of natural firebreaks and existing roads to contain wildland fire.
- Evaluate the resource values, hazards present, and management prescriptions within specific areas when applying guidelines to ACECs.
- Establishment of control lines, base camps, and support facilities should be avoided in known habitat for special status species unless life and property are threatened (see Programmatic Biological Assessment of the Fire Management Program [BLM 1999b]).

- Protect and/or maintain municipal watersheds.
- Maintain interagency cooperation to facilitate coordinated fire management activities across administrative boundaries.
- Fire management activities will take into account Nez Perce Tribal trust interests.
- When a wildland fire escapes initial attack, the responsible line officer will determine if a BLM resource advisor will be assigned to ensure that resource management concerns are adequately addressed and that necessary mitigation occurs. The resource advisor will ensure emergency consultation is initiated with USFWS and/or National Marine Fisheries Service whenever suppression activities impact special status species habitat.
- Conduct fire suppression and prescribed burning in accord with PACFISH standards and guidelines, CFO Programmatic Biological Assessment of the Fire Management Program (BLM 1999b), and as needed, appropriate Section 7 consultation (Endangered Species Act).
- To minimize spread of noxious and invasive plant species, equipment used for suppression should be cleaned before arriving on-site and prior to leaving the incident. Staging areas and fire camps should not be located on sites with noxious and invasive plant species infestations.
- Developed recreation sites and structures on public lands will be protected.
- Follow MIST guidelines to protect special status species habitat, Special Management Areas, and highly erodible soils and to prevent habitat fragmentation, the spread of noxious and invasive plant species, damage to ACECs and RNAs, and any known cultural or historical resources.
- Prior to fire season, a resource advisor will coordinate with the BLM archeologist to determine potential areas of conflict between archeological resources and fire suppression activities.
- Prior to fire suppression activities, the Resource Advisor will coordinate with the BLM Archeologist to determine areas of potential conflict between archeological resources and fire suppression activities. Resource Advisors will contact the cultural resource specialist prior to implementing any fire suppression activities to gather information on types of sites and their locations on the landforms and will continue contact with the archeologist during the duration of the fire suppression activities. The Resource Advisor will coordinate with the BLM archeologist regarding consultation with the Idaho State Historic Preservation Office and tribal groups.
- The CFO archaeologist will be notified of any cultural resources encountered during suppression activities.
- The repair of fire suppression activity damage is to be planned and performed primarily by the suppression incident organization as soon as possible and prior to demobilization whenever practical. Funding for fire suppression activity damage repair actions will be charged to the project code for the wildfire suppression effort that resulted in the damage.

Fuels Treatment Priorities

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

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

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

The CFO will use prescribed fire and non-fire fuels treatment to support objectives identified in the MFP. Specific geographic areas within each ~~FMU~~FMA may be prioritized for treatment based on National Fire Plan direction.

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

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

Table H-2 below displays a range of projected annual fuels treatment acres that will meet National Fire Plan and Chief Joseph MFP goals. The low end of the range displays current fiscal year 2004 treatment acres. The high end of the range represents maximum treatment acres recommended to achieve the goals of the MFP.

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

Table H-2
Alternative A – Current and Projected Range of Annual Fuels Treatment Acres for the CFO

Applicable BLM Acres		Non-Fire Fuels Acres		Prescribed Fire Acres	Total Treatment Acres
~~FMU~~FMA	Acres	Mechanical	Other[1]		
Clearwater	22,279	50-450	100-1,400	150-300	300-2,150
Craig Mountain	28,347	0-500	200-2,200	250-900	450-3,600
Elk City	13,028	100-600	100-400	100-600	300-1,600
Salmon	79,702	300-600	1,300-7,200	1,000-2,000	2,600-9,800
Total	143,356	450-2,150	1,700-11,200	1,500-3,800	4,000-17,150

[1] Other includes seedings, biological treatments, and chemical applications
Source: BLM 2005c

Fuels Treatment Protocols Common to All ~~FMU~~FMAs

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

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

Emergency Stabilization and Rehabilitation Priorities

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

Emergency Stabilization and Rehabilitation Protocols Common to All ~~FMU~~FMAs

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

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

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

Human Life and Safety

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

Soil/Water Stabilization

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

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

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

Critical Heritage Resources

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

Invasive Plants

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

Monitoring

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

Rehabilitation

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

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

Lands Unlikely to Recover Naturally

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

Weed Treatments

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

Tree Planting

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

Repair/Replace Fire Damage to Minor Facilities

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

Monitoring

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

Community Assistance/Protection Priorities

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

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

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

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

Community Assistance/Protection Protocols Common to All ~~FMU~~FMAs

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

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

Values at Risk

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

Table H-3
Clearwater ~~FMU~~FMA Values at Risk

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

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

Other Wildlife Considerations
None noted

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

Table H-4
Values at Risk in the Craig Mountain ~~FMU~~FMA

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

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

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

Table H-5
Values at Risk in the Elk City ~~FMU~~FMA

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

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

	Other Wildlife Considerations
	None noted

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

Table H-6
Values at Risk in the Salmon ~~FMU~~FMA

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

Table H-6
Values at Risk in the Salmon ~~FMU~~FMA *(continued)*

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

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WILDLAND FIRE MANAGEMENT MAPS—ALTERNATIVES A, B, C, AND D

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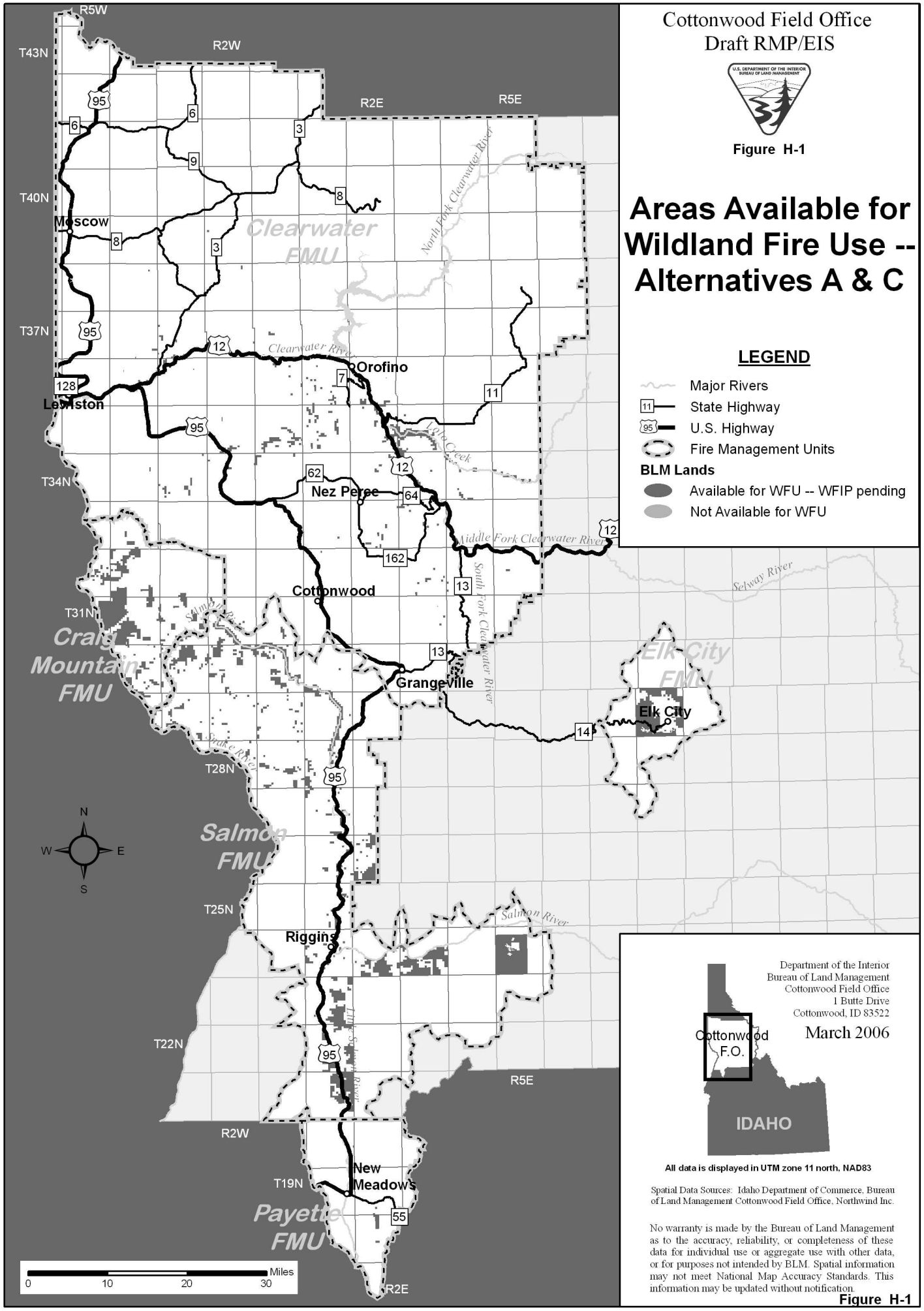
Cottonwood Field Office
Draft RMP/EIS
Figure H-1
Areas Available for Wildland Fire Use -- Alternatives A & C
LEGEND
Major Rivers
State Highway
U.S. Highway
Fire Management Units
BLM Lands
Available for WFU -- WFIP pending
Not Available for WFU
R5W
R2W
R2E
R5E
T43N
T40N
T37N
T34N
T31N
T28N
T25N
T22N
T19N
Moscow
Clearwater FMU
North Fork Clearwater River
Clearwater River
Orofino
Lewiston
Lapwai Creek
Nez Perce
Middle Fork Clearwater River
Selway River
Cottonwood
South Fork Clearwater River
Salmon River
Craig Mountain FMU
Grangeville
Elk City FMU
Elk City
Snake River
Salmon FMU
Salmon River
Riggins
Little Salmon River
New Meadows
Payette FMU
Miles
0
10
20
30
Department of the Interior
Bureau of Land Management
Cottonwood Field Office
1 Butte Drive
Cottonwood, ID 83522
March 2006
Cottonwood F.O.
IDAHO
All data is displayed in UTM zone 11 north, NAD83
Spatial Data Sources: Idaho Department of Commerce, Bureau of Land Management Cottonwood Field Office, Northwind Inc.
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Figure H-1

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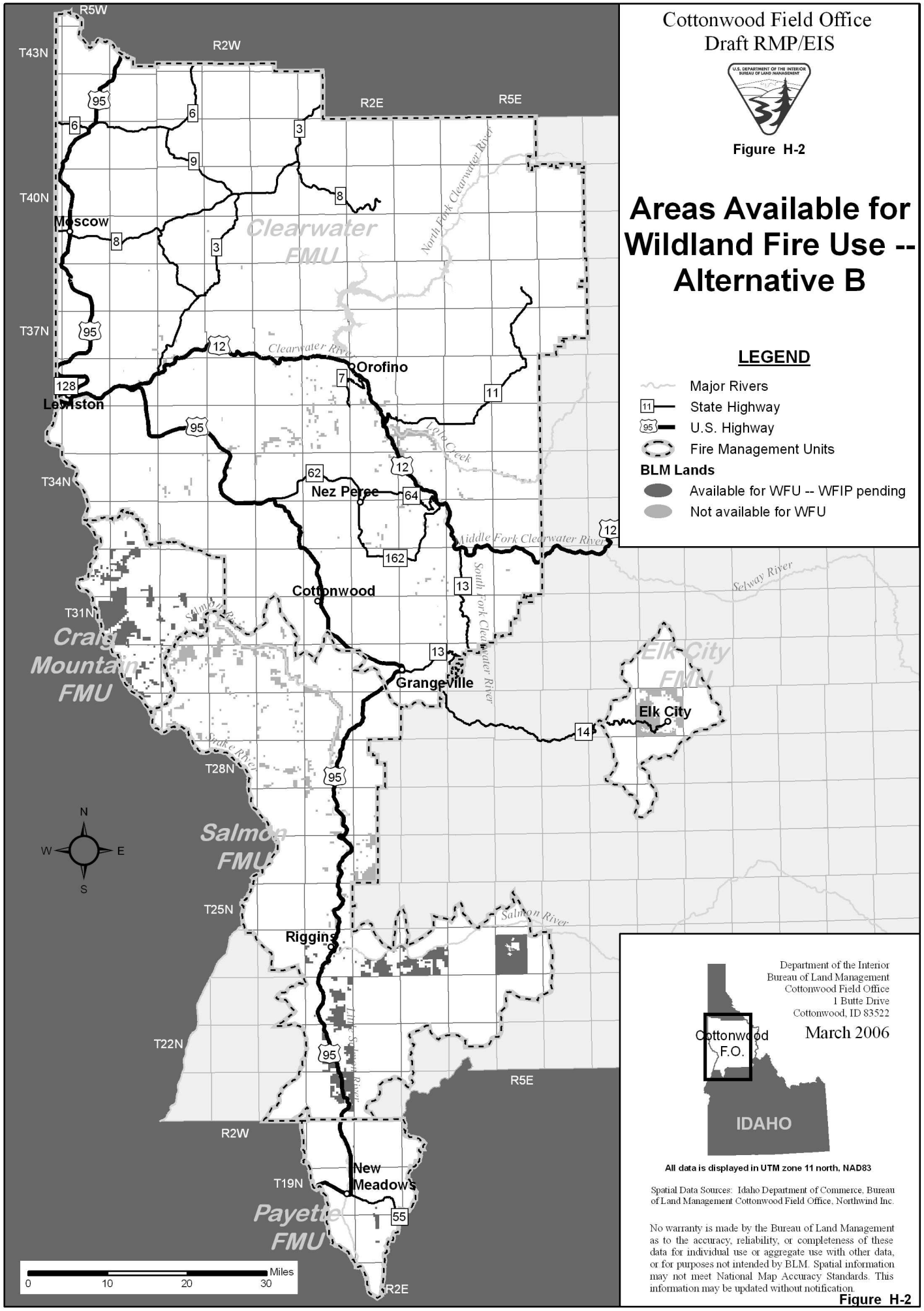
Cottonwood Field Office
Draft RMP/EIS
Figure H-2
Areas Available for Wildland Fire Use -- Alternative B
LEGEND
Major Rivers
State Highway
U.S. Highway
Fire Management Units
BLM Lands
Available for WFU -- WFIP pending
Not available for WFU
R5W
R2W
R2E
R5E
T43N
T40N
T37N
T34N
T31N
T28N
T25N
T22N
T19N
Moscow
Lewiston
Orofino
Nez Perce
Cottonwood
Grangeville
Elk City
Riggins
New Meadows
Clearwater FMU
Craig Mountain FMU
Salmon FMU
Elk City FMU
Payette FMU
Clearwater River
North Fork Clearwater River
Lapwai Creek
Middle Fork Clearwater River
South Fork Clearwater River
Selway River
Salmon River
Snake River
Little Salmon River
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Bureau of Land Management
Cottonwood Field Office
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Cottonwood, ID 83522
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Spatial Data Sources: Idaho Department of Commerce, Bureau of Land Management Cottonwood Field Office, Northwind Inc.
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Miles
0 10 20 30
N
S
E
W

Figure H-2

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Cottonwood Field Office
Draft RMP/EIS

Figure H-3

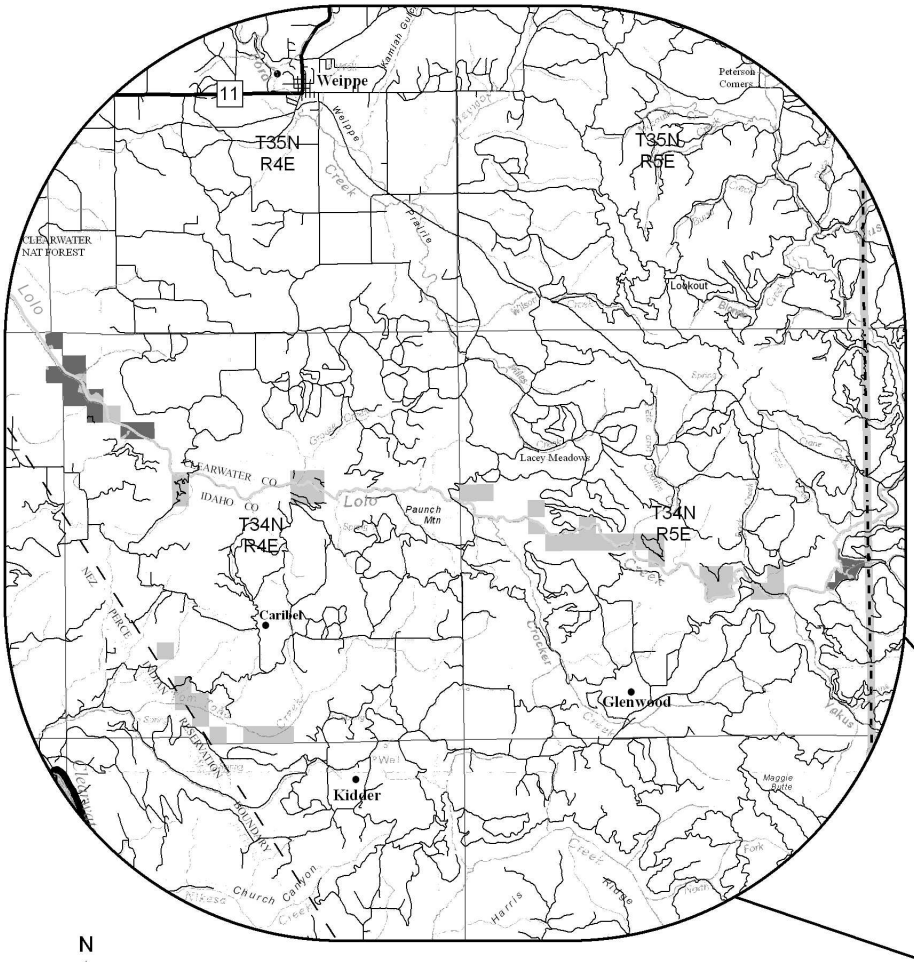
Areas Available for Wildland Fire Use -- Alternative D

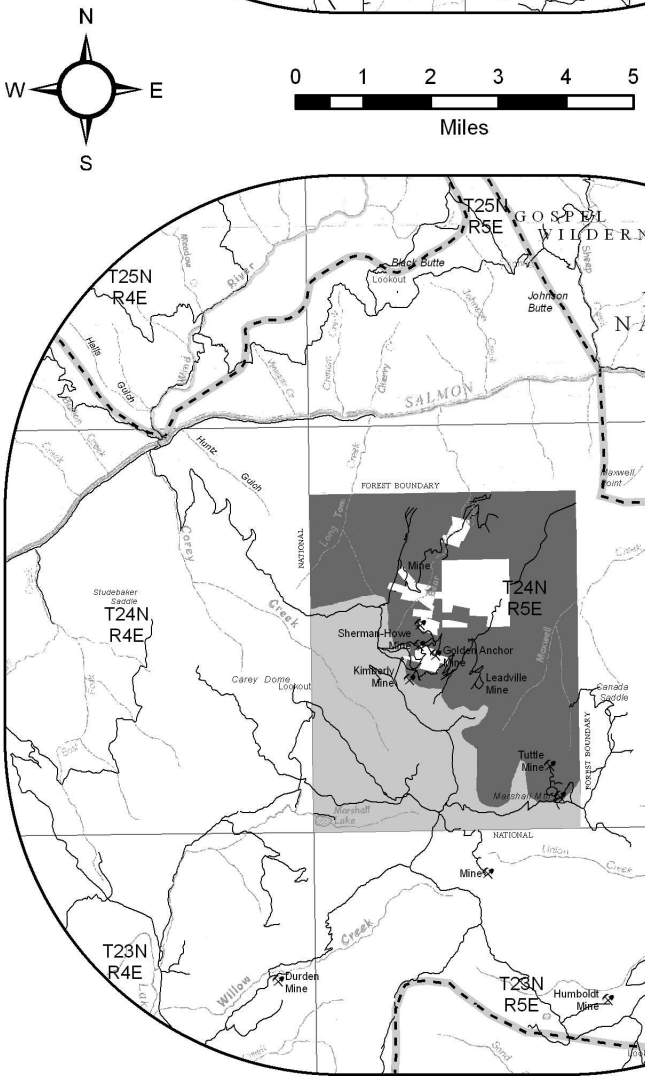
LEGEND

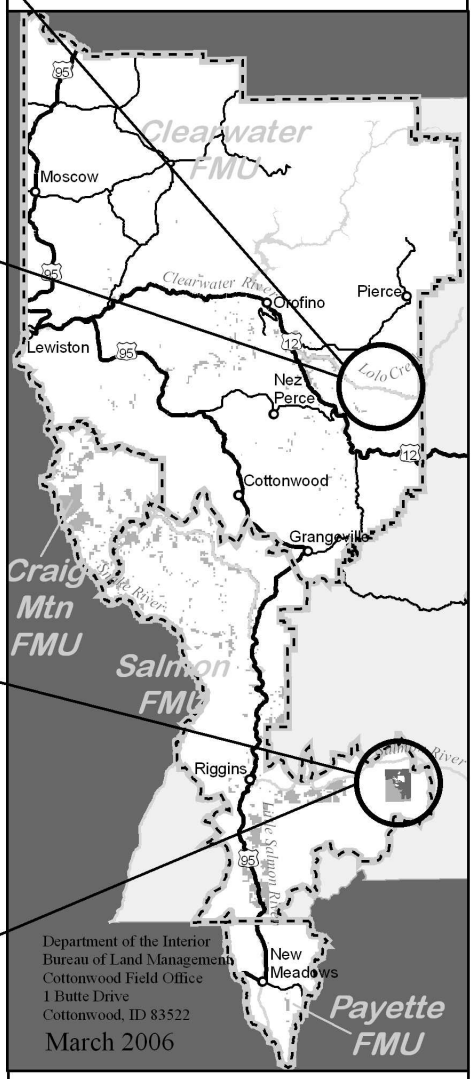
- Minor Roads
- U.S. Highway
- State Highway
- Major Rivers
- Fire Management Units

BLM Lands

- Available for WFU -- WFIP pending
- Not available for WFU







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Spatial Data Sources: Idaho Department of Commerce, Bureau of Land Management Cottonwood Field Office, Northwind Inc., USGS 1:100,000 series DRGs.

