Documentation of Land Use Plan Conformance and NEPA Adequacy (DNA) For Red Marble Forest Health Project #OR135-09-0008

Note: The signed "Conclusion" at the end of this worksheet is part of an interim step in the BLM's internal analysis process and does not constitute an appealable decision.

A. Spokane BLM District, Border Resource Area
Lease/Serial/Case File No. N/A

Proposed Action Title/Type: Red Marble Forest Health Project / Fuels Reduction and Stand Improvement by Commercial Thinning

Location of Proposed Action: T. 31 N., R. 39 E., Sections 19 & 20 W.M.

Description of the Proposed Action: This is a 100-acre Forest Health project to promote forest health in an area that has never been actively managed. It is located 15 miles southwest of Chewelah, Washington, in the Huckleberry Mountain Management Unit. The long-term drought and summer drought periods over the last five years have severely stressed the trees. As a result, trees of all species have become susceptible to attack by numerous insect pests including: Spruce budworm, Douglas-fir beetle, Ponderosa and mountain pine beetle, fir engraver and others. Trees stressed by Armillaria root rot and drought are particularly susceptible to insect attack. Mortality is depleting these stands of the best and largest trees.

The best way to treat these stands is to manage for increased water and nutrient availability. With the predicted reduction in snow pack over the long term, water resource management has become extremely important throughout the west. Trees unable to withstand continued stress will succumb to insects and/or diseases. In order to increase water and nutrient availability, these overstocked stands need to be thinned.

Specific treatments would involve the removal of up to 60% of the standing timber volume. This would be accomplished by: thinning the merchantable overstory to a minimum 30-foot spacing, managing root rot pockets, removal of trees under insect attack, and retention of the best trees and all trees over 22 inches in diameter (dbh). This would allow the retention trees to withstand insect attacks during periods of water stress. Reduced competition would also provide an increase in nutrient availability, further strengthening the trees. Lower stocking levels would allow for spacing between tree crowns up to 10 feet, depending on the size of individual tree crowns. Thinning, crown spacing and whole tree yarding would reduce fuels and protect the stands from catastrophic wildfire loss. Where available, a minimum of 20 overstory trees per acre should remain after harvest.

Applicant (if any): (None. This is an internally generated proposal.)

B. Conformance with the Land Use Plan (LUP) and Consistency with Related Subordinate Implementation Plans

- Spokane District Resource Management Plan (RMP)/Final EIS (August 1985) and its Record of Decision (ROD)/Rangeland Program Summary (May 1987)
- Spokane RMP Plan Amendment/Final EIS (June 1992) and its ROD (December 1992)
- The proposed action is within the range of alternatives identified and analyzed in the Huckleberry Mountains Programmatic Environmental Assessment – OR135-04-007. The activities proposed in this DNA were described and analyzed in the programmatic EA.

C. Identify the applicable NEPA documents and other related documents that cover the proposed action.

See documents listed above in Section B.

Other documentation relevant to the Proposed Action:

- Washington Office of Archaeological and Historical Preservation - 2005 Database
- Spokane District 2005 Archaeological Survey Database and files
- Washington Department of Fish and Wildlife Priority Habitats and Species - 1997 Databases
- Washington Natural Heritage - 1998 Database

D. NEPA Adequacy Criteria

1. **Is the current proposed action substantially the same action (or is a part of that action) as previously analyzed?**

   Yes

2. **Is the range of alternatives analyzed in the existing NEPA documents appropriate with respect to the current proposed action, given current environmental concerns, interests, resource values, and circumstances?**

   The proposed action is within the range of alternatives identified and analyzed in the Huckleberry Mountain Programmatic Environmental Assessment (OR135-04-007) referenced in Section B.

3. **Is the existing analysis adequate and are the conclusions adequate in light of any new information or circumstances? Can you reasonably conclude that all new information and all new circumstances are insignificant with regard to analysis of the proposed action?**

   The existing analysis is still considered adequate. There is no new information that is considered to be significant relative to the proposed action.

4. **Do the methodology and analytical approach used in the existing NEPA documents continue to be appropriate for the current proposed action?**

   The methodology and analysis in existing NEPA documents is appropriate for this proposal.

5. **Are the direct and indirect impacts of the current proposed action substantially unchanged from those identified in the existing NEPA documents? Does the existing NEPA document sufficiently analyzed site-specific impacts related to the current proposed action?**

   Yes

6. **Can you conclude without additional analysis or information that the cumulative impacts that would result from implementation of the current proposed action are substantially unchanged from those analyzed in the existing NEPA documents?**

   Yes

7. **Are the public involvement and interagency review associated with existing NEPA documents adequate for the current proposed action?**

   Yes

E. Interdisciplinary Analysis: Team members conducting or participating in the preparation of this worksheet are identified on the cover sheet of this DNA.