Figure H-3

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APPENDIX I—GRAZING ANIMAL UNIT MONTHS (AUM) BY ALLOTMENT—ALTERNATIVES A, B, C, AND D

Table I-1
Grazing AUMs by Allotment for Alternatives A, B, C, and D

Allotment Name	Allotment Number	Kind of Livestock	AUMs Alternative A	AUMs Alternative B	AUMs Alternative C	AUMs Alternative D
Lower Little Canyon	36100	Cattle	16	16	16	16
Dryden Site	36101	Cattle	18	18	18	18
Sevenmile	36102	Cattle	2	2	2	2
Hammer Creek	36103	Cattle	8	8	8	8
Russell Site	36104	Cattle	5	5	5	5
Shuck Creek	36105	Cattle	130	130	130	130
Lower Sotin Creek	36106	Cattle	8	8	8	8
West Greer	36107	Cattle	30	30	30	30
Big Canyon Mouth	36109	Cattle	3	3	3	3
Bear Gulch	36110	Cattle	79	79	79	79
Wet Gulch	36112	Cattle	20	20	20	20
Long Gulch Road	36113	Cattle	5	5	5	5
		Horse	4~~9~~	4~~9~~	4~~9~~	4~~9~~
Elmen	36115	Cattle	1	1	1	1
Deep Creek	36116	Cattle	8	8	8	8
Louse Creek	36117	Cattle	6	6	6	6
Oxbow	36118	Cattle	66	66	66	66
Maloney Creek	36119	Cattle	7	7	7	7
Gold Hill	36120	Cattle	16	16	16	16
Fivemile Creek	36122	Cattle	10	10	10	10
Mahoney Creek	36123	Cattle	10	10	10	10
		Horse	5~~15~~	5~~15~~	5~~15~~	5~~15~~
Pardee	36124	Cattle	7	7	7	7
Blacktail Butte	36125	Cattle	5	5	5	5
Braun	36127	Cattle	2	2	2	2
Cottonwood Creek I	36128	Cattle	5	5	5	5
Wildcat Creek	36129	Cattle	344	344	344	344
Howard Gulch	36132	Cattle	24	24	24	24
Nichols Canyon	36133	Cattle	5	5	5	5
Spring Camp	36134	Cattle	49	49	49	49
Round Springs Creek	36135	Cattle	22	22	22	22
Wolf Creek	36137	Cattle	112	112	112	112
Butcher Bar	36138	Cattle	52	52	52	52
Isaksen	36139	Cattle	7	7	7	7
Tramway	36141	Cattle	10	10	0	10
Yanks Creek	36142	Cattle	5	5	0	5
Incendiary Creek	36143	Cattle	10	10	10	10
Basin	36144	Cattle	105	105	105	105
First Creek	36145	Cattle	9	9	9	9

Table I-1
Grazing AUMs by Allotment for Alternatives A, B, C, and D *(continued)*

Allotment Name	Allotment Number	Kind of Livestock	AUMs Alternative A	AUMs Alternative B	AUMs Alternative C	AUMs Alternative D
Buffalo Gulch	36146	Cattle	92	92	92	92
Tom Taha Creek	36148	Cattle	8	8	8	8
Coyote Gulch	36150	Cattle	3	3	3	3
Lacy Meadows	36151	Cattle	32	32	32	43
Little Canyon	36152	Cattle	55	55	55	55
Upper Slippery Creek	36154	Cattle	5	5	5	5
Big Canyon Barn	36155	Cattle	38	38	38	38
American Bar	36156	Cattle	20	20	20	20
Paul	36157	Cattle	12	12	12	12
Big Creek	36158	Cattle	32	32	32	32
Cottonwood Creek	36160	Cattle	16	16	16	16
White House Bar	36161	Cattle	31	31	31	31
Upper Sixmile Creek	36163	Cattle	22	22	0	22
Swale Creek	36165	Cattle	8	8	8	8
Mcintire	36167	Cattle	14	14	14	14
Maple Canyon	36168	Cattle	23	23	23	23
Adams Grade	36169	Horse	5	5	5	5
Big Cave	36171	Cattle	11	11	11	11
American River	36173	Cattle	15	15	15	70
Horse Canyon Creek	36174	Cattle	15	15	15	15
Peck	36175	Cattle	2	2	2	2
Telcher Creek	36177	Cattle	12	12	12	12
Middle Pot. Creek	36180	Cattle	2	2	0	2
Skookumchuck Creek	36182	Cattle	14	14	14	14
Wolcott Creek	36183	Cattle	11	11	11	11
		Horse	4~~15~~	4~~15~~	4~~15~~	4~~15~~
Rhett Creek	36184	Cattle	79	79	79	79
Russell Bar	36186	Cattle	6	6	6	6
Rock Creek I~~:~~	36187	Cattle	25	25	25	25
Lawyer Ca Ranch	36189	Cattle	5	5	5	5
Butcher Creek	36190	Cattle	1	1	0	1
China Creek	36191	Cattle	23	23	23	23
Shawley	36193	Cattle	4	4	4	4
Rattlesnake Ridge	36195	Cattle	597	597	597	597
Simler	36196	Cattle	44	44	44	44
Adams	36197	Cattle	18	18	18	18
Scully Creek	36198	Cattle	84	84	84	84
Sheep Creek I	36200	Cattle	27	27	27	27
South Tom Taha Creek	36201	Cattle	6	6	6	6
Divide Creek	36203	Cattle	166	166	166	166
Cottonwood Flats	36204	Cattle	8	8	8	8
Threemile Creek	36205	Cattle	3	3	0	3
Little Potlatch Creek	36207	Cattle	3	3	3	3

Table I-1
Grazing AUMs by Allotment for Alternatives A, B, C, and D *(continued)*

Allotment Name	Allotment Number	Kind of Livestock	AUMs Alternative A	AUMs Alternative B	AUMs Alternative C	AUMs Alternative D
Rice Creek Bridge	36208	Cattle	5	5	0	5
Post Hole Creek	36209	Cattle	11	11	0	11
Wheeler Canyon	36210	Cattle	7	7	7	7
Sixmile Canyon	36211	Cattle	10	10	10	10
Little Elk Creek	36212	Cattle	18	18	18	18
Jameson Draw	36213	Cattle	2	2	0	2
Schmidt Creek	36214	Cattle	53	53	53	53
Kippen	36215	Cattle	15	15	15	15
Harpers Bend	36216	Cattle	10	10	0	10
Big Canyon	36220	Cattle	11	11	11	11
Chesley	36221	Cattle	3	3	3	3
Lapwai Creek	36222	Cattle	5	5	5	5
Pickle Canyon	36223	Cattle	2	2	0	2
Gilbert Grade	36225	Cattle	7	7	7	7
Joe Creek	36226	Horse	4	4	4	4
N. Sixmile Creek	36227	Cattle	4	4	0	4
Slippery Creek	36228	Horse	3	3	0	3
Mccormack Ridge	36229	Cattle	18	18	18	18
Bracket Gulch	36231	Cattle	6	6	6	6
Whisky Creek	36233	Cattle Horse	29 30~~59~~	29 30~~59~~	29 30~~59~~	29 30~~59~~
Big Meadow	36234	Cattle	59	59	39	59
North Pardee	36235	Cattle	9	9	0	9
Myrtle	36236	Cattle	16	16	16	16
Taylor Bar	36237	Cattle	9	9	9	9
Partridge Creek	36240	Cattle Sheep	30 429~~459~~	30 429~~459~~	30 429~~459~~	30 429~~459~~
Denny Creek	36241	Cattle	237	237	237	237
Hard Creek	36242	Sheep	218	218	218	218
Sugarloaf	36244	Cattle	29	29	29	29
Trail Creek	36245	Cattle	85	85	85	85
Culdesac Hill	36251	Cattle	6	6	6	6
Blackhawk Bar	36252	Cattle	23	23	23	23
Mcleod	36253	Cattle	7	7	7	7
Warm Springs	36255	Cattle	118	118	118	118
Little Elk	36256	Cattle	103	103	103	103
Sherwin Creek	36257	Cattle	37	37	37	37
Wickiup Creek	36260	Cattle	135	135	135	135
Kirks Fork	36261	Cattle	45	45	45	45
Dryden Site	36262	Cattle	3	3	3	3
Getta Creek	36264	Cattle	49	49	49	49
Mader	36265	Cattle	18	18	18	18
Lucile Bar	36266	Cattle	101	101	101	101

Table I-1
Grazing AUMs by Allotment for Alternatives A, B, C, and D *(continued)*

Allotment Name	Allotment Number	Kind of Livestock	AUMs Alternative A	AUMs Alternative B	AUMs Alternative C	AUMs Alternative D
Ericson Ridge	36267	Cattle	2	2	2	2
Hewett	36268	Cattle	9	9	9	9
Central Ridge Point	36270	Cattle	6	6	6	6
Goat Ridge	36271	Cattle	41	41	41	41
Packers Creek	36273	Cattle	40	40	40	40
Catholic Creek	36278	Cattle	5	5	5	5
Wapshilla Ridge	36279	Cattle	809	0	0	1056
Bug Slope	36280	Cattle	22	22	22	22
John Day	36281	Cattle	179	179	179	179
Pine Bar	36282	Cattle	37	37	0	37
Pratt	36283	Cattle	4	4	4	4
Marshall Mountain	36284	Sheep	166	166	166	166
Suzie Creek	36285	Cattle	5	5	0	5
Upper Suzie Ck.	36286	Cattle	2	2	2	2
Upper Big Creek	36287	Horse	3	3	3	3
Sally Ann Creek	36288	Cattle	4	4	4	4
Craig Mtn	36289	Cattle	135	0	0	374
Corral Creek	36290	Cattle	12	0	0	587
Race & Squaw Creek	36291	Cattle	23	23	23	23
Whitebird	36292	Horse	6	6	6	6
Lyons Bar	36293	Cattle	53	53	53	106
Fall Creek	36294	Cattle	12	12	12	12
Lower Buffalo Gulch	36295	Horse	3	3	3	3
Upper Big Canyon	36297	Cattle	34	34	0	34
Lower Lolo Creek	36298	Cattle	32	32	0	32
Slate Creek	36304	Cattle	1	1	0	4
Lockwood Creek	36310	Cattle Horse	5 5~~10~~	5 5~~10~~	5 5~~10~~	5 5~~10~~
Fall Creek Ii	36315	Cattle	8	8	8	8
Cedar Creek	36317	Cattle	25	25	25	25
Central Ridge	36320	Cattle	12	12	12	12
Tahoe Ridge	36325	Cattle	6	6	6	6
Bear Creek	36326	Cattle	2	2	2	2
Lower Highrange Creek	36340	Cattle	7	7	7	7
John Day Mountain	36345	Cattle	34	34	34	34
Bear Creek	36346	Cattle	8	8	8	8
Papoose Creek	36348	Cattle	28	28	28	28
Squaw Bar	36349	Cattle	7	7	7	7
Airport	36351	Horse	23	23	23	23
Whiskey Butte	36352	Cattle	50	50	50	50
Spaulding	36353	Cattle	6	6	6	6
Turner	36354	Cattle	10	10	0	10
Snowhole	36355	Cattle	5	5	5	5

Table I-1
Grazing AUMs by Allotment for Alternatives A, B, C, and D *(continued)*

Allotment Name	Allotment Number	Kind of Livestock	AUMs Alternative A	AUMs Alternative B	AUMs Alternative C	AUMs Alternative D
Seven Mile Bluffs	36356	Horse	4	4	4	4
Osborn Individual	36357	Cattle	66	66	66	66
Big Creek	36358	Sheep	81	81	81	81
Sheep Mountain	36359	Cattle	214	214	214	214
North Fork	36360	Cattle	100	100	100	100
Otto Creek	36361	Cattle	3	3	3	3
Lower Otto Creek	398*	Cattle	0	~~6~~15	0	~~6~~15
Whiskey South		Cattle	0	0	0	147
Total AUMs			**7,2040~~398~~**	**6,25463~~404~~**	**6,020~~398~~**	**8,5409~~551~~**
Number of Allotments			**168**	**166**	**145**	**170**

Source: Huibregtse 2005

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APPENDIX J—MINERAL LEASING SURFACE USE STIPULATIONS—ALTERNATIVES A, B, C, AND D

MINERAL LEASING SURFACE USE STIPULATIONS

Apply only to mineral leasing.

Definitions:

No Surface Occupancy (NSO) = Closed to placement of surface facilities or any surface disturbing activity

Controlled Surface Use (CSU) = Activity is only subject to restraints specified in the stipulation description

Timing Limitation (TL) = Activity is subject to restraints during the time period specified in the stipulation description (i.e., seasonal).

Exception = One-time exemption

Modification = Change to the language or provisions

Waiver = Permanent exemption

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
NSO-1	ACEC, WSA, WSR	0	43,181	67,689	34,803	*Stipulation:* Surface occupancy is prohibited within all ACECs to protect natural processes and historic, cultural, scenic, fisheries, and wildlife resources; or to protect the public from natural hazards; and within WSAs to protect wilderness characteristics~~.~~; and within 0.25-mile of river segments identified as suitable for inclusion in the NWSRS to protect Outstandingly Remarkable Values. *Exception:* The authorized officer may grant an exception if an environmental analysis of a proposed action reveals that these values would not be impacted, or that impacts could be adequately mitigated to protects the resource values identified for the designation. *Modification:* The boundaries of the stipulated area may be modified if the ACEC or suitable river corridor boundaries are modified. *Waiver:* The stipulation may be waived if the ACEC designation is lifted, or a WSA is released by Congress for multiple uses.

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
NSO-2 Alternative B	Fisheries, Special Status Fish, Aquatic Species, Riparian and Wetland Vegetation	0	22,847	0	0	*Stipulation*: Surface occupancy is prohibited within: Alternative B • 300 feet of fish-bearing streams • 150 feet of permanently flowing non-fish bearing streams • 150 feet of ponds, lakes, reservoirs, and wetlands greater than 1 acre • ~~80~~ 100 feet of intermittent streams, landslide prone areas, and wetlands less than 1 acre. Surface occupancy is prohibited when implementation of the proposed action would result in a "may affect" determination for listed species and/or "may impact" determination for BLM sensitive species. *Exception*: The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species and/or for proposed or designated critical habitat. The authorized officer may also grant an exception if a Biological Evaluation or environmental assessment concludes a determination of "no effect" or "may impact individuals or habitat, but will not likely lead to a trend toward federal listing or cause a loss of viability of the population or species" for BLM sensitive species. The appropriate coordination and consultation will take place with USFWS. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. RCAs may change based on site specific Watershed Analysis, and appropriate inventory, monitoring and scientific research. If needed, re-initiation of consultation will also take place with National Marine Fisheries Service and USFWS. *Waiver*: None.

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
NSO-2 Alternative C	Fisheries, Special Status Fish, Aquatic Species, Riparian and Wetland Vegetation	0	0	27,624	0	*Stipulation*: Surface occupancy is prohibited within: Alternative C • 300 feet of fish-bearing streams • 225 feet of permanently flowing non-fish bearing streams, • 150 feet of ponds, lakes, reservoirs, and wetlands greater than 1 acre • 125 feet of intermittent streams, landslide prone areas, and wetlands less than 1 acre. Surface occupancy is prohibited when implementation of the proposed action would result in a "may affect" determination for listed species and/or "may impact" determination for BLM sensitive species. *Exception*: The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species and/or for proposed or designated critical habitat. The authorized officer may also grant an exception if a Biological Evaluation or environmental assessment concludes a determination of "no effect" or "may impact individuals or habitat, but will not likely lead to a trend toward federal listing or cause a loss of viability of the population or species" for BLM sensitive species. The appropriate coordination and consultation will take place with USFWS. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. RCAs may change based on site specific Watershed Analysis, and appropriate inventory, monitoring and scientific research. If needed, re-initiation of consultation will also take place with National Marine Fisheries Service and USFWS. *Waiver*: None.

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
NSO-2 Alternative D	Fisheries, Special Status Fish, Aquatic Species, Riparian and Wetland Vegetation	0	0	0	20,710	*Stipulation*: Surface occupancy is prohibited within: Alternative D • 300 feet of fish-bearing streams • 150 feet of permanently flowing non-fish bearing streams, • 150 feet of ponds, lakes, reservoirs, and wetlands greater than 1 acre • 50 feet of intermittent streams, landslide prone areas, and wetlands less than 1 acre. Surface occupancy is prohibited when implementation of the proposed action would result in a "may affect" determination for listed species and/or "may impact" determination for BLM sensitive species. *Exception*: The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species and/or for proposed or designated critical habitat. The authorized officer may also grant an exception if a Biological Evaluation or environmental assessment concludes a determination of "no effect" or "may impact individuals or habitat, but will not likely lead to a trend toward federal listing or cause a loss of viability of the population or species" for BLM sensitive species. The appropriate coordination and consultation will take place with USFWS. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. RCAs may change based on site specific Watershed Analysis, and appropriate inventory, monitoring and scientific research. If needed, re-initiation of consultation will also take place with National Marine Fisheries Service and USFWS. *Waiver*: None.

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
NSO-3	Wildlife, Special Status Species and Habitats	0	TBD[1]	TBD[1]	TBD[1]	*Stipulation*: Surface occupancy is prohibited when implementation of the proposed action would result in a "may affect" determination for listed species and/or "may impact" determination for BLM sensitive species. These areas are determined at the project level for site specific areas. Surface occupancy is prohibited within one mile of critical habitat niches for listed species (i.e., nest site, den site). *Exception*: The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, the determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species and for proposed or designated critical habitat. The authorized officer may also grant an exception if a Biological Evaluation or environmental assessment concludes a determination of "may impact individuals or habitat, but will not likely lead to a trend toward federal listing or cause a loss of viability of the population or species" for BLM sensitive species. The appropriate coordination and consultation will take place with USFWS. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. As needed, supporting rationale would include updated inventory, monitoring, and scientific research. If warranted, re-initiation of consultation will also take place with USFWS. *Waiver*: None.

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
NSO-4	Special Status Plant Species and rare plant communities	0	TBD[1]	TBD[1]	TBD[1]	*Stipulation*: Surface occupancy is prohibited when implementation of the proposed action would result in a "may affect" determination for listed species and/or "may impact" determination for BLM sensitive species. These areas are determined at the project level for site specific areas. Surface occupancy is prohibited within the population perimeter of listed and BLM sensitive plant populations. *Exception*: The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, the determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species and for proposed or designated critical habitat. The authorized officer may also grant an exception if a Biological Evaluation or environmental assessment concludes a determination of "may impact individuals or habitat, but will not likely lead to a trend toward federal listing or cause a loss of viability of the population or species" for BLM sensitive species. The appropriate coordination and consultation will take place with USFWS. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. As needed, supporting rationale would include updated inventory, monitoring, and scientific research. If warranted, re-initiation of consultation will also take place with USFWS. *Waiver*: None.

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
NSO-5	Raptor Nests	0	TBD[1]	TBD[1]	TBD[1]	*Stipulation*: Surface occupancy is prohibited within 1/4 mile of identified nests. These areas are determined at the project level for site specific areas. *Exception*: The authorized officer may grant an exception if concurrence is obtained from USFWS (through applicable provisions of the Endangered Species Act, Eagle Protection Act, or Migratory Bird Treaty Act), to interrupt active nesting attempts and/or cause short or long term adverse modification of suitable nest site characteristics. An exception may also be granted by the authorized officer if environmental analysis of a proposed action reveals that it would not impair the function or utility of the nest site for current or subsequent nest activities or occupancy. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment, Biological Evaluation, and environmental assessment. As needed, supporting rationale would include updated inventory, monitoring, and scientific research. If warranted, re-initiation of consultation will also take place with USFWS. The area of application of the NSO may be modified pending determination that a portion of the NSO area is not essential to nest site functions or utility; or that the nature or conduct of the activity, as proposed or conditioned, would not impair the function or utility of the nest site for current or subsequent nest activities or occupancy. The stipulation may also be modified if the proponent, BLM, and where necessary, other affected interests, negotiate compensation that satisfactorily offsets anticipated impacts on raptor breeding activities and/or habitats. Modifications could also occur if sufficient information is provided that supports the contention that the action would not contribute to the suppression of breeding population densities or the population's production or recruitment regime from a Geographic Reference Area perspective. If a species status is downgraded, or delisted, the NSO buffer area may be modified to an appropriate level. *Waiver*: A waiver may be granted if the site conditions change or the nest site has not been occupied for a minimum of two years.

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
NSO-6	Cultural Resources	0	TBD[1]	TBD[1]	TBD[1]	*Stipulation*: Surface occupancy is prohibited within areas of cultural or spiritual value to Native American Tribes. These areas are determined at the project level for site specific areas. *Exception*: The authorized officer may grant an exception if environmental analysis and tribal consultation on a proposed action reveals that these values would not be impacted, or that impacts could be adequately mitigated. *Modification*: Through tribal consultation, the boundaries of these areas may be changed. *Waiver*: This stipulation may be waived with written approval from the concerned Native American Tribal Council.
NSO-7	Public—from Hazardous Materials	0	24	24	24	*Stipulation:* No surface occupancy will be allowed in areas where hazardous materials are known to exist. *Exception:* The authorized officer may grant an exception if environmental analysis of a proposed action reveals that it would not further expose the public or the environment to hazardous materials. *Modification:* The area of application for this stipulation may change based on discovery or removal of hazardous materials. *Waiver:* This stipulation will be waived if all hazardous materials are removed from the area.

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
NSO-8	Developed Recreation Sites, Administra-tive Sites	0	631	631	631	*Stipulation:* No surface occupancy will be allowed within the vicinity of developed recreation sites or sites used for agency administrative purposes. *Exception:* The authorized officer may grant an exception if environmental analysis of a proposed action reveals that it would not adversely impact the use of the site. *Modification:* The area of application for this stipulation may change based on future site development. *Waiver:* This stipulation will be waived if the site is no longer used for recreational or administrative purposes.
NSO-9	VRM Class I	0	12,704	26,945	7,205	*Stipulation:* No surface occupancy will be allowed within areas designated Visual Resource Management Class I. *Exception:* The authorized officer may grant an exception if an environmental analysis of a proposed action reveals that these values would not be impacted, or that impacts could be adequately mitigated to protect the resource values identified for the designation. *Modification:* None *Waiver:* This stipulation may be waived if the authorized officer determines that there is no longer VRM Class I within the area of application.
CSU-1	VRM Class II	0	41,188	46,746	36,180	*Stipulation:* All surface-disturbing activities, semi-permanent and permanent facilities in VRM class II areas may require special design including location, painting, and camouflage to blend with the natural surroundings and meet the visual quality objectives of the area. *Exception:* None. *Modification:* None. *Waiver:* This stipulation may be waived if the authorized officer determines that there is no longer VRM Class II within the area of application.

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
CSU-3	SRMAs, Wild and Scenic River (Scenic, Recreational designation) SRMA with plans only and streams with designation 0.25-mile buffer.	0	31,770	31,770	31,770	*Stipulation:* No surface-disturbing activities semi-permanent and permanent facilities will be authorized which may adversely impact the use of these areas for recreation purposes. *Exception:* The authorized officer may grant an exception if environmental analysis indicates that a proposed action would not adversely impact recreational use. *Modification:* None. *Waiver:* None.
TL-1	Deer and Elk Winter Range	0	TBD[1]	TBD[1]	TBD[1]	*Stipulation:* No construction or development activities will be allowed within important deer or elk winter range between December 15 and March 31. These areas will be determined at the project level for site specific areas. *Exception:* The authorized officer may grant an exception if environmental analysis indicates that a proposed action would not adversely impact use of this habitat. *Modification:* Area of application for this stipulation may change based on monitoring and scientific research. *Waiver:* None

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
TL-2	Deer and Elk Fawning and Calving Areas	0	TBD[1]	TBD[1]	TBD[1]	*Stipulation:* No construction or development activities will be allowed within key deer or elk fawning or calving areas between May 15 and June 15. These areas will be determined at the project level for site specific areas. *Exception:* The authorized officer may grant an exception if environmental analysis indicates that a proposed action would not adversely impact fawning or calving. *Modification:* Area of application for this stipulation may change based on monitoring and scientific research. *Waiver:* None

Stipulation	Protected Resource	Acres Alt. A	Acres Alt. B	Acres Alt. C	Acres Alt. D	Description
TL-3	Bald Eagle Winter Feeding Area	0	TBD[1]	TBD[1]	TBD[1]	*Stipulation:* No ground-disturbing activity is allowed within winter feeding areas between November 1 and March 1. These areas will be determined at the project level for site specific areas. *Exception:* The authorized officer may grant an exception if though Section 7 consultation (Endangered Species Act) and preparation of a Biological Assessment, the determination concludes that the proposed action has a determination of "may affect—not likely to adversely affect" for federally listed species. An exception may be granted by the authorized officer if concurrence is obtained from USFWS (through applicable provisions of the Endangered Species Act, Eagle Protection Act, or Migratory Bird Treaty Act), to interrupt feeding activities and/or cause short or long term adverse modification of suitable roost site characteristics. The Field Manger may also grant an exception if an environmental analysis (Biological Assessment and environmental assessment.) indicates that the nature or conduct of the action, as proposed or conditioned, would not impair the function or utility of the site for current or subsequent feeding activities. *Modification*: As needed, the area of application may be modified based on preparation of appropriate Biological Assessment and environmental assessment. If warranted, re-initiation of consultation will also take place with USFWS. *Waiver*: The stipulation may be waived if the area is not used for winter range in the future. This applies to areas adjacent to mainstem rivers and other large water bodies.
Total NSO		**0**	**43,590**	**68,854**	**35,045**	**Total NSO**
Total CSU		**0**	**42,403**	**59,122**	**32,013**	**Total CSU**
Total TL		**0**	**TBD[1]**	**TBD[1]**	**TBD[1]**	

TBD[1] = To be determined upon project-specific application of the stipulation.

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APPENDIX K—FINAL~~DRAFT~~ WILD AND SCENIC RIVERS ELIGIBILITY AND SUITABILITY STUDY

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ELIGIBILITY STUDY

Introduction

Section 5(d)(1) of the Wild and Scenic Rivers Act (Public Law 90-542; 16 USC 1271-1287) (WSR Act) directs federal agencies to consider potential Wild and Scenic rivers in their land and water planning processes ("In all planning for the use and development of water and related land resources, consideration shall be given by all federal agencies involved to potential national wild, scenic and recreational river areas"). To fulfill this requirement, whenever the United States (US) Department of the Interior, Bureau of Land Management (BLM) undertakes a land use planning effort (e.g., a resource management plan [RMP]), it analyzes river and stream segments that might be eligible for inclusion in the National Wild and Scenic Rivers System (National System).

The BLM, Coeur d'Alene District, CFO, is preparing an RMP for its planning area, which is the CFO boundary. This area was previously recognized as the Chief Joseph Planning Unit in the Chief Joseph Management Framework Plan, which was approved in 1981 and directs current management of BLM-administered lands in the CFO (BLM 1981a). The RMP will provide a single, comprehensive land use plan that will guide future management of public land administered by the CFO. The draft and proposed RMPs will be supported by a National Environmental Policy Act analysis, an environmental impact statement (EIS), which analyzes the environmental effects that could result from implementing different management alternatives.

This report is a record of the Wild and Scenic rivers study that is being conducted concurrently with the Cottonwood RMP. This report documents the BLM's examination of CFO river segments as they relate to eligibility and classification criteria in the WSR Act.

Wild and Scenic Rivers Act

Congress enacted the WSR Act on October 2, 1968, to address the need for a national system of river protection. As an outgrowth of a national conservation agenda in the 1950s and 1960s, the WSR Act was in response to the dams, diversions, and water resource development projects that occurred on America's rivers between the 1930s and 1960s. The WSR Act stipulated that selected rivers should be preserved in a free-flowing condition and be protected for the benefit and enjoyment of present and future generations. Since 1968, the WSR Act has been amended many times, primarily to designate additional rivers and to authorize the study of other rivers for possible inclusion.

As of November 2004, some 165 river segments, comprising 11,372 miles, have been protected in the National System. These nationally recognized rivers comprise a valuable network of natural and cultural resources, scenic beauty, and recreational opportunities.

Five designated river segments lie within the CFO, including the Selway, Middle Fork Clearwater, Main Salmon, and Rapid Rivers and the Snake River through Hells Canyon, but none are under BLM jurisdiction. In addition, the Lower Salmon River has been found eligible and suitable under the Recreational classification for inclusion in the National System, has been recommended to

Congress for designation, and is managed under interim management guidelines until congressional action is taken.

Intent of the Wild and Scenic Rivers Act

The WSR Act seeks to protect and enhance a river's natural and cultural values and to provide for public use consistent with its free-flowing character, its water quality, and its outstandingly remarkable values. Designation affords certain legal protection from development. For instance, new dams cannot be constructed, and federally assisted water resource development projects that might negatively affect the designated river values are not permitted. Where private lands are involved, the federal managing agency works with local governments and owners to develop protective measures.

The two ways by which rivers are designated for inclusion in the National System are by an act of Congress or by the Secretary of the Interior, if the river has first been designated for inclusion in a valid state river protective system by state law, and the appropriate state governor has applied for a National System designation. To be eligible for designation, a river must be free flowing and contain at least one outstandingly remarkable value that is scenic, recreational, geological, fish related, wildlife related, historic, cultural, botanical, hydrological, paleontological, or scientific. Eligibility criteria are included in **Appendix K-1.**

There are two ways rivers can be identified for study as potential additions to the National System: by an act of Congress under Section 5(a) or through an agency-initiated study under Section 5(d)(1) of the WSR Act, which requires that "in all planning for the use and development of water and related land resources, consideration shall be given by all federal agencies involved to potential wild, scenic, and recreational areas."

Through Section 5(d)(1), the BLM is required to assess rivers under its management jurisdiction and to determine whether these rivers are eligible by applying standardized criteria through a documented evaluation process. River areas that are found to be eligible are then classified as wild, scenic, or recreational based on the development of shoreline, watercourse, and access. The criteria for classification are defined in Section 2(b) of the WSR Act and are described in **Appendix K-2.**

Proposed boundaries and/or river areas and protective management requirements are developed at the time of eligibility determination. For river segments on federal lands determined to be eligible under Section 5(d)(1) of the WSR Act, direction to protect the river as a potential addition to the National System is in effect until such a time as a suitability evaluation and subsequent decision is made. A suitability analysis involves determining the best use of the eligible river and the best method to protect the outstandingly remarkable values within the river corridor. Rivers subsequently determined suitable are protected as potential additions to the National System. Protective management of federal lands in the river area begins at the time the river segment is found eligible. Management guidelines to protect eligible candidate rivers are detailed in **Appendix K-3.** Specific management prescriptions for eligible river segments provide protection, pending a suitability determination, in the following ways:

- **Free-flowing values.** The free-flowing characteristics of eligible river segments cannot be modified to allow stream impoundments, diversions, channelization, or riprapping to the extent authorized under law;

- **River-related values.** Each segment is managed to protect outstandingly remarkable values (subject to valid existing rights) and, to the extent practicable, such values are enhanced; and

- **Classification impacts.** Management and development of the eligible river and its corridor cannot be modified, subject to valid existing rights, to the degree that its eligibility or classification would be affected.

Eligibility Methodology

The WSR Act states that, in order to be found eligible, a river segment must be free-flowing and contain at least one outstandingly remarkable value. The BLM determined rivers eligible for inclusion into the National System through a process of elimination. That is, if a river was not free flowing or did not have a potential outstandingly remarkable value in at least one resource, it was not evaluated further. The steps used for this inventory are to determine and document the following:

- Potential outstandingly remarkable values;

- Outstandingly remarkable values and free-flowing status;

- Drainage segmentation; and

- River classification(s).

The eligibility process is depicted in **Figure K-1** (**Appendix K-5**).

Criteria for Inclusion in the Eligibility Inventory

The BLM applies standard criteria to identified river segments to determine eligibility. To be eligible, a river segment must be free-flowing and must possess at least one river-related value considered outstandingly remarkable. The specific criteria for free-flowing and outstandingly remarkable values are listed in **Appendix K-1**.

The following sources were used to identify potentially eligible rivers:

- All rivers included in the Pacific Northwest Rivers Study or the Northwest Power Planning Council Protected Rivers list. These rivers were also first evaluated for potential outstandingly remarkable values.

- All rivers included in the Nationwide Rivers Inventory (United States Department of the Interior, National Park Service 2004) or the State of Idaho Comprehensive Water Plan.

- All rivers currently eligible for inclusion into the National System. These rivers were updated during the eligibility process for new information and changed conditions since the previous inventory.

- The US Department of Agriculture, Forest Service (Forest Service), Payette National Forest Wild and Scenic Rivers Eligibility Study (Payette National Forest 2003). The Payette National Forest conducted eligibility studies on some streams that also flow through BLM lands. Segments of four streams located on Payette National Forest-administered lands were determined eligible: portions of Hard Creek, Hazard Creek, French Creek, and Lake Creek.

- The Nez Perce National Forest and the Clearwater National Forest completed eligibility studies in 1987 and found portions of two streams that also flow through BLM lands (South Fork Clearwater River and Salmon River) eligible (Nez Perce National Forest 1987).

- River segments identified in public scoping for the RMP. No river segments were identified by the public during the scoping process.

A river's inclusion on any of these source lists does not represent an official determination of eligibility, and a river's absence from these source lists does not indicate its noneligibility.

Two major elements contribute to whether a river is found eligible for further study:

1. **Are there any outstandingly remarkable values within the river corridor?** In order for a river to become eligible for further study as a possible wild, scenic, or recreational river, it must have one or more outstandingly remarkable resource values on BLM lands. The outstandingly remarkable values fall into categories that are defined in Section 1(b) of the WSR Act as "scenic, recreational, geologic, fish, wildlife, historic, cultural, or other similar values." "Other similar values" include, but are not limited to, hydrologic, ecological/biological diversity, paleontological, botanical, and scientific study opportunities. A region of comparison was used as context to assess the uniqueness or rarity of the outstandingly remarkable values (**Appendix K-1**).

2. **Is the river free flowing?** In order for a river to become eligible for further study, it must be free flowing. To be considered free flowing, the river or river segment must be free of impoundments or diversions.

Inventory Phase for the CFO

Various resource personnel from the BLM's CFO were consulted to conduct the Wild and Scenic Rivers inventory in support of the RMP process. BLM staff specialists in geographic information systems (GIS), wildlife/fisheries/riparian biology, recreation, visual resources, minerals, and geology participated in the review of eligible rivers.

Using the Northwest Rivers Study, the Northwest Power Planning Council Protected Rivers database, the Nationwide Rivers Inventory (United States Department of the Interior, National Park Service 2004), the State of Idaho Comprehensive Water Plan, and forest plans from the Payette and Nez Perce National Forests, the BLM compiled an inventory of all rivers on BLM-administered

surface lands in the CFO area. The BLM limited the inventory to the lands it administers, per recent changes to BLM Manual 8351, Wild and Scenic Rivers—Policy and Program Direction for Identification, Evaluation, and Management. The manual revision states that "In cases where a particular river segment is predominantly non-federal in ownership and contains interspersed BLM-administered lands, the BLM shall evaluate only its segment as to eligibility and defer to the State or to the private landowners' discretion as to their determination of eligibility" (BLM 2003). Initial screening resulted in a list of 51 river segments on BLM-administered lands for further consideration. These rivers or river segments include those listed in **Appendix K-4**, **Table K-4-1**.

Additional review focused on whether any of these 51 segments met free-flowing criteria and contained any outstandingly remarkable values, as defined in the WSR Act. The BLM staff conducted this review for each of their areas of expertise, using their knowledge of the area and consulting available inventory information. This information was considered against the outstandingly remarkable values criteria provided in **Appendix K-1**. Based on its findings, the BLM proposed six rivers and river segments as eligible for further study because they contain outstandingly remarkable values and are free flowing (**Table K-1** and **Figure K-2** [**Appendix K-5**]). **Table K-1** also shows the tentative classification of each of the six segments. Following the table is a description of outstandingly remarkable values for each candidate river segment. The proposed boundary for each of the segments listed in the table is 0.25-mile on each side of the river or stream.

Table K-1
Eligible Rivers and River Segments in the Planning Area

River Name	River Segment	Outstandingly Remarkable Values								Tentative Classification			Total Segment Length (Miles)	BLM Segment Length (Miles)
		Scenic	Recreation	Geological	Fish	Wildlife	Historic	Cultural	Other Values	Wild	Scenic	Recreational		
Lake Creek	Beginning at the headwaters of Lake Creek in Section 33, T24N, R5E, ending where Lake Creek enters National Forest Land in Section 36, T24N, R4E.				X							X	2.18	2.18
French Creek	Beginning at the Forest Service boundary in Section 1, T23N, R3E to the confluence with the Salmon River in Section 18, T24N, R3E.	X			X							X	4.18	1.38
Hazard Creek	Beginning at the Forest Service boundary in Section 31, T22N, R2E, to the confluence with the Little Salmon River in Section 2, T21N, R1E.	X		X								X	16.39	1.52

Table K-1
Eligible Rivers and River Segments in the Planning Area *(continued)*

River Name	River Segment	Outstandingly Remarkable Values								Tentative Classification			Total Segment Length (Miles)	BLM Segment Length (Miles)
		Scenic	Recreation	Geological	Fish	Wildlife	Historic	Cultural	Other Values	Wild	Scenic	Recreational		
Hard Creek	Beginning at the Forest Service boundary in Section 18, T21N, R2E, to the confluence with Hazard Creek in Section 1, T21N, R1E.	X		X								X	12.3	1.64
Lolo Creek	Beginning at the Forest Service boundary in Section 24, T34N, R5E, to the confluence with the Clearwater River in Section 14, T35N, R2E.	X	X		X		X				X		47	14.3
Clear-water River	Mainstem Clearwater River, from its beginning at the confluence of the Middle Fork and South Fork in Kooskia to its confluence with the Snake River in Lewiston.		X		X		X					X	74.8	15.7

Outstandingly Remarkable Values for Eligible Segments

Lake Creek

The Payette National Forest studied Lake Creek from the BLM boundary to its mouth and found it both eligible and suitable for inclusion in the National System. The 2.18-mile segment on BLM lands represents the headwaters of the drainage, and the eligibility of this segment means that the entire length of Lake Creek is eligible and worthy of further study **(Figure K-3** [**Appendix K-5**]**)**. Its tentative classification is Recreational.

Considering Lake Creek in its entirety, from the headwaters to its mouth (both BLM and ~~FS~~ Forest Service segments), the outstandingly remarkable value is fisheries, particularly the anadromous fish habitat. The fisheries value of Lake Creek is considered outstandingly remarkable based on the diversity of populations, excellent spawning and rearing habitat, and listed threatened and endangered fish species (bull trout *[Salvelinus confluentus],* steelhead *[Oncorhynchus mykiss],* Chinook salmon *[O. tshawytscha]*) and BLM sensitive westslope cutthorat trout *(Oncorhynchus clarki lewisi).* .

The 2.18-mile BLM segment contains only a fraction of the Lake Creek anadromous fish habitat, due to a natural barrier located approximately 0.25 river mile upstream of the Forest Service and

BLM boundary. However, outstandingly remarkable fisheries values are present both downstream and upstream of the barrier within the BLM segment. For anadromous steelhead and Chinook salmon this represents the upstream limit of their spawning habitat. The BLM land contains approximatley 0.25-mile of Lake Creek open to spawning and rearing for anadromous fish species. This segment downstream of the barrier also provides important spawning and rearing habitat for bull trout and westslope cutthroat trout. Upstream of the natural barrier is Marshall Lake and approximately 1.43 miles of the Lake Creek headwaters. This portion of the creek provides excellent spawning, rearing, and year-round habitat for westslope cuttroat trout. Bull trout do not occur upstream of the barrier.

French Creek

The Payette National Forest studied French Creek from its headwaters to the National Forest boundary and found it eligible for inclusion in the National System. The 4.18-mile segment being considered in this document constitutes the remainder of French Creek to its confluence with the Salmon River. See **Figure K-4** (**Appendix K-5**). Its tentative classification is Recreational.

There are two outstandingly remarkable values for French Creek: scenic and fisheries. French Creek is a highly scenic visual resource, flowing through a deeply dissected canyon with meadows and a distinctive riffle/pool effect.

The French Creek fisheries' outstandingly remarkable value is due to its importance to anadromous fish. French Creek supports wild Chinook salmon, wild steelhead, and bull trout spawning and rearing.

Hazard Creek

The Payette National Forest studied Hazard Creek and identified it as eligible for inclusion in the National System. The segment being considered in this document represents the remainder of Hazard Creek from the National Forest boundary to its confluence with the Little Salmon River. See **Figure K-5** (**Appendix K-5**). Its tentative classification is Recreational.

There are two outstandingly remarkable values identified for Hazard Creek: Scenic and Geologic/Hydrologic. The Scenic outstandingly remarkable value is due to the river basin that contains very scenic cascades and rock forms and offers outstanding views. Fall colors highlight the scenic beauty of the area.