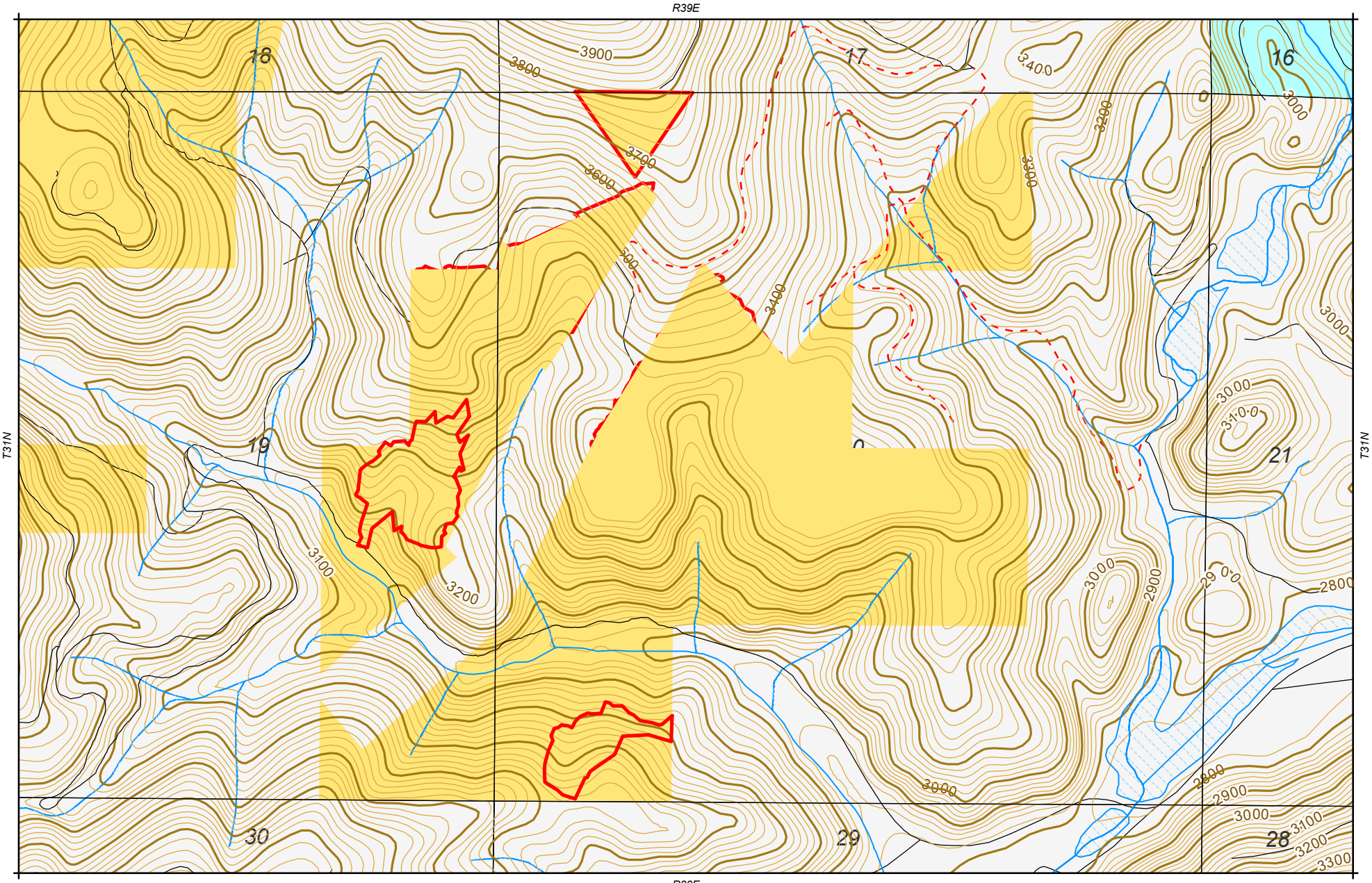
F. Mitigation Measures: None needed

CONCLUSION

Based on the review documented above, I conclude that this proposal conforms to the applicable land use plan and that the existing NEPA documentation fully covers the proposed action and constitute BLM's compliance with the requirements of NEPA.

/s/ June E. Hues	10/06/10
June E. Hues, Border Field Manager	Date

Red Marble Timber Sale



Project Units

Bureau of Land Management

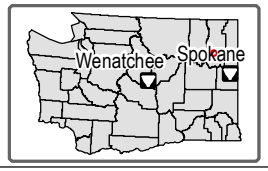
WA Dept. of Natural Resources

0 0.1 0.2 0.3 0.4 0.5 Miles

N

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

September 21, 2010



DECISION RECORD
Red Marble Forest Health Project
OR-135-2009-DNA-0008
Bureau of Land Management
Border Field Office
1103 North Fancher Rd.
Spokane Valley, WA 99212

Decision and Rationale

It is my decision to implement the Red Marble Forest Health Project as described in the attached document (OR-135-2009-0008) and shown on attached maps. The proposed treatment activities will fulfill the purpose and need for the action.