The Geologic/Hydrologic value is found in the combination and extent of several outstanding hydrologic and geologic features that are found within this drainage. The landform within the lower half of Hazard Creek dominantly consists of steep to extremely steep mountain headlands and deeply entrenched canyon walls that are adjacent to a major stream. The volume and steep gradient of the stream contribute to a continual downcutting action which creates the cascading flows and incised canyons.

Hard Creek

The Payette National Forest studied Hard Creek and identified it as eligible for inclusion in the National System. The segment being considered in this document represents the remainder of Hard

Creek from the National Forest boundary to its confluence with Hazard Creek. See **Figure K-6** (**Appendix K-5**). Its tentative classification is Recreational.

There are two outstandingly remarkable values identified for Hard Creek: Scenic and Geologic/Hydrologic. The Scenic outstandingly remarkable value is due to the river basin that contains very scenic cascades and rock forms and offers outstanding views. Fall colors highlight the scenic beauty of the area.

The Geologic/Hydrologic value is found in the combination and extent of several outstanding hydrologic and geologic features that are found within this drainage. The landform within the lower half of the Hard Creek dominantly consists of steep to extremely steep mountain headlands and deeply entrenched canyon walls that are adjacent to a major stream. The volume and steep gradient of the stream contribute to a continual downcutting action that creates the cascading flows and incised canyons.

Lolo Creek

The segment being considered in this document is the 24-mile segment of Lolo Creek from the Clearwater National Forest boundary to the confluence with the Clearwater River near the town of Greer. Within this 24-mile segment, the BLM administers 14.3 miles of land. Per changes to BLM Manual 8351 (BLM 2003), this eligibility study evaluates only the portions of the river (14.3 miles) on BLM-administered land. See **Figure K-7** (**Appendix K-5**). The BLM defers to the other landowners for eligibility determinations on their lands. The BLM recommends that a parallel or concurrent study be undertaken on the section of Lolo Creek on the Clearwater National Forest to the east of the 24-mile segment.

Four outstandingly remarkable values were identified for Lolo Creek: scenic, recreational, fisheries, and historic, as detailed below. Its tentative classification is Scenic.

Scenic Outstandingly Remarkable Value: The upper part of Lolo Creek flows through mostly forested headlands, with scenic meadows and diverse riparian vegetation providing pleasing visual contrasts. The river channel is often boulder strewn, creating pleasing pool and drop hydrologic scenery. The lower ten miles of Lolo Creek flow through an extremely steep, deeply incised canyon, remarkable for its depth and narrow construction. Vegetative texture ranges from lush green mosses and forested banks to stark, bare canyon walls and semiarid canyon grasslands. The river has a near constant gradient, providing numerous small falls and cascades for pleasing visual effect.

Recreation Outstandingly Remarkable Value: Opportunities for a pristine and wild whitewater kayaking experience is especially unique to Lolo Creek. The lower ten miles of the creek are considered one of the best whitewater runs in Idaho, and have been described as an isolated, challenging Class IV to Class V run. The upper section of the Lolo Creek whitewater runs has a lower gradient and less difficult but still challenging rapids. The feeling of isolation in the Lolo Creek canyon is profound, and the knowledge that the only way to truly view this canyon is by boat greatly enriches the adventure and the recreation experience.

Fisheries Outstandingly Remarkable Value: Lolo Creek provides a variety of habitats for threatened anadromous species and resident fish populations. These habitats are found primarily in

the A-type and B-type channels that make up the greatest portion of Lolo Creek. Pools, riffles, glides, pocket water, and side channels/alcoves occur in varying proportions in the steep high-gradient reaches, as well as low gradient reaches. Lolo Creek is one of the major producers of anadromous fish for the lower Clearwater River. Wild summer steelhead and spring Chinook salmon use Lolo Creek for spawning and rearing, and a recovering population of Coho salmon *(Oncorhynchus kisutch)* has been reintroduced to the system. Other species present in Lolo Creek include threatened bull trout and BLM sensitive redband trout, Pacific lamprey, and westslope cutthroat trout.

Historic Outstandingly Remarkable Value: The Nee-Mee-Poo, or Lolo Trail, crosses Lolo Creek in several locations. A portion of the Lolo Trail crosses Lolo Creek near the Woodland bridge crossing. The Nez Perce Tribe led the Lewis and Clark expedition from the Weippe Prairie to the Clearwater River over this trail.

Clearwater River

The segment of the Clearwater River being considered in this document is the entire main stem of the river, from the confluence of the Middle and South Forks of the Clearwater at the town of Kooskia to the confluence with the Snake River in the city of Lewiston. The BLM administers 15.7 miles of this 75-mile segment. Per changes to BLM Manual 8351 (BLM 2003), this eligibility study evaluates only these 15.7 miles of the river on BLM-administered land. See **Figure K-8** (**Appendix K-5**). The BLM defers to the other landowners for eligibility determinations on their lands. Three outstandingly remarkable values were identified for this segment of river: recreation, fisheries, and historic, as detailed below. Its tentative classification is Recreational.

Recreation Outstandingly Remarkable Value: The Clearwater River is internationally known for its steelhead fishing. Steelhead returning to the Clearwater River are much larger than those found elsewhere in the US, with an average size of 12 to 14 pounds, and fish in the 18- to 20-plus-pound range are not uncommon. With the return of both spring/summer Chinook and fall Chinook salmon, recreational fishing for anadromous species occurs throughout most of the year.

Fisheries Outstandingly Remarkable Value: The Clearwater River provides important spawning habitat for fall Chinook salmon and important rearing habitat for spring/summer Chinook salmon and steelhead. The anadromous fish runs in the Clearwater River are some of the most important and unique runs in the Columbia River Basin.

Historic Outstandingly Remarkable Value: The Clearwater River is the historic home to the Nez Perce Tribe. The Clearwater River is also an important segment of the Lewis and Clark National Historic Trail. The Clearwater River was the first westward-flowing river used by the expedition and was the place where they returned to water travel after crossing the Continental Divide.

Interim Management

Rivers or river segments determined eligible must be managed to protect the free flow, outstandingly remarkable values, and tentative classification. This protective management is in place until a river or river segment is determined suitable or nonsuitable during the study phase. Management guidelines to protect eligible candidate rivers are detailed in **Appendix K-3**.

Suitability

The following Suitability Study section of this report evaluates each eligible river segment for suitability or nonsuitability to assess whether or not it is a potential candidate for inclusion in the National System. The Cottonwood Draft RMP incorporated~~s~~ each of the eligible rivers into one or more alternatives. The BLM ~~will~~ then sought~~seek~~ public review and comment on the Draft ~~draft~~ RMP. The Draft EIS was~~will be~~ an assessment of potential impacts from recommending each river as either suitable or nonsuitable. The P~~p~~roposed RMP/~~ and f~~Final EIS ~~will~~ includes final suitability determinations on the eligible rivers. Congressional legislative action is required for actual designation and final classification of suitable river segments.

SUITABILITY STUDY

Introduction

The purpose of the study phase is to determine whether eligible river segments are suitable or nonsuitable for inclusion in the National System, per the criteria of the WSR Act. The suitability evaluation does not result in actual designation but only a suitability determination for designation. The BLM does not recommend any stream segments for designation into the National System, and no stream segment studied is or will be automatically designated as part of the National System. Only Congress can designate a wild and scenic river. In some instances, the Secretary of the Interior may designate a wild and scenic river when the governor of a state, under certain conditions, petitions for a river to be designated. Congress will ultimately choose the legislative language if any suitable segments are presented to them. Water protection strategies and measures to meet the purposes of the WSR Act will be the responsibility of Congress in any legislation proposed. Rivers found nonsuitable will be dropped from further consideration and managed according to the objectives outlined in the RMP.

Impacts that would occur from designating or not designating the eligible and suitable river segments are~~will be~~ analyzed in the EIS associated with the RMP. Public review and comment on suitability determinations included in the Draft RMP were~~are~~ considered before the BLM made~~makes~~ final suitability determinations in the Proposed RMP.

The following eight factors, identified in BLM Manual Section 8351 (BLM 1992), are applied to each eligible river segment when completing the suitability study:

1. Characteristics that do or do not make the river a worthy addition to the National System;

2. The status of land and mineral ownership, use in the area, and associated or incompatible uses;

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the National System and values that would be foreclosed or diminished if the area were not designated;

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river;

5. Estimated cost of acquiring necessary lands and interests in lands and administering the area, if designated;

6. Ability of the agency to manage and protect the river area or segment as a wild and scenic river or other means to protect the identified values other than wild and scenic river designation;

7. Historical or existing rights that could be adversely affected with designation; and

8. Other.

Interim Management of Suitable Segments

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.

Suitability Determinations for the CFO

This section contains a discussion of eight suitability factors in relationship to each of the six segments determined to be eligible. These factors were described above.

Segment 1: Lake Creek—Headwaters to National Forest Boundary

1. Characteristics that do or do not make the river a worthy addition to the National System:

   The outstandingly remarkable values that qualify this river segment as eligible for inclusion in the National System are fisheries. The free-flowing nature of the creek is crucial to maintaining the excellent quality fish habitat. The naturally occurring Marshall Lake does not impede the river's free-flowing nature.

   In addition, it provides high-quality fish spawning and rearing habitat for steelhead, Chinook salmon, bull trout, and westslope cutthroat trout. The segment downstream of Marshall Lake is the upstream extent of anadromous fish migration into the Lake Creek watershed; it is 715 river miles inland and at an elevation of approximately 7,000 feet.

   A dirt road parallels the river segment a little over 0.25-mile away, outside the potential designation corridor. The road is approximately 1,000 feet above the river channel.

2. The status of land and mineral ownership, use in the area, and associated or incompatible uses:

   Mineral potential within the river corridor has been identified for gold placer, gold lode, and black-sand. There is low potential for mineral resources to have accumulated. The level of certainty for this resource is classified as B, meaning that the available data provide indirect evidence to support or refute the possible existence of mineral resources. As a result, it is unlikely that mineral resource uses would be affected by designation.

Mineral potential near the Lake Creek segment but outside the designation corridor is identified for all minerals. This area appears to be in the adjacent watersheds, but portions may overlap some areas within the Lake Creek watershed near the headwaters. The potential mineral commodities are gold placer, gold lode, and black-sand. Mineral potential is low, and level of certainty is B.

The BLM manages all the land immediately adjacent to this segment beginning at the headwaters and continuing downstream to the National Forest boundary. This segment, including a 0.25-mile buffer, contains 612 acres of BLM land. Downstream of this segment, the Forest Service manages the majority of lands along Lake Creek.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the National System, and values that would be foreclosed or diminished if the area were not designated:

   Potential uses for the BLM lands surrounding this segment include timber harvest and livestock grazing. It is estimated that 160 acres of forested habitat occur adjacent to the creek and upslope of the BLM segment. The forest types in this area are spruce/fir and lodgepole pine and are of moderate productivity. Fires have historically occurred in the area. In 1994, the area from Marshall Lake up through the headwaters burned, and a mixed-severity burn occurred in the lower portion of the watershed to approximately the BLM boundary. Designation of this segment in the National System would result in timber harvest restrictions adjacent to and upslope of the Lake Creek segment, to ensure that sedimentation from erosion following timber harvests would degrade fish spawning habitat. However, VRM restrictions already exist on the entire 612 acres of BLM land within the Lake Creek watershed. Consequently, additional restrictions to timber harvest would be minimal.

   The BLM permits the Marshall Mountain allotment for sheep grazing along the entire river corridor. The season of use can be any time between July 1 and September 30. Designation of this segment would result in limiting grazing to the current levels. Additionally, evaluation of grazing conditions would consider potential erosion and sedimentation of Lake Creek. If grazing is determined to have negative impacts on fish spawning habitat, adjustments to the grazing permit could result.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river:

   The Payette National Forest conducted an eligibility and suitability study on the Upper Secesh River, including the Lake Creek tributary. The result of this study was a finding that Lake Creek, from the BLM boundary downstream to its confluence with the Upper Secesh River, was suitable for inclusion in the National System with a Recreational classification. Designation of the BLM portion of Lake Creek as a Recreational class Wild and Scenic River would be consistent with the Forest Service finding and could result in the entire Lake Creek being designated, depending on congressional action.

5. Estimated cost of acquiring necessary lands, interests in lands, and administering the area if designated:

Designation as a Recreational river segment would not require the acquisition of any property because ~~of~~ the lands are federal lands managed by the BLM. No additional costs are anticipated from the management of the area as a Recreational river segment.

6. Ability of the agency to manage and protect the river area or segment as a wild and scenic river, or other means to protect the identified values other than Wild and Scenic River designation:

   It would be relatively simple for the BLM to incorporate considerations to maintain or protect values into current management. Most management would not change. The area within the potential designation corridor is primitive, containing no frequent use camping areas. Future proposals for projects, including potential timber harvests in this area, would require review for compliance with the WSR Act if the segment were to become designated. Overall, the BLM would be able to manage and protect the river area with minimal effort.

   Other means to protect the identified values include compliance with the Endangered Species Act, BLM sensitive species management, and VRM class designations. The Endangered Species Act restricts land uses that could degrade fisheries habitat or impact fish populations for the federally listed species present downstream of the barrier. Similar land use restrictions exist for the protection of the BLM sensitive westslope cutthroat trout population present upstream of the barrier. The specific restrictions imposed on land uses would be considered on a case by case basis through consultation with USFWS.

   Manageability of this segment is dependent upon similar management of the Forest Service segment downstream. Many of the fisheries values depend on the fish passage and aquatic habitats downstream of BLM-managed lands. If the Forest Service segment is not designated, it would not be reasonable to designate the BLM segment. Both the BLM and Forest Service segments must be considered together.

7. Historical or existing rights that could be adversely affected with designation:

   The Nez Perce continue to use places and to apply their knowledge of the natural resources of the streams and rivers of the CFO area, just as they have for thousands of years. Tribal treaty rights pursued on public lands outside the boundaries of the reservation include fishing for resident game fish species and anadromous fish, hunting both large and small game, and gathering various natural resources for both subsistence and medicinal purposes. In addition, traditional social and religious activities continue to be practiced.

   The BLM has a trust responsibility to provide the conditions necessary for tribal members to satisfy their treaty rights and to maintain cultural practices. There is no inventory of locations used by Native Americans in exercising their treaty rights, but the Nez Perce Tribe has expressed concerns over natural resource management, especially as it pertains to water quality and its relation to fisheries management actions.

   Designation is not likely to negatively affect or impair activities traditionally pursued by the Nez Perce in exercising treaty rights and cultural practices. Uses do not require the

construction of permanent dams, water conduits, reservoirs, or electric generating or distribution infrastructure. Actions to protect segments of riparian corridors would likely preclude some incompatible activities and be beneficial to water quality, fisheries and other resources used by the Nez Perce. Government-to-government consultation as part of the RMP process and the development of management actions in the corridor segments is necessary to ensure that rights to access and use resources and places important to Native Americans are not affected.

There are no water rights that would be affected by designating this segment as a Recreational river. The segment includes the headwaters, so there can be no upstream water users. The area downstream of the BLM segment is predominantly National Forest land.

8. Other:

No other major issues or concerns regarding suitability of this segment have been identified in the land use planning process.

Segment 2: French Creek—National Forest Boundary to Confluence with Salmon River

1. Characteristics that do or do not make the river a worthy addition to the National System:

This segment contains outstandingly remarkable scenic and fisheries values. The scenic values are dependent on the free flow of the river through granitic and metamorphic rocks of the Idaho Batholith. The canyon is steep and characterized by stringers of timber and open grasslands. This segment of river provides high quality spawning and rearing habitat for spring/summer Chinook salmon, steelhead, and resident bull trout populations.

A gravel road parallels the segment for approximately 3.1 miles, and a trail parallels the creek from the road upstream, not downstream. There are two road bridges crossing the river within this segment, but these bridges do not affect the free-flowing nature of the river. There was formerly a foot bridge upstream beyond the road bridge, but it has washed out.

2. The status of land and mineral ownership, use in the area, and associated or incompatible uses:

French Creek is predominantly federal ownership with the majority of the creek occurring on Forest Service land upstream of the BLM portion. The segment being studied in this report is 4.18 miles long and flows through 1.7 miles of private land, 1.38 miles of BLM land, and 1.1 miles of state land. The preliminary corridor considered is 0.25-mile on each side of the river. This would result in 1,338 acres along the 4.18 miles being considered for inclusion in the National System. Within the corridor being considered, the BLM manages 441.6 acres (33 percent), private land includes 544 acres (41 percent), and Idaho State manages 352 acres (26 percent). The Forest Service manages land upstream of this segment.

The private land includes a residence adjacent to the creek approximately 0.25-mile upstream from the confluence with the Salmon River. The residence is visible from the river channel

and occurs within the 0.25-mile corridor. There is also a residence approximately two miles upstream of the confluence within the study corridor. The Boy Scouts of America have a camping area located within these private land holdings, at the confluence of French Creek with the Salmon River on one side of the creek. Boy Scout camping areas are located away from the creek channel outside the 0.25-mile buffer area. Private land uses could affect the scenic and fisheries outstandingly remarkable values.

No potential for minerals has been identified along the proposed segment of French Creek, but valid existing mining claims would be honored. Mine operators and miners would need to ensure that river corridor values could be maintained.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the National System and values that would be foreclosed or diminished if the area were not designated:

   The French Creek segments contain forested vegetation, dominated by ponderosa pine *(Pinus ponderosa)* and Douglas-fir *(Pseudotsuga menziesii)*. If these segments were designated as Recreational, restrictions for timber harvest would be placed on approximately 100 acres to ensure that sedimentation from erosion would not affect fisheries outstandingly remarkable values. Currently, there are some timber harvest restrictions on 591 acres of land in this area, both within and outside of the study corridor, including the 100 acres due to VRM standards and RHCA guidelines. These restrictions would be complimentary to any restrictions that would result from designation.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river:

   The Forest Service determined the upper portions of French Creek to be eligible, beginning approximately 4.18 miles upstream from the confluence with the Salmon River and continuing upstream through the Payette National Forest. The Forest Service has not completed a suitability study on this segment. The Forest Service found the upstream segment of French Creek nonsuitable for designation in the National System. Although designation of the 4.18-mile study segment would not significantly affect Forest Service management of French Creek upstream, it would not be complimentary to their determination. ~~Other state, tribal, local, and public organizations are expected to review and provide comments on this draft report, at which time their interest will be determined.~~

5. Estimated cost of acquiring necessary lands, interests in lands, and administering the area if designated:

   The BLM would not pursue or consider the acquisition of the private land parcel unless it became available from a willing seller. The BLM does not anticipate this happening in the foreseeable future.

   The cost of administering the BLM segments as a Recreational river would not be significant. Management of this segment already includes measures that help protect the river-related values for scenic and fisheries outstandingly remarkable values.

6. Ability of the agency to manage and protect the river area or segment as a Wild and Scenic River, or other means to protect the identified values other than Wild and Scenic River designation:

   It would be relatively simple for the BLM to manage the federal portions of this segment. The BLM does not manage the land uses on the private land occurring along 1.7 miles of this 4.18-mile segment. Management along this segment would predominantly rely on local, county, and state zoning laws. The State of Idaho manages a 1.1-mile section of this river segment. It is likely that the state would be amenable to managing in a manner that would protect the scenic, fisheries, and free-flowing values of this segment.

7. Historical or existing rights that could be adversely affected with designation:

   Existing private property rights would not be affected. Land purchases, exchanges, or easement acquisitions would be carried out only with willing sellers.

   The Nez Perce continue to use places and to apply their knowledge of the natural resources of the streams and rivers of the CFO area, just as they have for thousands of years. Tribal treaty rights pursued on public lands outside the boundaries of the reservation include fishing for resident game fish species and anadromous fish, hunting both large and small game, and gathering various natural resources for both subsistence and medicinal purposes. In addition, traditional social and religious activities continue to be practiced.

   The BLM has a trust responsibility to provide the conditions necessary for tribal members to satisfy their treaty rights and to maintain cultural practices. There is no inventory of locations used by Native Americans in exercising their treaty rights, but the Nez Perce Tribe has expressed concerns over natural resource management, especially as it pertains to water quality and its relation to fisheries management actions.

   Designation is not likely to negatively affect or impair activities traditionally pursued by the Nez Perce in exercising treaty rights and cultural practices. Uses do not require the construction of permanent dams, water conduits, reservoirs, or electric generating or distribution infrastructure. Actions to protect segments of riparian corridors would likely preclude some incompatible activities and be beneficial to water quality, fisheries and other resources used by the Nez Perce. Government-to-government consultation as part of the RMP process and the development of management actions in the corridor segments is necessary to ensure that rights to access and use resources and places important to Native Americans are not affected.

8. Other:

   No other major issues or concerns regarding suitability of this segment have been identified in the land use planning process.

Segment 3: Hazard Creek—National Forest Boundary to Confluence with Little Salmon River

1. Characteristics that do or do not make the river a worthy addition to the National System:

   There is a popular camping spot at the confluence of Hazard Creek and Hard Creek. A small road spur off the main Forest Service road provides vehicle parking for this camping area, which is primitive and consists of a small flat open area surrounded by several large trees. Some of the trees have been scarred by axes and saws. The BLM maintains this small road and periodically cleans up the campsite.

   A road parallels the creek from the confluence with the Little Salmon River upstream, crossing Hazard Creek via a small bridge upstream of the confluence with Hard Creek. The Forest Service maintains this road. The main road continues up Hazard Creek and forks again with a road and motorized trail paralleling Hazard Creek to the BLM boundary.

2. The status of land and mineral ownership use in the area and associated or incompatible uses:

   The BLM manages the land adjacent to Hazard Creek, from approximately one-half-mile upstream of the confluence with the Little Salmon River to the National Forest boundary. The downstream half-mile is privately owned and contains a residence along the bank near the mouth of the creek.

   No potential for minerals has been identified along the proposed segment of Hazard Creek, but valid existing mining claims would be honored. Mine operators and miners would need to ensure that river corridor values could be maintained.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the National System and values that would be foreclosed or diminished if the area were not designated:

   Hazard Creek is forested with grand fir, ponderosa pine, Douglas-fir and western larch. An estimated 40 percent of the BLM land in this area is forested.

   If the Hazard Creek segment were nominated, restrictions for timber harvest would be placed on an estimated 45 acres in order to ensure that timber removal would not affect the scenic outstandingly remarkable values. However, the entire 210 acres (inside and outside of study corridor) of forested lands under BLM jurisdiction has restrictions to maintain VRM standards.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river:

   The Payette National Forest conducted a wild and scenic rivers eligibility study as part of its resource management plan and found Hazard Creek eligible for wild and scenic designation. The Forest Service evaluated two segments, first from the headwaters downstream to the confluence with Vance Creek and second from the confluence with Vance Creek

downstream to the National Forest boundary with BLM land. The BLM is considering the segment from this boundary downstream to the confluence with the Little Salmon River. The Forest Service found both segments to be free flowing and to contain Scenic, Geologic, and Hydrologic outstandingly remarkable values. The Forest Service descriptions of outstandingly remarkable values are as follows (Payette National Forest 2003):

- Scenic—The river area contains very scenic cascading waterfalls, cirque basins, high mountain lakes, and rock forms and offers outstanding views. Fall colors highlight the scenic beauty of the area.

- Geologic/Hydrologic—A combination and extent of several outstanding Hydrologic and Geologic features are found within this drainage. The landform within the lower half of the Hazard Creek dominantly consists of steep to extremely steep mountain headlands and deeply entrenched canyon walls that are adjacent to a major stream. The landforms within the upper half dominantly consist of glacial headlands, uplands, troughs, and cirque basins.

The segment of Hazard Creek being considered by the BLM is immediately downstream of the lower segment considered by the Forest Service. The Forest Service has not completed a suitability study of these segments of Hazard Creek, so it is uncertain whether the Forest Service will find them suitable or nonsuitable for designation. Consequently, it is uncertain whether designation of the BLM segment being considered would be compatible with the Forest Service portion of the creek.

5. Estimated cost of acquiring necessary lands, interests in lands, and administering the area if designated:

   The BLM would not pursue or consider the acquisition of the private land located on the 0.50-mile segment of Hazard Creek, from the BLM boundary to the confluence with the Little Salmon River.

6. Ability of the agency to manage and protect the river area or segment as a Wild and Scenic River or other means to protect the identified values, other than Wild and Scenic River designation:

   Because the land upstream of the BLM segment is federally managed land (Forest Service), management of this segment for Scenic, Geologic, and Hydrologic outstandingly remarkable values would be relatively simple.

   If this segment were designated, the Forest Service would need to consider potential impacts on outstandingly remarkable values when maintaining roads on the section that parallels the creek, including the bridge.

   Manageability of this segment is dependent upon similar management of the Forest Service segment downstream. If the Forest Service segment is not designated, it would not be

reasonable to designate the BLM segment. Both the BLM and Forest Service segments must be considered together.

7. Historical or existing rights that could be adversely affected with designation:

   The Nez Perce continue to use places and to apply their knowledge of the natural resources of the streams and rivers of the CFO area, just as they have for thousands of years. Tribal treaty rights pursued on public lands outside the boundaries of the reservation include fishing for resident game fish species and anadromous fish, hunting both large and small game, and gathering various natural resources for both subsistence and medicinal purposes. In addition, traditional social and religious activities continue to be practiced.

   The BLM has a trust responsibility to provide the conditions necessary for tribal members to satisfy their treaty rights and to maintain cultural practices. There is no inventory of locations used by Native Americans in exercising their treaty rights, but the Nez Perce Tribe has expressed concerns over natural resource management, especially as it pertains to water quality and its relation to fisheries management actions.

   Designation is not likely to negatively affect or impair activities traditionally pursued by the Nez Perce in exercising treaty rights and cultural practices. Uses do not require the construction of permanent dams, water conduits, reservoirs, or electric generating or distribution infrastructure. Actions to protect segments of riparian corridors would likely preclude some incompatible activities and be beneficial to water quality, fisheries and other resources used by the Nez Perce. Government-to-government consultation as part of the RMP process and the development of management actions in the corridor segments is necessary to ensure that rights to access and use resources and places important to Native Americans are not affected.

8. Other:

   The lower portion of BLM lands adjoin private lands and is designated WUI in the Idaho County Wildland Fire Mitigation Plan. Scenic criteria that prevent a noticeable change from occurring to vegetation could prevent attainment of WUI fuel-reduction goals and make the designation contrary to the Idaho County Wildland Fire Mitigation Plan.

Segment 4: Hard Creek—National Forest Boundary to Confluence with Hazard Creek

1. Characteristics that do or do not make the river a worthy addition to the National System:

   There is a popular camping spot at the confluence of Hazard Creek and Hard Creek. A small road spur off the main Forest Service road provides vehicle parking for this camping area, which is primitive and consists of a small flat open area surrounded by several large trees. Some of the trees have been scarred by axes and saws. The BLM maintains this small road and periodically cleans up the campsite.

A Forest Service road parallels Hard Creek, from the bridge crossing Hazard Creek upstream for the entire segment being considered. The road is visible from within the proposed corridor in some locations. There also are roads that access Hard Creek from the west (over the Little Salmon River divide) and cutting units (from the 1960s) that also are visible.

2. The status of land and mineral ownership, use in the area, and associated or incompatible uses:

   The BLM manages all lands within the river corridor being considered. The Forest Service maintains a road that crosses BLM land along the creek, from Highway 95 onto the Payette National Forest.

   No potential for minerals has been identified along the proposed segment of Hard Creek, but valid existing mining claims would be honored. Mine operators and miners would need to ensure that river corridor values could be maintained.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the National System, and values that would be foreclosed or diminished if the area were not designated:

   Hard Creek is forested with ponderosa pine and Douglas-fir, with some areas of grand fir, and western larch. An estimated 60 percent of the BLM land in this area is forested. If the Hard Creek segment is nominated, restrictions for timber harvest would be placed on 72 acres in order to ensure timber removal would not affect the scenic outstandingly remarkable values. However, 330 acres (inside and outside the study corridor) of forested land under BLM jurisdiction would have restrictions to maintain VRM standards suitable to its VRM class.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river:

   The Payette National Forest conducted a Wild and Scenic Rivers eligibility study as part of its resource management plan and found Hard Creek eligible for Wild and Scenic designation. The Forest Service evaluated the creek from the headwaters at Hard Creek Lake downstream to the confluence to the Forest Service boundary with BLM land. The BLM is considering the segment from this boundary downstream to the confluence with Hazard Creek. Hard Creek was found to be free flowing and to contain Scenic, Geologic, and Hydrologic outstandingly remarkable values by the Forest Service for the portions within the Payette National Forest. The Forest Service descriptions of outstandingly remarkable values are as follows (Payette National Forest 2003):

   - Scenic—The river area contains very scenic cascading waterfalls, cirque basins, high mountain lakes, rock forms, and offers outstanding views. Fall colors highlight the scenic beauty of the area.

   - Geologic/Hydrologic—A combination and extent of several outstanding hydrologic and geologic features are found within this drainage. The landform within the lower half of

the Hard Creek dominantly consists of steep to extremely steep mountain headlands and deeply entrenched canyon walls that are adjacent to a major stream. The landforms within the upper half dominantly consist of glacial headlands, uplands, troughs, and cirque basins.

The segment of Hard Creek being considered by the BLM is immediately downstream of the segment considered by the Forest Service. The Forest Service has not completed a suitability study of these segments of Hard Creek, so it is uncertain whether the Forest Service will find them suitable or nonsuitable for designation. Consequently, it is uncertain whether designating the BLM segment being considered would be compatible with the Forest Service portion of the creek.

5. Estimated cost of acquiring necessary lands, interests in lands, and administering the area if designated:

   The BLM manages all lands within the proposed corridor, no land acquisition would be necessary.

6. Ability of the agency to manage and protect the river area or segment as a Wild and Scenic River or other means to protect the identified values:

   Because the land upstream of the BLM segment is federally managed land (Forest Service), management of this segment for Scenic, Geologic, and Hydrologic outstandingly remarkable values would be relatively simple.

   If it were to designate this section, the Forest Service would need to consider potential impacts on outstandingly remarkable values when maintaining the section of the road that parallels the creek.

   Manageability of this segment is dependent upon similar management of the Forest Service segment downstream. If the Forest Service segment is not designated, it would not be reasonable to designate the BLM segment. Both the BLM and Forest Service segments must be considered together.

7. Historical or existing rights that could be adversely affected with designation:

   The Nez Perce continue to use places and to apply their knowledge of the natural resources of the streams and rivers of the CFO area, just as they have for thousands of years. Tribal treaty rights pursued on public lands outside the boundaries of the reservation include fishing for resident game fish species and anadromous fish, hunting both large and small game, and gathering various natural resources for both subsistence and medicinal purposes. In addition, traditional social and religious activities continue to be practiced.

   The BLM has a trust responsibility to provide the conditions necessary for tribal members to satisfy their treaty rights and to maintain cultural practices. There is no inventory of locations used by Native Americans in exercising their treaty rights, but the Nez Perce Tribe has

expressed concerns over natural resource management, especially as it pertains to water quality and its relation to fisheries management actions.

Designation is not likely to negatively affect or impair activities traditionally pursued by the Nez Perce in exercising treaty rights and cultural practices. Uses do not require the construction of permanent dams, water conduits, reservoirs, or electric generating or distribution infrastructure. Actions to protect segments of riparian corridors would likely preclude some incompatible activities and be beneficial to water quality, fisheries and other resources used by the Nez Perce. Government-to-government consultation as part of the RMP process and the development of management actions in the corridor segments is necessary to ensure that rights to access and use resources and places important to Native Americans are not affected.

8. Other:

No major issues or concerns regarding suitability of this segment have been identified in the land use planning process.

Segment 5: Lolo Creek—National Forest Boundary in Section 24, T34N, R5E to Confluence with Clearwater River

1. Characteristics that do or do not make the river a worthy addition to the National System:

Lolo Creek contains scenic, recreational, fisheries, and historic outstandingly remarkable values that make the segment a worthy addition to the National System. Development along Lolo Creek is very limited due to the steep canyon walls and limited access.

A gravel road provides access to Lolo Creek running approximately perpendicular to the creek and crosses Woodland Bridge, approximately ten miles upstream from the confluence with the Clearwater River. The single-lane bridge is on BLM-managed land. There also is a bridge that crosses Lolo Creek at Rock Creek, approximately two miles downstream from the National Forest boundary.

An automobile bridge crosses Lolo Creek approximately 0.50-mile upstream of the confluence with the Clearwater River. There is also a railroad bridge near the confluence with the Clearwater River. The railroad tracks parallel the Clearwater River.

The Nez Perce Tribe operates a fish trap on a barge just upstream of Woodland Bridge. The purpose of the trap is for tagging smolt (outmigrating anadromous fish) and collecting population data. The trap is seasonal and not a permanent structure. The trap, when present, adversely affects the scenic quality of the creek in this area. Downstream of Woodland Bridge, the Nez Perce Tribe constructs and operates a weir and fish trap for capturing upmigrating anadromous fish. This structure is also removed each year after use. During operation, the weir does not affect the amount of water passing downstream but constricts flow to allow operation of the trap.

The area approximately 0.13-mile upstream of Woodland Bridge is a popular swimming hole, which is sometimes enhanced by swimmers creating a small weir. The BLM periodically removes the weir to restore river flow.

Lolo Creek, from Eldorado Creek (located upstream of the segment) down to the confluence with the Clearwater River, is listed on the US EPA 303(d) list for having water quality issues. The pollutants of concern are bacteria, dissolved oxygen, flow alteration, habitat alteration, nutrients, oil/gas, sediment, and temperature. For river segments being considered for Scenic designation, the WSR Act does not list water quality criteria. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all waters of the US be made fishable and swimmable. Therefore, rivers will not be precluded from Scenic or Recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is being developed in compliance with applicable federal and state laws. A water quality improvement plan (total maximum daily load) is under development for Lolo Creek (IDEQ 2005, Lewiston office).

2. The status of land and mineral ownership, use in the area, and associated or incompatible uses:

Lolo Creek flows from its headwaters in the Clearwater National Forest at Hemlock Butte and terminates at the Clearwater River (river mile 0). The section being considered in this suitability study begins at the downstream end of the National Forest boundary and continues to the confluence with the Clearwater River. Landownership is very segmented, with portions being owned/managed by the BLM, Forest Service, State of Idaho, and private landowners. **Table K-2** shows land ownership adjacent to the creek in this segment.

Table K-2
Land O~~o~~wnership Adjacent to Lolo Creek by Shoreline Miles and Percent below National Forest Boundary

Ownership	Miles	Proportion
BLM	12.4	52%
Forest Service	0.5	2%
State	2.5	10%
Private	8.6	36%
Total	**24.0**	**100%**

Mineral potential within the river corridor has been identified for gold placer, gold lode, and black-sand. The mineral potential for gold placer is classified as moderate. The level of certainty for gold placer is C (the available data provide abundant direct and indirect

evidence to support or refute this possible existence of mineral resources). The mineral potential for gold lode and black sand is classified as low for accumulation of mineral resources. The level of certainty for this gold lode and black-sand is classified as B (the available data provide indirect evidence to support or refute the possible existence of mineral resources). Designation could affect future mineral resources development because any mining activities would be required to protect the outstandingly remarkable values.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the National System, and values that would be foreclosed or diminished if the area were not designated:

   Lolo Creek segment has ponderosa pine/Douglas-fir timber types along the lower portions of Lolo Creek. In the mid- to upper reaches on BLM lands, grand fir forest types are common, with incidental occurrences of cedar. Stands of cottonwoods are not uncommon in the riparian area. The BLM lands in this area are intermingled with other ownership, making it difficult to estimate the percent of BLM lands that are forested. Judging by aerial photos, approximately 50 percent of the acres managed by the BLM are forested. If the Lolo Creek segment is nominated, restrictions for timber harvest would be placed on 520 acres of forested BLM land in order to ensure that sedimentation from erosion would not degrade the fisheries outstandingly remarkable values. However, approximately 4,230 acres of forested land under BLM jurisdiction would have some sort of restriction to maintain VRM standards.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river:

   As stated previously, BLM-managed lands along Lolo Creek are not continuous. The other sections of the creek are owned/managed by private landowners, the Forest Service, or the State of Idaho. This suitability study is assessing only those sections of Lolo Creek that occur on BLM land. Successful management for the protection of wild and scenic outstandingly remarkable values would depend on cooperation with these other landowners. The interest of the Forest Service in designating or not designating the segment will be determined when the Forest Service's suitability study is completed. ~~Other state, tribal, local, and public organizations are expected to review and provide comments on this draft report.~~

5. Estimated cost of acquiring necessary lands, interests in lands, and administering the area if designated:

   The BLM would not pursue or consider acquiring the private land parcel unless it becomes available from a willing seller. The BLM does not anticipate this happening in the foreseeable future.

   The BLM has a 20-year lease along the north bank near the confluence with the Clearwater River to provide recreational access to the public. The lease is renewable with an option to buy. This lease assists the BLM in maintaining the Recreational outstandingly remarkable values by providing an area for kayakers to pull out.

6. The ability of the agency to manage and protect the river area or segment as a Wild and Scenic River, or other means to protect the identified values other than Wild and Scenic River designation:

   Minimal effort would be required for the BLM to ensure that land uses on BLM-managed parcels would protect the outstandingly remarkable values. Management measures on BLM parcels would include ensuring that land use activities do not result in significant erosion or sedimentation, which could adversely affect fisheries habitat. Other measures would include limiting development, ensuring recreational access, and protecting historical values. However, the land status is segmented with various private landowners, state, and Forest Service land, interspersed with the BLM parcels. The BLM does not have management control over potential land use activities (such as timber harvest and mining) on private and state land parcels upstream of BLM parcels. These activities could adversely affect fisheries habitat and Scenic outstandingly remarkable values in the BLM-managed sections. Consequently, coordination and cooperation with other landowners and managers would be required to ensure the protection of outstandingly remarkable values.

   Other means to protect the identified values include compliance with the Endangered Species Act, BLM sensitive species management, and VRM class designations. The Endangered Species Act restricts land uses that could degrade fisheries habitat or impact fish populations for federally listed species. The specific restrictions imposed on land uses would be considered on a case-by-case basis through consultation with USFWS.

7. Historical or existing rights that could be adversely affected with designation:

   The Nez Perce continue to use places and to apply their knowledge of the natural resources of the streams and rivers of the CFO area, just as they have for thousands of years. Tribal treaty rights pursued on public lands outside the boundaries of the reservation include fishing for resident game fish species and anadromous fish, hunting both large and small game, and gathering various natural resources for both subsistence and medicinal purposes. In addition, traditional social and religious activities continue to be practiced.

   The BLM has a trust responsibility to provide the conditions necessary for tribal members to satisfy their treaty rights and to maintain cultural practices. There is no inventory of locations used by Native Americans in exercising their treaty rights, but the Nez Perce Tribe has expressed concerns over natural resource management, especially as it pertains to water quality and its relation to fisheries management actions.

   Designation is not likely to negatively affect or impair activities traditionally pursued by the Nez Perce in exercising treaty rights and cultural practices. Uses do not require the construction of permanent dams, water conduits, reservoirs, or electric generating or distribution infrastructure. Actions to protect segments of riparian corridors would likely preclude some incompatible activities and be beneficial to water quality, fisheries and other resources used by the Nez Perce. Government-to-government consultation as part of the RMP process and the development of management actions in the corridor segments is

necessary to ensure that rights to access and use resources and places important to Native Americans are not affected.

The Lolo Creek drainage was host to the Lewis and Clark Expedition of 1805 and was a common travel route for Nez Perce Indians and other expeditions. Lewis and Clark camped near Lolo Creek at Pheasant Camp on September 21, 1805. From this point they headed to the Weippe Prairie, where they had their first encounter with the Nez Perce Indians. Twisted Hair and his band welcomed the foreigners, who stayed with them for three weeks (Wilfong 1990). The Lewis and Clark National Historic Trail crosses Lolo Creek in Clearwater National Forest near Lolo Campground at river mile 25.5 (Clearwater and Lolo National Forests 2004). The Nee-Mee-Poo or Nez Perce National Historic Trail crosses Lolo Creek in that approximate location. (Note: the names of the trails are commonly used interchangeably and also referred to as the Lolo Trail.) The historic integrity of these trails would not be affected by designation.

8. Other:

The lower reaches of Lolo Creek are categorized as WUI in the Clearwater and Idaho County Wildland Fire Mitigation Plans. The BLM lands are on steep slopes with residences at the top of these slopes. Fuels-reduction projects to prevent stand-replacing fire from reaching private lands is a priority in both County Wildland Fire Mitigation Plans. Visual restrictions limiting noticeable change from occurring to vegetation could prevent attainment of WUI fuel-reduction goals and make the designation contrary to the County Wildland Fire Mitigation Plans. This will be more evident on the south side of Lolo creek because, being a north slope, the vegetation density is much higher and will more readily result in a noticeable change. Also, in the upper reaches of Lolo Creek, there is substantial interspersing of BLM lands with private lands. These are typically being managed for timber production, but there has been an increasing level of development of these sites for residences. Again, these changes through time could result in conflicts between WUI fuels and wild and scenic rivers goals and objectives.

Segment 6: Clearwater River—Mainstem from Confluence with Middle Fork and South Fork Clearwater River in Kooskia to Confluence with the Snake River in Lewiston

1. Characteristics that do or do not make the river a worthy addition to the National System:

The US Environmental Protection Agency has classified the Clearwater, from the confluence with the North Fork Clearwater River to the Washington state line, as a 303(d) water body. The pollutant of concern for this segment is total dissolved gas. For river segments being considered for Recreational designation, the WSR Act does not list water quality criteria. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all waters of the US be made fishable and swimmable. Therefore, rivers will not be precluded from Scenic or Recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is being developed in compliance with applicable federal and state laws. A Water Quality

Improvement Plan (total maximum daily load) has been completed for this stretch of the Clearwater River (Settlement Agreement 2002).