Insects and diseases are causing injury and mortality in the forest resources in the Huckleberry Management Unit. The Red Marble Forest Health Project, as designed, will address these forest insect/disease problems as described in the attached Environmental Assessment (EA). It is not anticipated that the project actions will have significant effects.

/s/ June E. Hues 10/06/10
June E. Hues, Border Field Manager Date

Attachments: DNA
Project Location Map
Huckleberry Mountains Forest Management Programmatic EA

Huckleberry Mountains Forest Management Programmatic Environmental Assessment OR135-FY04-EA-007

I. Introduction

The Bureau of Land Management (BLM) proposes various forest management activities on about 10,000 acres of public land it administers in the general vicinity of the Huckleberry Mountains. These lands are in the Northeast Management Area of the Border Resource Area, in Stevens County, in Township 31 North, Ranges. 38 East and 39 East; Township 30 North, Range 38 East; and Township 29 North, Ranges 37 and 38 East (see map).

The Huckleberry Mountains area is managed for timber production, as directed in the Spokane District Resource Management Plan Record of Decision (1987, pg. 22). This programmatic environmental assessment takes the broad direction in the RMP and applies it to a specific program of work for the Huckleberry Mountains area. Activity units identified for specific management will be subject to further environmental analysis to meet the National Environmental Policy Act (NEPA). The additional analysis may be an environmental assessment, Documentation of Land Use Conformance and NEPA Adequacy (DNA) or categorical exclusion (CX), depending on the level of activity proposed.

Also, any additional forested lands acquired within the Huckleberry Mountains area will be subject to the management direction in this programmatic environmental assessment.

Purpose and Need

Fire suppression in the Huckleberry Mountains area over the past 100 years has resulted in degraded forest health and heavy fuel loads. Stands are overstocked with a dense vegetative understory that retards growth of the larger trees and are a risk of being fuel ladders into the crowns of the trees. These conditions pose potential for a catastrophic stand-replacement wildfire. Overstocked stands, in conjunction with recent drought years, have further stressed this forest complex. This programmatic environmental assessment addresses the need to improve forest health in the Huckleberry Mountains area.

Background

Public lands in the Huckleberry Mountains area are in the low-to-mid elevation zones. Historically, these zones experienced low to mixed severity fires. Fire severity and frequency have changed across the landscape. Before Euro-American settlement, most fires in low and mid elevation forests were nonlethal. Forest and rangeland conditions were improved by frequent surface fires that thinned vegetation and favored growth of fire-tolerant trees. In past years, a larger percentage of the area was in old and mixed age class stands. Tree species mix and age classes have been replaced with uniform stands of middle-aged trees that now predominate. Much of the current timber volume consists of overstocked, smaller diameter trees. Fires in these stands are intense and result in total stand replacement. No major fires have occurred in this area for at least 30 years.

In the Huckleberry Mountains, southern and western aspects are dominated by the Douglas-fir/ninebark association. When fires occur in this association outside of the normal fire return interval, heavy brush invades and there is intense competition for tree regeneration and growth. Overstocking combined with drought, a common summer occurrence, stresses these stands. These factors create a condition where trees are more susceptible to disease and insect damage.

Stands on northern aspects are in the grand fir, Douglas-fir and western redcedar forested/plant associations. They are generally dominated by cool/moist and moist sites with heavy competition and smaller trees. These are highly productive sites where trees can put on significant growth. Before Euro-American settlement, fires helped to reduce stocking and minimize brush competition. Historically, most of these stands were dominated by large, widely spaced trees.

Over the past 35 years, numerous management actions have been undertaken in the Huckleberry Mountains area. In 1970, a large timber sale harvested more than 2 million board feet of timber. Between 1982 and 2004, numerous pre-commercial thinnings were implemented to increase growth on the retained trees. The Forest Ecosystem Health and Recovery Funded (FEHRF) Huckleberry timber sale sold in 2004 and is scheduled to harvest 1.4 million board feet of timber in 2005-2006. An additional FEHRF timber sale of approximately 350 MBF is scheduled for 2005.

Objectives and Goals

The term 'forest health' as used in this document is defined as the degree to which the biological and physical components (including structure, process, and composition) of an ecosystem and their relationships are present, functioning, and capable of self-renewal.

<u>Objectives</u>
Management objectives include reducing the risk to ecological integrity and aggressively restoring ecosystem health through strategies resembling natural disturbance processes, such as insects, disease and fire.