Highway 12 parallels the river segment for its entire length. From the confluence with the Middle Fork and South Fork Clearwater Rivers downstream to approximately the town of Kamiah, the road follows the eastern shoreline. For the rest of the segment the road follows the southern and western shoreline.

The railroad parallels this segment of the Clearwater River on the northern and eastern shore (opposite Highway 12) from Lewiston to Kamiah. The railroad crosses the river in Kamiah and continues a short distance along the other shoreline before ending in Kamiah.

Associated with the adjacent highway and railroad are numerous areas where riprap has been placed along the shore to prevent the river from eroding the road and railroad bases. There are also a number of culverts and pullouts associatd with the highway. Although the river has been channelized in sections, the outstandingly remarkable values for fisheries and recreation remain sufficiently protected.

2. The status of land and mineral ownership, use in the area, and associated or incompatible uses:

An initial river corridor of 0.25-mile on either side of the river was included when suitability was considered. Within this corridor, the BLM manages 2,428 acres, or ten percent of the land for the entire 74.8-mile segment being considered.

Although the BLM manages only a small percentage of the adjacent lands along the entire 74.8-mile segment, it does manage a significant portion of adjacent lands for the subsegment between the mouth of Lolo Creek and the Pardee townsite (5.9 miles). The BLM manages 781 acres (41 percent) of the 1,888 acres of corridor being considered for designation.

Three areas along the Clearwater River were identified as containing mineral potential. Beginning upstream near Pardee, the first area is around the mouth of Lolo Creek; mineral potential in this area within the river corridor has been identified for gold placer, gold lode, and black-sand. The mineral potential for gold placer is classified as moderate. The level of certainty for gold placer is C (the available data provide abundant direct and indirect evidence to support or refute this possible existence of mineral resources).

The second area of mineral potential is from approximately the mouth of Lolo Creek downstream to where the Clearwater River turns west. Mineral potential in this area has been identified as high for limestone and the level of certainty is C.

The third area is near Riverside. Mineral potential in this area has been identified for gold placer and black sand. Mineral potential in this area is low, and potential for certainty is B (the available data provide indirect evidence to support or refute the possible existence of mineral resources).

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the National System and values that would be foreclosed or diminished if the area were not designated:

   The Clearwater River segment has scattered ponderosa pine/Douglas-fir forest types on the west and south slopes and dense grand fir, Douglas-fir, and ponderosa pine forest types on the north and east slopes. If the Clearwater River segment were nominated, timber harvest could be restricted.

   Future mining activities on BLM land could be restricted as a result of designation. Approval of mining activities would need to consider the potential impacts on fish habitat in the Clearwater River. Steps would be required to ensure that the fish habitat would not be adversely affected.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river:

   The Idaho Transportation Department is responsible for maintaining Highway 12 and would be affected by designation of this segment in the National System. Highway 12 is a US highway receiving federal funding. If designated, highway maintenance and construction activities would need to ensure the protection of the outstandingly remarkable values. ~~Other state, tribal, local, and public organizations are expected to review and provide comments on this draft report, at which time their interest in designating or not designating the segment will be determined.~~

5. Estimated cost of acquiring necessary lands and interests in lands and of administering the area if designated:

   The cost of acquiring all necessary lands adjacent to the Clearwater River for the entire 74.8 miles would be prohibitive. This segment would have to be designated in concurrence with the majority of the other federal, state, and private landowners.

6. The ability of the agency to manage and protect the river area or segment as a Wild and Scenic River or other means to protect the identified values other than Wild and Scenic River designation:

   The ability of the BLM to manage outstandingly remarkable value for the entire 74.8-mile segment is limited due to the small amount of land within the corridor under the BLM's control.

   However, the BLM could manage 5.9 miles, from the mouth of Lolo Creek to the Pardee townsite, with minimal effort. The BLM currently manages these lands in a manner that protects the fisheries, historic, and recreational outstandingly remarkable values of the river. Should major changes be proposed either to the railroad or Highway 12 for this segment, management could become challenging because these activities would be beyond the BLM's control.

7. Historical or existing rights that could be adversely affected with designation:

   The Nez Perce continue to use places and to apply their knowledge of the natural resources of the streams and rivers of the CFO area, just as they have for thousands of years. Tribal treaty rights pursued on public lands outside the boundaries of the reservation include fishing for resident game fish species and anadromous fish, hunting both large and small game, and gathering various natural resources for both subsistence and medicinal purposes. In addition, traditional social and religious activities continue to be practiced.

   The BLM has a trust responsibility to provide the conditions necessary for tribal members to satisfy their treaty rights and to maintain cultural practices. There is no inventory of locations used by Native Americans in exercising their treaty rights, but the Nez Perce Tribe has expressed concerns over natural resource management, especially as it pertains to water quality and its relation to fisheries management actions.

   Designation is not likely to negatively affect or impair activities traditionally pursued by the Nez Perce in exercising treaty rights and cultural practices. Uses do not require the construction of permanent dams, water conduits, reservoirs, or electric generating or distribution infrastructure. Actions to protect segments of riparian corridors would likely preclude some incompatible activities and be beneficial to water quality, fisheries and other resources used by the Nez Perce. Government-to-government consultation as part of the RMP process and the development of management actions in the corridor segments is necessary to ensure that rights to access and use resources and places important to Native Americans are not affected.

8. Other:

   Portions of the Clearwater River are categorized as WUI in the Clearwater and Idaho County Wildland Fire Mitigation Plans. Fuels-reduction projects to prevent stand-replacing fire from reaching the private lands are a priority in both County Wildland Fire Mitigation Plans. Visual restrictions limiting noticeable change from occurring to vegetation could prevent attainment of WUI fuel-reduction goals and make the designation contrary to the County Wildland Fire Mitigation Plans.

Suitability Determination Summary

Three of the six eligible segments were determined to be suitable for inclusion in the National System. Below is a summary of each of the six segments.

Segment 1: Lake Creek—Headwaters to National Forest Boundary

This segment contains outstandingly remarkable fisheries values, including excellent spawning and rearing habitat for a variety of species, such as federally listed threatened bull trout, Chinook salmon, steelhead, and BLM sensitive westslope cutthroat trout. The segment meets classification criteria as Recreational because a dirt road parallels the segment approximately 0.25-mile away from the river channel. Access to most of the segment from this road would involve a 0.25-mile hike down

approximately 1,000 feet in elevation. Designation of this segment would result in minimal changes to existing management but would provide an additional layer of protection for this river segment. Consistent with the Forest Service determination for the remainder of Lake Creek, this segment has been determined **suitable** for designation as a **Recreational** river within the National System.

Segment 2: French Creek—National Forest Boundary to Confluence with Salmon River

This segment contains outstandingly remarkable scenic and fisheries values. French Creek is a highly scenic visual resource, flowing through a deeply dissected canyon with meadows, with a distinctive riffle/pool effect. The French Creek fisheries outstandingly remarkable value is due to its importance to anadromous wild Chinook salmon, wild steelhead, and bull trout spawning and rearing. The segment would meet the tentative classification criteria as Recreational. Development in addition to the two bridges includes a residence located along the stream on private land. Designation of this segment would result in several management challenges because the BLM manages only 30 percent of the land and this portion is segmented. Managing this segment to protect outstandingly remarkable values would require minimal changes to existing management, provided the BLM has the cooperation of the adjacent private landowners and the State of Idaho. This segment has been determined to be **nonsuitable** for designation as a Recreational river within the National System until such time as the adjacent private landowners and State of Idaho provide a determination of eligibility and suitability for segments under their control.

Segment 3: Hazard Creek—National Forest Boundary to Confluence with Little Salmon River

This segment contains outstandingly remarkable Scenic and Geologic/Hydrologic values. The river basin contains very scenic cascading waterfalls, cirque basins, and rock forms and offers outstanding views. Fall colors highlight the scenic beauty of the area. The Geologic/Hydrologic value is found in the combination and extent of several outstanding hydrologic and geologic features that are found within this drainage. The landform within the lower half of Hazard Creek dominantly consists of steep to extremely steep mountain headlands and deeply entrenched canyon walls that are adjacent to a major stream. The Forest Service has studied the upstream portions of Hazard Creek and has determined them to be eligible, but it has not completed a suitability study. Landownership along this segment is predominantly BLM, with private land holdings along the lower 0.50-mile segment. Development along this segment includes the Forest Service road that parallels the segment and a residence on the lower 0.50 mile. Per changes to BLM Manual 8351 (BLM 2003), the BLM shall evaluate only its segment as to eligibility and shall defer to the state or private landowner's discretion as to their determination of eligibility. Consequently, this suitability determination is restricted to the portion of the segment upstream of the private landholdings to the boundary of the BLM land with the Forest Service. Designation of this segment would result in minimal changes to existing management but would provide an additional layer of protection for this river segment. As a result, this segment from the boundary with private land to the National Forest boundary has been determined to be **suitable** as a **Recreational** river within the National System. A final suitability determination should be coordinated with the Forest Service and the private landowners along this segment to determine if additional portions of Hazard Creek should be included. Manageability of this segment is dependent upon similar management of the Forest Service segment downstream. If the Forest Service segment is not designated, it would not be reasonable to designate the BLM segment. Both the BLM and Forest Service segments must be considered together.

Segment 4: Hard Creek—National Forest Boundary to Confluence with Hazard Creek

This segment contains outstandingly remarkable Scenic and Geologic/Hydrologic values. The river basin contains very scenic cascading waterfalls, cirque basins, and rock forms and offers outstanding views. Fall colors highlight the scenic beauty of the area. The Geologic/Hydrologic value is found in the combination and extent of several outstanding hydrologic and geologic features that are found within this drainage. The landform within the lower half of the Hard Creek dominantly consists of steep to extremely steep mountain headlands and deeply entrenched canyon walls that are adjacent to a major stream. The Forest Service has studied the upstream portions of Hazard Creek and has determined them to be eligible, but it has not completed a suitability study. The BLM manages all the land within the proposed corridor. Development within the river corridor consists of the Forest Service road that parallels the segment. Designation of this segment would result in minimal changes to existing management but would provide an additional layer of protection for this river segment. As a result, this segment has been determined **suitable** for designation as a **Recreational** river within the National System. Manageability of this segment is dependent upon similar management of the Forest Service segment downstream. If the Forest Service segment is not designated, it would not be reasonable to designate the BLM segment. Both the BLM and Forest Service segments must be considered together.

Segment 5: Lolo Creek—National Forest Boundary in Section 24, T34N, R5E to Confluence with Clearwater River

This segment contains outstandingly remarkable scenic, recreational, fisheries, and historic values. The upper part of Lolo Creek flows through mostly forested headlands, with scenic meadows and diverse riparian vegetation providing pleasing visual contrasts. The river channel is often boulder strewn, creating pleasing pool and drop hydrologic scenery. The lower ten miles of Lolo Creek flow through an extremely steep, deeply incised canyon, remarkable for its depth and narrow construction. Vegetative texture ranges from lush green mosses and forested banks to stark, bare canyon walls and semiarid canyon grasslands. The river has a near constant gradient, providing numerous small falls and cascades for pleasing visual effect.

Opportunities for a pristine and wild whitewater kayaking experience are especially unique to Lolo Creek. The lower ten miles of the creek is considered one of the best whitewater runs in Idaho and have been described as an isolated, challenging Class IV to Class V run. The upper section of the Lolo Creek whitewater runs have a lower gradient and less difficult but still challenging rapids.

Lolo Creek provides a variety of habitats for threatened anadromous steelhead and BLM sensitive anadromous and resident fish populations and is one of the major producers of anadromous fish for the lower Clearwater River. In addition to wild summer steelhead, spring Chinook salmon use Lolo Creek for spawning and rearing, and a recovering population of Coho salmon has been reintroduced to the system.

The Nee-Mee-Poo (Lolo Trail) crosses Lolo Creek in several locations. The Nez Perce led the Lewis and Clark expedition from the Weippe Prairie to the Clearwater River over this trail.

Designation of this segment would result in several management challenges due to the scattered land status pattern along the creek. The BLM manages 52 percent of the segment being considered, and managing these portions would require minimal changes to existing management, provided the BLM has the cooperation of the adjacent private landowners, the Forest Service, and the State of Idaho. Without the cooperation and support of the adjacent landowners and managers, the BLM would have a difficult time controlling outstandingly remarkable values that could be affected by activities upstream or downstream of their portions. However, current management actions both on BLM lands and adjacent landowners are compatible with the protection of the outstandingly remarkable values.

This segment is listed on the US Environmental Protection Agency 303(d) list. The WSR Act allows for river segments to be designated as Scenic or Recreational provided there is a plan in place or being developed to address water quality issues. A Water Quality Improvement Plan (total maximum daily load) is under development for Lolo Creek (IDEQ 2005).

This segment has been determined to be **suitable** for designation as a **Scenic** river within the National System.

Segment 6: Clearwater River—Mainstem from confluence with Middle Fork and South Fork Clearwater River in Kooskia to its confluence with the Snake River in Lewiston

This segment contains outstandingly remarkable recreational, fisheries, and historic values. The Clearwater River is internationally known for its steelhead fishing and attracts fisherman from all over the world. Steelhead returning to the Clearwater River are much larger than those found elsewhere in the US, with an average size of 12 to 14 pounds, and fish in the 18- to over 20-pound range are not uncommon. With the return of both spring/summer Chinook and fall Chinook salmon, recreational fishing for anadromous species occurs throughout most of the year. The Clearwater River provides important spawning habitat for fall Chinook salmon and important rearing habitat for spring/summer Chinook and steelhead.

The Clearwater River is the historic home to the Nez Perce Tribe. The Clearwater River is also an important segment of the Lewis and Clark National Historic Trail. The Clearwater was the first westward flowing river used by the expedition and was the place where they returned to water travel after crossing the Continental Divide.

Development along this 74.8-mile segment of the Clearwater River includes Highway 12 and a railroad track, both of which follow the river on opposite banks. This segment of river also passes through several towns and cities, including Kamiah and Lewiston. The BLM manages ten percent of the adjacent land (within 0.25-mile of the river) for this segment. Per changes to BLM Manual 8351 (BLM 2003), the BLM shall evaluate only its segment as to eligibility and shall defer to the state's or private landowner's discretion as to their determination of eligibility. Consequently, this suitability determination is restricted to the sections of river where the BLM manages the adjacent lands.

Designation of this segment would result in several management challenges due to the scattered land status pattern along the creek. The BLM manages ten percent of the segment being considered, and its management would require minimal changes, provided the BLM has the cooperation of the

adjacent private landowners, the Forest Service, and the State of Idaho and any other agencies with landholdings. Without the cooperation and support of the adjacent landowners and managers, the BLM would have a difficult time controlling outstandingly remarkable values that could be affected by activities upstream or downstream of its managed lands.

This segment is listed on the US Environmental Protection Agency 303(d) list. The WSR Act allows for river segments to be designated as Scenic or Recreational provided there is a plan in place or being developed to address water quality issues. A Water Quality Improvement Plan (total maximum daily load) has been completed for this stretch of the Clearwater River (Settlement Agreement 2002).

This segment has been determined to be **nonsuitable** for designation as a Scenic river within the National System until such time as the adjacent private landowners, the Forest Service, and the State of Idaho provide a determination of eligibility and suitability for segments under their control and a plan is developed to address water quality issues.

The BLM also considered the suitability of the segment from the mouth of Lolo Creek to the Pardee townsite. In this 5.9-mile segment, the BLM manages 41 percent of the lands. Consequently, managing this area for the protection of the outstandingly remarkable values would be simpler than considering the entire Clearwater River. This separate segment was also determined to be **nonsuitable** due to the amount of channelizing that has occurred in the past in association with Highway 12 and the railroad.

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APPENDIX K-1: ELIGIBILITY CRITERIA

Introduction

For the purpose of classification, a river area may be divided into segments. For example, changes in river character, such as the presence of dams and reservoirs, significant changes in types or amounts of development, significant changes in physiographic character, tributaries, or features, and/or significant changes in land status should be considered in identifying river segments for evaluation. Management strategies necessary to administer the entire river area should also be taken into account. As such, excessive segmentation should be avoided. Each segment, considered as a whole, needs to conform to either the Wild, Scenic, or Recreational classification. There are no specific requirements for segment length. Congress has designated a segment to be as short as four miles. A river segment is of sufficient length if a specific outstandingly remarkable value or values can be protected (a factor in the suitability determination, not eligibility determination), should the segment be designated. An entire stream could be one segment.

Each identified river segment in the RMP planning area must be evaluated to determine whether or not it is eligible for inclusion in the National System. To be eligible, a river segment must be free flowing and must possess at least one outstandingly remarkable value. Free-flowing means "existing or flowing in a natural condition without impoundment, diversion, straightening, riprapping, or other modification of the water." Please note the following:

- A river below a dam or impoundment is still eligible;
- A river need not be navigable by watercraft in order to be eligible; and
- There are no specific requirements concerning the flow of an eligible river segment. Flows are sufficient if they sustain or complement the outstandingly remarkable values for which the segment would be designated. As such, intermittent and ephemeral streams are eligible.

Outstandingly Remarkable Values

The determination of whether a river area contains outstandingly remarkable values is a professional judgment and needs to be documented in the study report. In order to be considered as outstandingly remarkable, a river-related value must be a unique, rare, or exemplary feature that is significant at a comparative regional or national scale. While the spectrum of resources that may be considered is broad, all values should be directly river related; that is, they should have the following characteristics:

- Be located in the river or on its immediate shore lands (for the purposes of this study, the preliminary boundary is 0.25-mile on either side of the river);
- Contribute substantially to the functioning of the river ecosystem; or
- Owe their location or existence to the presence of the river.

The following are general guidelines for the outstandingly remarkable values for which river segments can be eligible. Only one such value is needed for eligibility.

Scenic

The landscape elements of landform, vegetation, water, color, and related factors result in notable or exemplary visual features or attractions. When analyzing scenic values, additional factors, such as seasonal variations in vegetation, scale of cultural modifications, and the length of time negative intrusions are viewed, may be considered. Scenery and visual attractions may be highly diverse over most of the river or river segment.

Recreational

Recreational opportunities are or have the potential to be popular enough to attract visitors from throughout or beyond the region of comparison or are unique or rare within the region. Visitors are willing to travel long distances to use the river resources for recreation. River-related opportunities include, but are not limited to, sightseeing, wildlife observation, camping, photography, hiking, fishing, and boating.

- Interpretive opportunities may be exceptional and may attract or have the potential to attract visitors from outside the region of comparison.
- The river may provide or have the potential to provide settings for national or regional usage or competitive events.

Geological

The river, or the area within the river corridor, contains one or more examples of a geologic feature, process, or phenomenon that are unique or rare within the region of comparison. The features may be in an unusually active stage of development, represent a textbook example, or represent a unique or rare combination of geologic features (erosional, volcanic, glacial, or other geologic structures).

Fish

Fish values may be judged on the relative merits of either fish populations or habitat or a combination of the following river-related conditions:

- **Populations.** The river is nationally or regionally one of the top producers of resident, indigenous, or anadromous fish species. Of particular significance may be the presence of wild or unique stocks or populations of state- or US-listed or candidate threatened and endangered species.
- **Habitat.** The river provides exceptionally high quality habitat for fish species indigenous to the region. Of particular significance is habitat for state- or US-listed or candidate threatened and endangered species.

Wildlife

Wildlife values may be judged on the relative merits of either wildlife populations or habitat or on a combination of the following conditions:

- **Populations.** The river or area within the river corridor contains nationally or regionally important populations of resident or indigenous wildlife species depending on the river environment. Of particular significance may be species considered to be unique or populations of state- or US-listed or candidate threatened and endangered species.
- **Habitat.** The river or area within the river corridor provides exceptionally high quality habitat for wildlife of national or regional significance or may provide unique habitat or a critical link in habitat conditions for state- or US-listed or candidate threatened and endangered species. Contiguous habitat conditions are such that the biological needs of the species are met.

Cultural

The river or area within the river corridor contains a site or sites where there is evidence of occupation or use by Native Americans. Sites must be rare or must have unusual characteristics or exceptional human interest values. Sites may have national or regional importance for interpreting prehistory; may be rare; may represent an area where culture or a cultural period was first identified and described; may have been used concurrently by two or more cultural groups; or may have been used by cultural groups for rare or sacred purposes.

Historic

The river or area within the river corridor contains a site or sites or feature or features associated with a significant event, an important person, or a cultural activity of the past that was rare or unusual in the region. A historic site or feature in most cases is 50 years old or older. Sites or features listed on or eligible for inclusion on the National Register of Historic Places may be of particular significance.

Other Similar Values

While no specific evaluation guidelines have been developed for the other similar values category, additional values deemed relevant to the eligibility of the river segment should be considered in a manner consistent with the foregoing guidance, including, but not limited to, hydrologic, ecologic/biologic diversity, paleontologic, botanic, and scientific study opportunities.

APPENDIX K-2: CLASSIFICATION CRITERIA FOR WILD, SCENIC, AND RECREATIONAL RIVER AREAS

Table K-2-1
Classification Criteria for Wild, Scenic, and Recreational River Areas

Attribute	Wild	Scenic	Recreational
Water Resources Development (impoundments, diversions, etc.)	Free of impoundment	Free of impoundment	Some existing impoundment or diversion. The existence of low dams, diversions, riprap, or other modifications of the waterway is acceptable, provided the waterway remains generally natural and riverine in appearance.
Shoreline Development	Essentially primitive. Little or no evidence of human activity. The presence of a few inconspicuous structures, particularly those of historic or cultural value, is acceptable. A limited amount of domestic livestock grazing or hay production is acceptable. Little or no evidence of past timber harvest. No ongoing timber harvest.	Largely primitive and undeveloped. No substantial evidence of human activity. The presence of small communities or dispersed dwellings or farm structures is acceptable. The presence of grazing, hay production, or row crops is acceptable. Evidence of past or ongoing timber harvest is acceptable, provided the forest appears natural from the riverbank.	Some development. Substantial evidence of human activity. The presence of extensive residential development and a few commercial structures is acceptable. Lands may have been developed for the full range of agricultural and forestry uses. May show evidence of past and ongoing timber harvest.
Accessibility	Generally inaccessible except by trail. No roads, railroads, or other provision for vehicular travel within the river area. A few existing roads leading to the boundary of the river area is acceptable.	Accessible in places by road. Roads may occasionally reach or bridge the river. The existence of short stretches of conspicuous or longer stretches of inconspicuous roads or railroads is acceptable.	Readily accessible by road or railroad. The existence of parallel roads or railroads on one or both banks, as well as bridge crossings and other river access points, including fords, is acceptable.
Water Quality	Meets or exceeds 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 (swimming), except where exceeded by natural conditions.	No criteria prescribed by the Wild and Scenic Rivers Act. The Federal Water Pollution Control Act Amendments of 1972 have made it a national goal that all waters of the US be made fishable and swimmable. Therefore, rivers will not be precluded from scenic or recreational classification because of poor water quality at the time of their study, provided a water quality improvement plan exists or is being developed in compliance with applicable federal and state laws.	

Source: *Federal Register*. National Wild and Scenic Rivers System; Final Revised Guidelines for Eligibility, Classification, and Management of River Areas. Section 1(3), Vol. 47, No. 173, page 39461. September 7, 1982.

APPENDIX K-3: INTERIM PROTECTION FOR CANDIDATE WILD AND SCENIC RIVERS

Table K-3-1
Interim Protection for Candidate Wild and Scenic Rivers

	Wild and Scenic Rivers Act, Section 5(d)(1)[1]	
Issue/Action	**Eligible[2]**	**Suitable**
Study Boundary	Minimum of 0.25-mile from ordinary high-water mark. Boundary may include adjacent areas needed to protect identified values.	Minimum of 0.25-mile from ordinary high-water mark. Boundary may include adjacent areas needed to protect identified values.
Preliminary Classification	Section 2(b): 3 classes: Wild, Scenic, Recreational, defined by statute. Criteria for classification described in Interagency Guidelines. Manage at preliminary classification.	Section 2(b): 3 classes: Wild, Scenic, Recreational, defined by statute. Criteria for classification described in Interagency Guidelines. Manage at preliminary classification.
Study Report Review Procedures		Notice of study report/draft EA[3] published in *Federal Register*. Comments/response from federal, state, and local agencies and the public included in the study report/final EA[4] transmitted to the President and Congress.
Private Land *Administration *Acquisition	Affect private land uses through voluntary partnership with state/local governments and landowners. No regulatory authority. No ability to acquire interest in land under the act's authority prior to designation.	Affect private land uses through voluntary partnership with state/local governments and landowners. No regulatory authority. No ability to acquire interest in land under the act's authority prior to designation. Typically an evaluation of the adequacy of local zoning and land use controls is a component of suitability determination[5].

Table K-3-1
Interim Protection for Candidate Wild and Scenic Rivers *(continued)*

	Wild and Scenic Rivers Act, Section 5(d)(1)[1]	
Issue/Action	**Eligible[2]**	**Suitable**
Water Resources Project	River's free-flowing condition protected to the extent of other agency authorities; not protected under the act.	River's free-flowing condition protected to the extent of other agency authorities; not protected under the act.
Land Disposition	Agency discretion to retain lands within river corridor in federal ownership.	Agency discretion to retain lands within river corridor in federal ownership.
Mining and Mineral Leasing	Protect free flow, water quality, and outstandingly remarkable values through other agency authorities.	Protect free flow, water quality, and outstandingly remarkable values through other agency authorities.
Actions of Other Agencies	Affect actions of other agencies through voluntary partnership.	Affect actions of other agencies through voluntary partnership.
Protect Outstandingly Remarkable Values	No regulatory authority conferred by the act; agency protects through other authorities. Section 11(b) 1: Limited financial or other assistance to encourage participation in the acquisition, protection, and management of river resources[6].	No regulatory authority conferred by the act; agency protects through other authorities. Section 11(b) 1: Limited financial or other assistance to encourage participation in the acquisition, protection, and management of river resources[6].

[1] Agency-identified study rivers as directed by Section 5(d)(1) of the act.
[2] A number of sources are available for identifying rivers under Section 5(d)(1). Under a Presidential Directive issued in 1979, each federal agency, as part of its normal planning and environmental review processes, is required to avoid or mitigate adverse effects on rivers in the National Rivers Inventory.
[3] Draft environmental assessment
[4] Final environmental assessment
[5] For an agency-identified study river that includes private lands, there is often the need to evaluate existing state and local land use controls and, if necessary, to assess the willingness of state and local governments to protect river values.
[6] Section 11(b)1 authorizes the Secretary of the Interior and Secretary of Agriculture or the head of any other federal agency to provide for "limited financial or other assistance to encourage participation in the acquisition, protection, and management of river resources." This authority "applies within or outside a federally administered area and applies to rivers which are components of the National Wild and Scenic Rivers System and to other rivers." The recipients of federal assistance include states or their political subdivisions, landowners, private organizations, or individuals. Some examples of assistance under this section include, but are not limited to, riparian restoration, riparian fencing to protect water quality and riparian vegetation, of vegetative screening to enhance scenery/recreation experience.

APPENDIX K-4: RIVER SEGMENTS FROM INITIAL IDENTIFICATION EFFORTS

Table K-4-1 lists the Planning Area river and stream segments considered during initial identification efforts for the Wild and Scenic Rivers study process.

Table K-4-1
River Segments from Initial Identification Efforts

River Segment	Total Segment Length (miles)	Length on BLM-Administered Lands (miles)	Free Flowing	Outstandingly Remarkable Values								Determination	
				Scenic	Recreation	Geological	Fish	Wildlife	Historic	Cultural	Other	Not Eligible	Eligible
Boulder Creek (Little Salmon)	18.1	.11	Y									X	
Little Salmon River	39.4	3.58	Y									X	
Trail Creek (Little Salmon)	3.25	1.44	Y									X	
Hard Creek	12.3	1.64	Y	X		X							X
Hazard Creek	16.39	1.52	Y	X		X							X
Rattlesnake Creek (Little Salmon)	3.5	1.58	N									X	
Sheep Creek (Little Salmon)	3.6	2.43	Y									X	
Lake Creek (Secesh)	15.82	2.18	Y				X						X
Carey Creek	7.48	3.12	Y									X	
French Creek	22.3	1.38	Y	X			X						X
Elkhorn Creek	11.0	1.03	Y									X	
Partridge Creek	11.52	1.87	Y									X	
Lake Creek (Salmon River)	8.75	1.78	Y									X	
Race Creek	2.2	.43	Y									X	
Fiddle Creek	6.44	1.85	Y									X	
Sheep Creek (Salmon River)	12.6	1.44	Y									X	
John Day Creek	8.72	1.61	Y									X	

Table K-4-1
River Segments from Initial Identification Efforts *(continued)*

River Segment	Total Segment Length (miles)	Length on BLM-Administered Lands (miles)	Free Flowing	Outstandingly Remarkable Values								Determination	
				Scenic	Recreation	Geological	Fish	Wildlife	Historic	Cultural	Other	Not Eligible	Eligible
McKinzie Creek	7.0	1.87	Y									X	
Slate Creek	22.35	.14	Y									X	
Skookumchuck Creek	5.2	.57	Y									X	
Sotin Creek	4.38	1.05	Y									X	
Rock Creek	8.0	.06	Y									X	
Rice Creek	14.7	2.45	Y									X	
Telcher Creek	8.2	1.84	Y									X	
Round Springs Creek	5.4	1.58	Y									X	
Burnt Creek	4.0	2.08	Y									X	
Billy Creek	3.3	2.16	Y									X	
Cottonwood Creek	10.6	1.09	Y									X	
Deer Creek	17,1	2.19	Y									X	
Eagle Creek	14.9	2.0	Y									X	
China Creek	8.6	,6	Y									X	
Wapshilla Creek	4.5	.1	Y									X	
Cave Gulch	4.5	4.0	Y									X	
Corral Creek	6.3	5.8	Y									X	
Divide Creek	16.2	1.75	Y									X	
Getta Creek	5.8	1.85	Y									X	
Wolf Creek	12.4	.57	Y									X	
American River	22.4	7.0	N*									X	
Big Elk Creek	10.0	1.38	Y									X	
Little Elk Creek	11.0	.85	Y									X	
Kirks Fork (American River)	6.0	.55	Y									X	
Buffalo Gulch Creek	6.4	3.44	N*									X	

Table K-4-1
River Segments from Initial Identification Efforts *(continued)*

River Segment	Total Segment Length (miles)	Length on BLM-Administered Lands (miles)	Free Flowing	Outstandingly Remarkable Values								Determination	
				Scenic	Recreation	Geological	Fish	Wildlife	Historic	Cultural	Other	Not Eligible	Eligible
Maurice Creek	2.8	2.55	Y									X	
Whiskey Creek	4.2	2.43	Y									X	
South Fork Clearwater River	62.8	5.9	Y*									X	
Clearwater River	74.8	15.7	Y		X		X		X				X
Lawyer Creek	40.5	1.78	Y									X	
Lolo Creek	47.0	14.3	Y	X	X		X		X				X
Little Canyon Creek	18.8	2.75	Y									X	
Big Canyon Creek	33.77	6.95	Y									X	

***** Free flowing, but segments on BLM channelized by mining activity

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APPENDIX K-5: MAPS AND FIGURES

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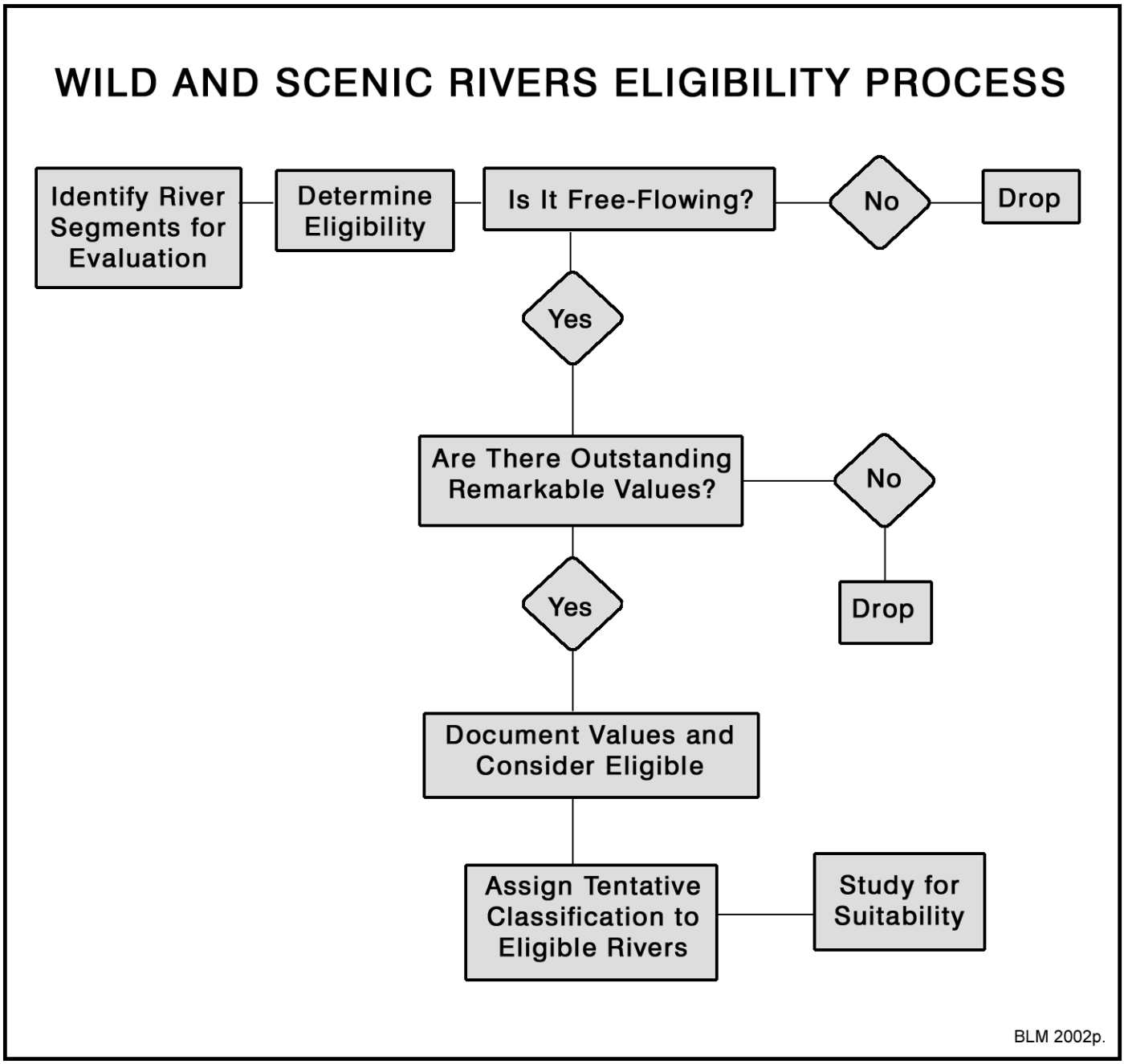

The BLM inventories and evaluates rivers when it develops a RMP. The inventory is conducted during the data gathering stage of RMP development, and the study phase is done during the formulation of the Draft and Proposed RMP.

Wild and Scenic Rivers Eligibility Process Flow Chart

Figure 1

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BUREAU OF LAND MANAGEMENT

Figure 2

Bureau of Land Management Cottonwood Field Office
Draft Resource Management Plan & Environmental Impact Statement

Proposed Wild & Scenic Eligible Segments

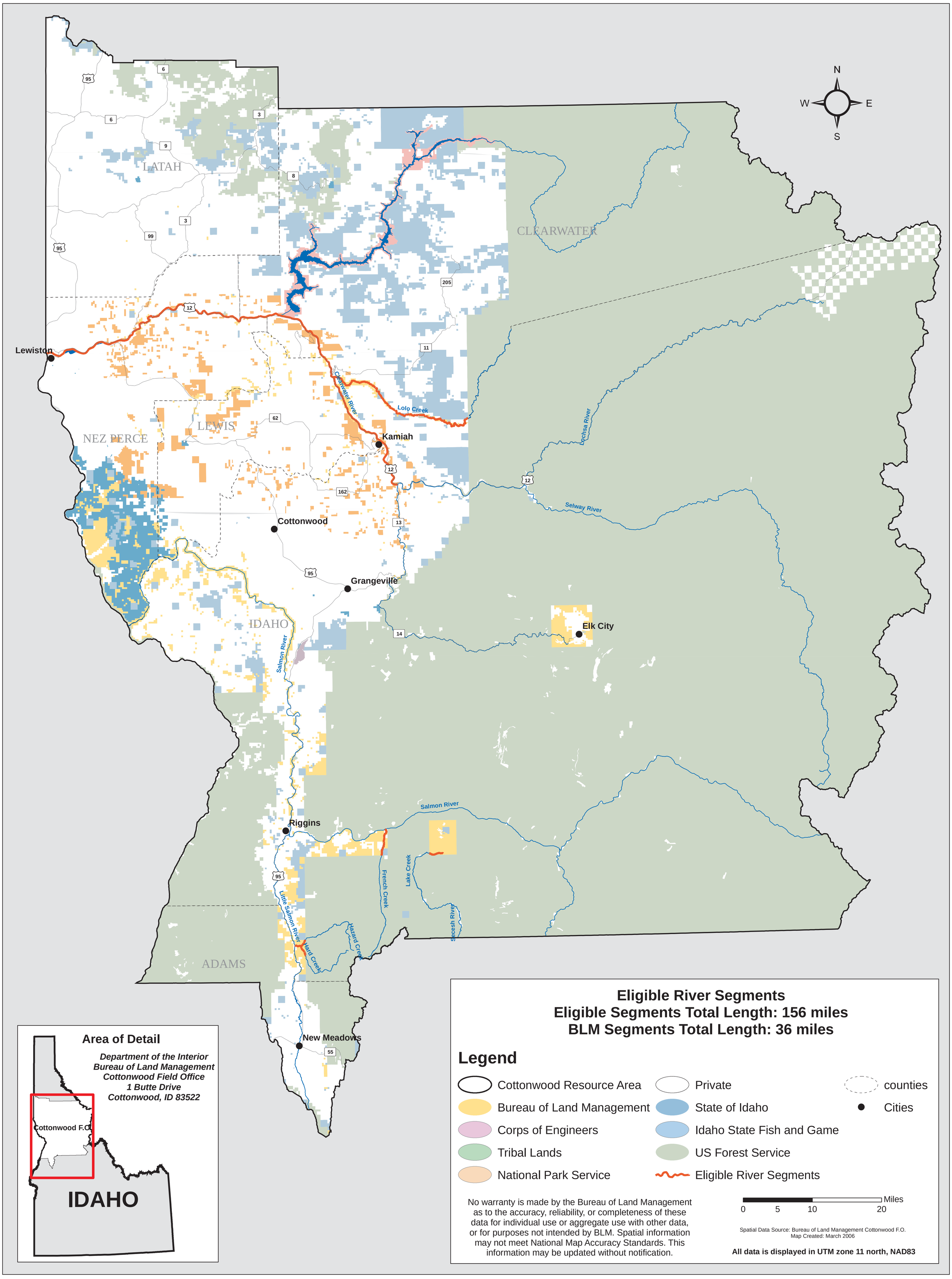

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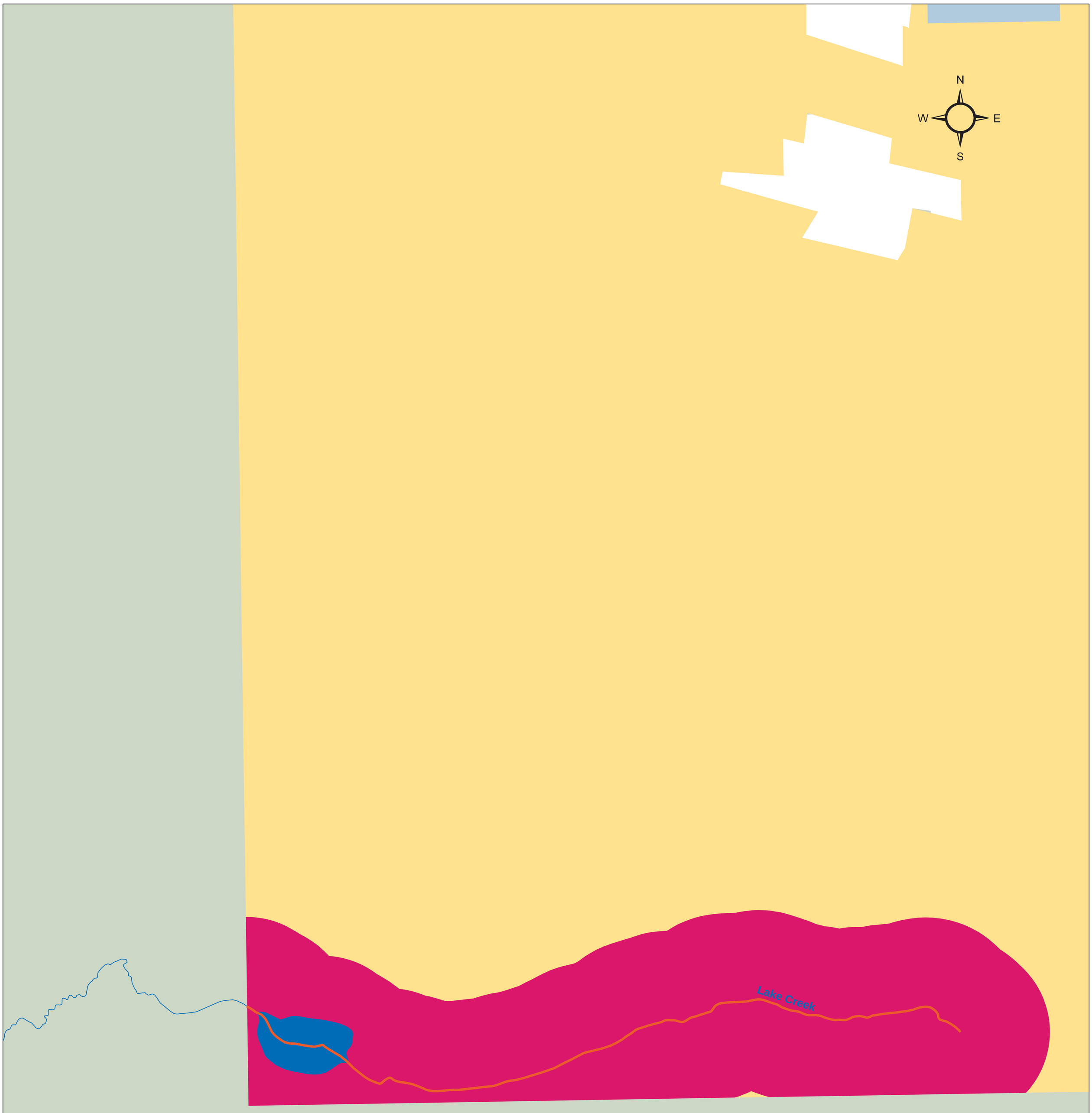
Figure 3

Bureau of Land Management Cottonwood Field Office
Draft Resource Management Plan & Environmental Impact Statement

Lake Creek Eligible Segment



Area of Detail

Department of the Interior
Bureau of Land Management
Cottonwood Field Office
1 Butte Drive
Cottonwood, ID 83522

Lake Creek
Eligible Segment Total Length: 2.18 miles
BLM Segment Total Length: 2.18 miles
Corridor Width: 0.25 Linear miles on either side
Tentative Classification:Recreational

Legend

- Cottonwood Resource Area
- Bureau of Land Management
- Private
- State of Idaho
- US Forest Service
- Eligible River Segments
- Marshall Lake
- Eligible Wild and Scenic Corridor

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data, or for purposes not intended by BLM. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.

Miles
0 0.125 0.25 0.5

Spatial Data Source: Bureau of Land Management Cottonwood F.O.
Map Created: March 2006

All data is displayed in UTM zone 11 north, NAD83

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Figure 4

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French Creek Eligible Segment

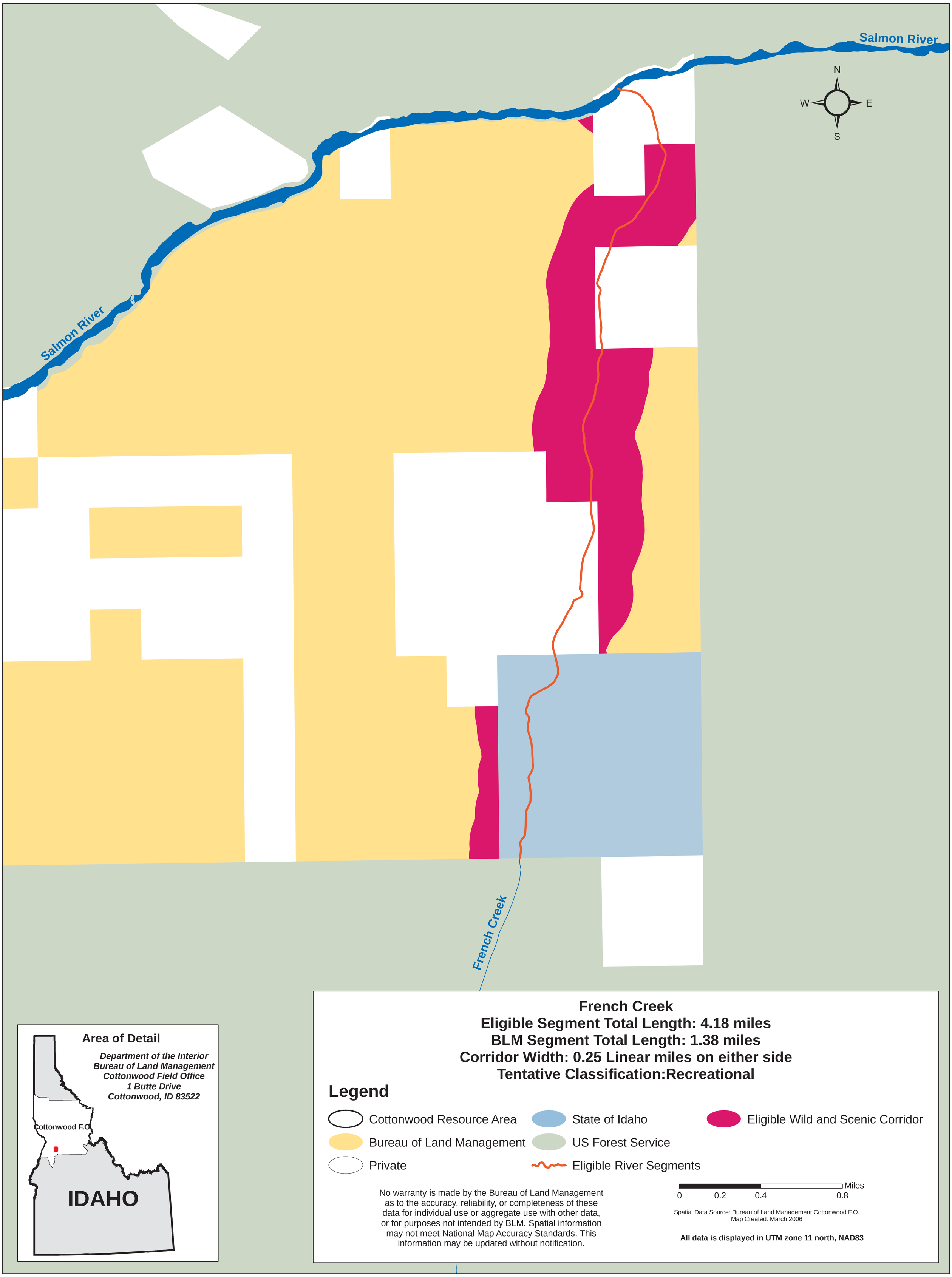

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Figure 5

Hazard Creek Eligible Segment

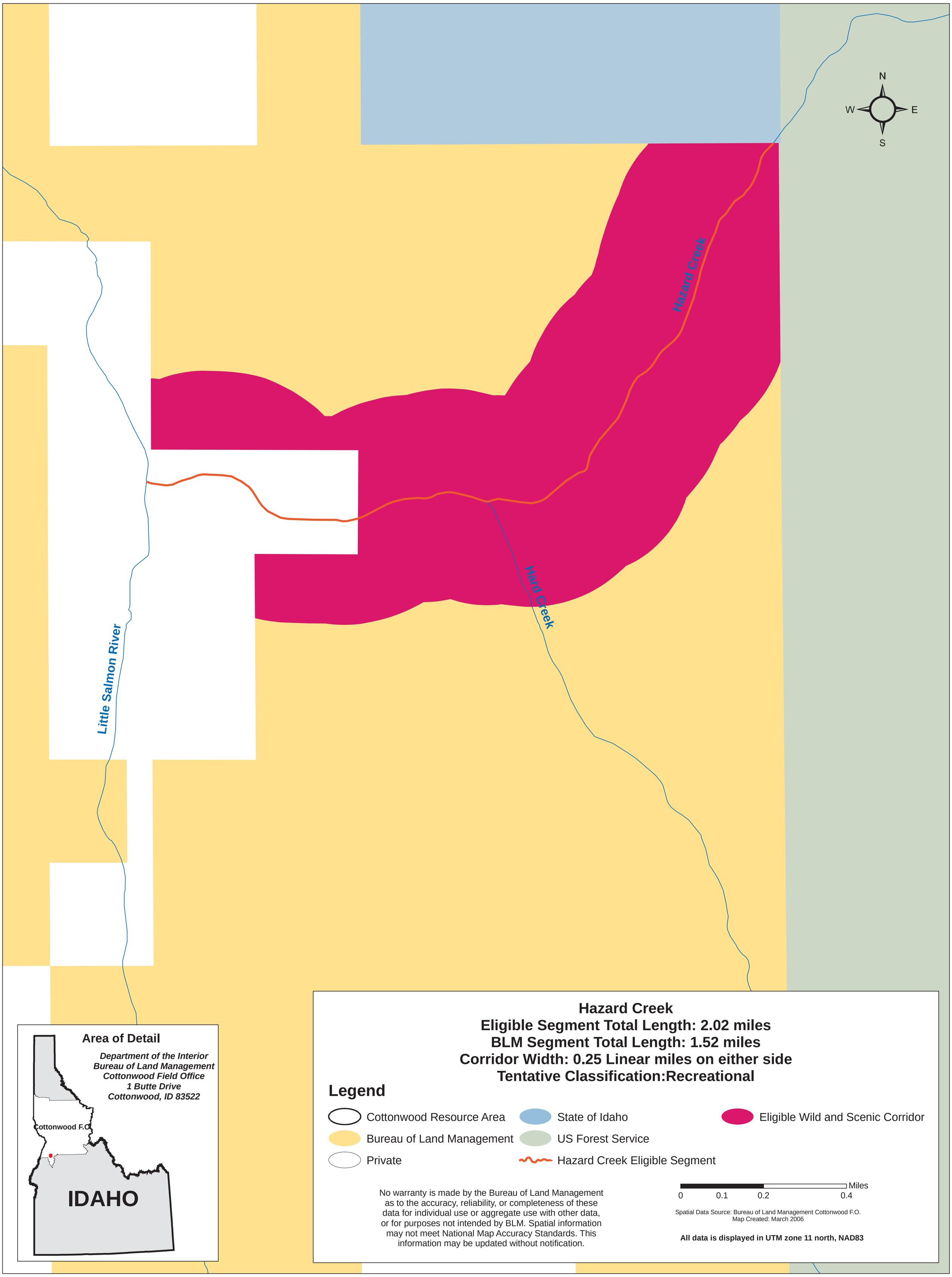

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Figure 6

Hard Creek Eligible Segment

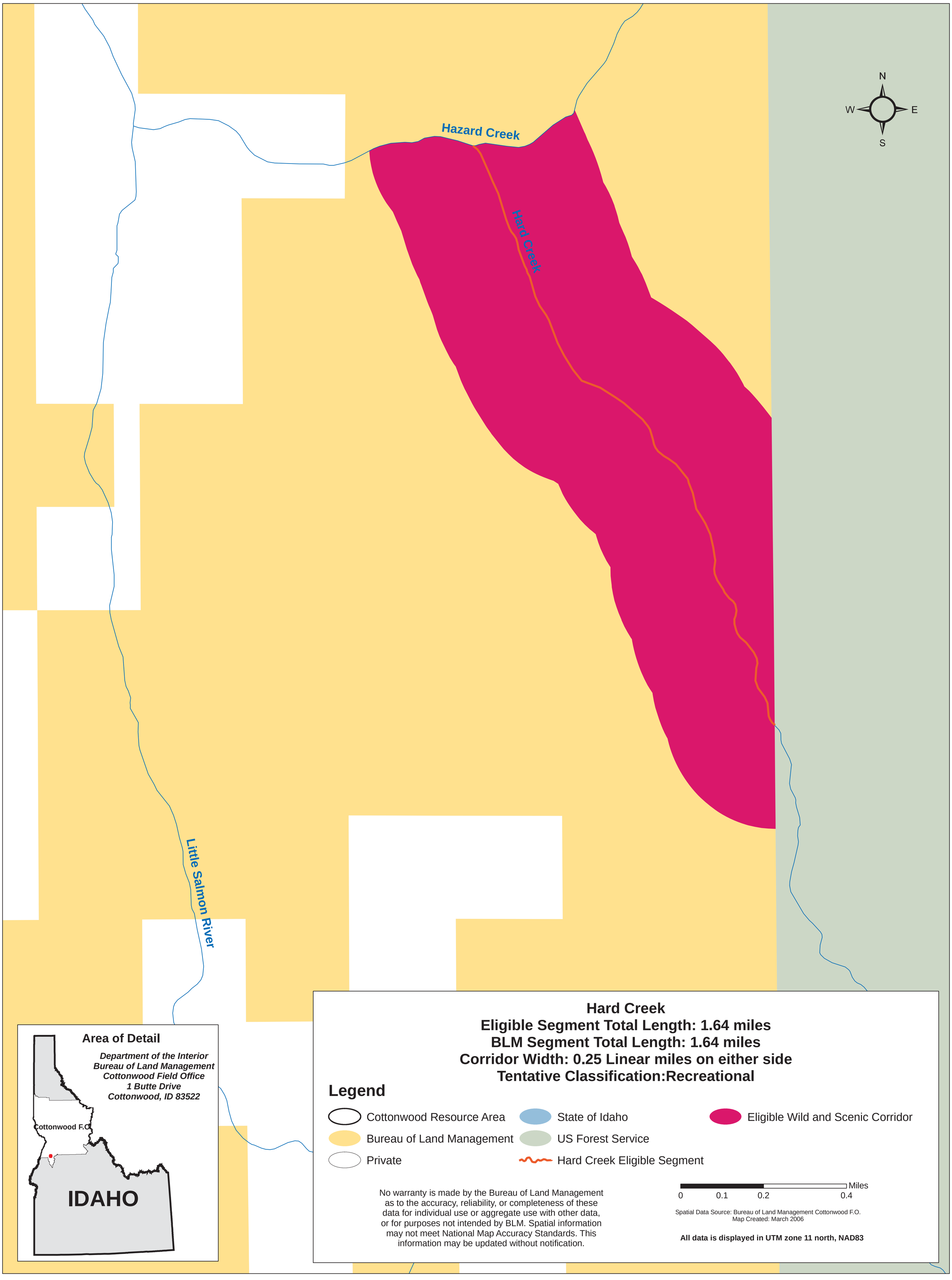

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Figure 7

Lolo Creek Eligible Segment

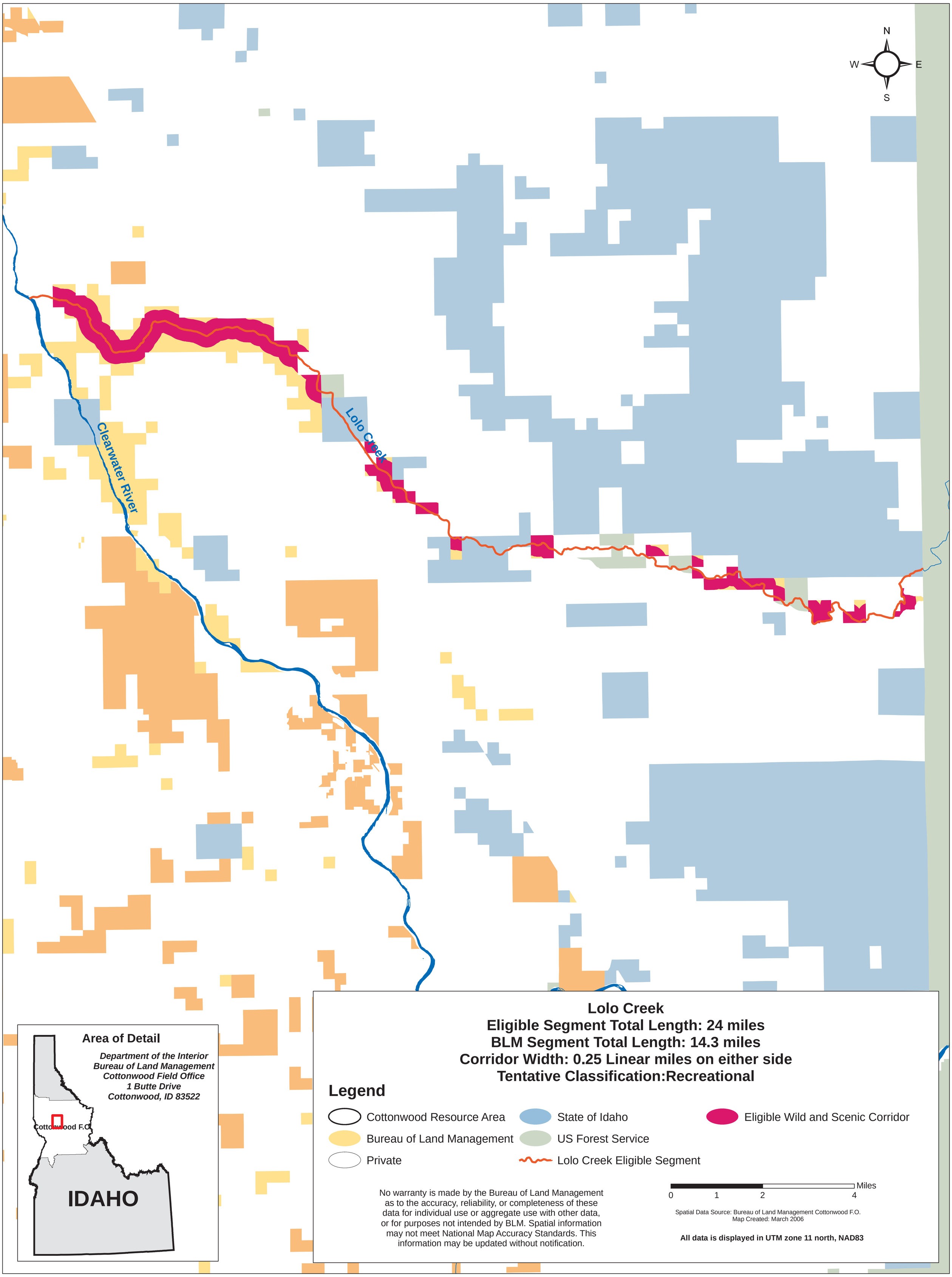

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Figure 8

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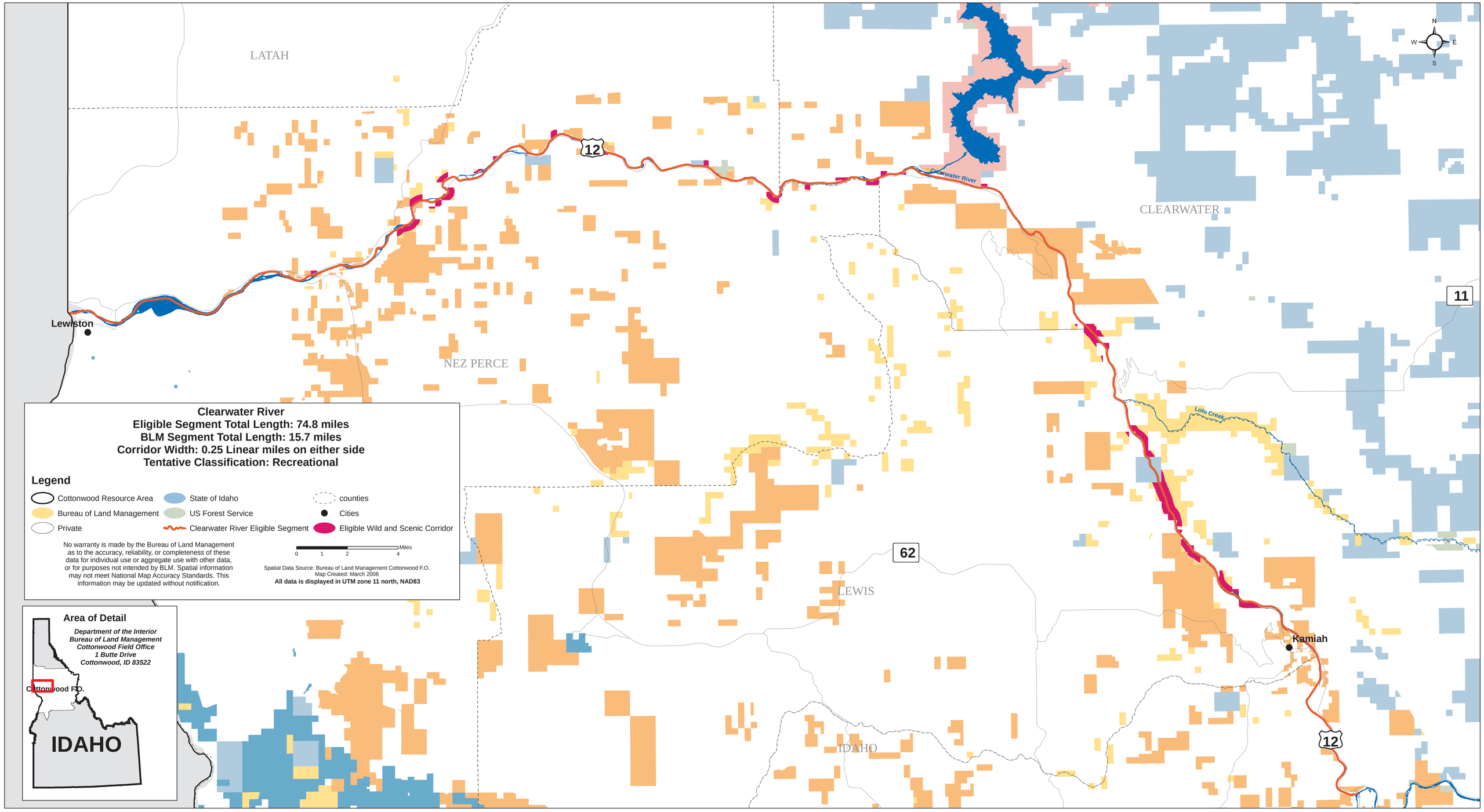
Clearwater River Eligible Segment



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