Compliance with Other Planning Documents and Laws

The alternatives comply with the National Environmental Policy Act, the National Historic Preservation Act, and the Endangered Species Act.

Management of forest lands in the Huckleberry area, as described in this programmatic environmental assessment, complies with the Oregon/Washington Eastside Forest and Woodland Management Action Plan, approved by the OR/WA State Director on December 24, 2002.

BLM standards and guidelines for forest and rangeland management will be used to determine forest health and guide management of forested lands.

II. Alternatives

Two alternatives are described below: Alternative 1 - Proposed Action (Commercial Harvest and Restoration) and Alternative 2 (Commercial Harvest).

Alternative 1 – Proposed Action (Commercial Harvest and Restoration)

Under Alternative 1, nearly all 10,000 acres within the Huckleberry Mountains would be planned to have some form of the following treatments: commercial timber harvests, pre-commercial and group selection thinning, planting, vegetation control, and prescribed burning.

This alternative proposes restoring forested ecosystem components to within their historic range of variability. Restoration efforts would include reducing stand density; removing diseased and infected trees; and creating stands that are structurally diverse in species composition, tree size, and age.

Management and restoration efforts for this alternative would be assessed in accordance with the following guidelines.

- Use forest management activities (including timber harvest, silvicultural treatments, and forest restoration treatments) to re-establish the appropriate spatial patterns of forest vegetation.
- Use silvicultural prescriptions, including reduction of fuel loading and continuity, to prepare forests for reintroduction of fire.
- Manage forest riparian areas to provide shade, bank stability, and recruitment of large wood into the stream channel.
- Control weeds along forest roads and prevent weed introduction from heavy equipment use, logging, road construction, and other forms of mechanical treatments.
- Use temporary roads when long-term access is not needed.
- Recontour, obliterate, or block temporary roads to reduce impacts on water and soil.
- Retain some dead woody material (including snags, down logs, and litter).

Management activities (including timber harvest and restoration measures) would be implemented in accordance with the Project Management Actions section of this programmatic environmental assessment.

Alternative 2 (Commercial Harvest)

This alternative proposes a commercial harvest, but does not provide for restoration to historical levels of variability in the stand structure. Alternative 2 would plan for stand conversion, from brush to commercial trees, only in high site index areas where significant commercial tree growth would be expected.

Project Management Actions below would apply to Alternative 2. The use of fire as a management tool and hazardous fuels reduction are considered essential parts of this alternative, but re-establishment of the historical fire return interval (restoration) is not a part of this alternative.

Project Management Actions Applicable to Both Alternatives

Project management actions are included to provide management guidance for specific resources and to mitigate or reduce anticipated environmental impacts.

General

- The programmatic management guidance in this environmental assessment will apply to any forest lands that may be acquired within the Huckleberry project area.

Timber Harvest and Silvicultural Treatments

- Silvicultural treatments will include single tree and group selection, shelterwood, and seed tree selection. Group selections will generally be limited to 5 acres, and most group selections will be 0.5 to 1 acre in size. Group selections larger than 5 acres will be done only in situations having severe insect and/or disease problems.

- All live trees infected with root rot will be harvested. Susceptible tree species within infection centers and a 30-foot perimeter will be harvested. Resistant and non-susceptible trees will be retained within infection centers and within a 30-foot perimeter of these centers. Harvested areas will be planted with ponderosa pine and/or other resistant species.

- Herbicides will be used to control brush. After trees are planted, brush control will be required to allow trees to compete and attain height dominance. Herbicide use will be in accordance with the Final Environmental Impact Statement for Vegetation Treatment on BLM Lands in Thirteen Western States, dated July, 1991, or any updates or revisions.

- Western larch is a high value species that is moderately resistant to root rot and highly susceptible to damage by dwarf mistletoe. Where western larch reproduction is desired, mistletoe-free individuals will be retained in the overstory as a seed source. Group selection will be used as the primary method for regeneration of this species. In addition, perimeter trees around group selections will be thinned to provide additional seed. Because successful reproduction of western larch requires direct sunlight and mineral soil exposure, competing Douglas fir, grand fir and other late seral species will be thinned and the soil scarified to prepare sites for seed germination and survival. Western larch will be planted in areas where there is no natural regeneration within 5 years. Any remaining mistletoe-infected overstory trees will be harvested immediately following successful natural regeneration or planting.

- Large conifers having a dbh greater than 22 inches will not be harvested. All competing tree species within a 40-feet radius of large yellow-barked ponderosa pine will be removed. Stand stocking of Douglas-fir and other species (in all size classes) will be reduced by more than 50% on sites historically dominated by ponderosa pine. Ponderosa pine will be planted where stocking is low. Overstocked stands of smaller ponderosa pine may be pre-commercially or commercially thinned.

- Stands dominated by mid and late-seral species (such as Douglas-fir and grand fir) will be converted to fire-tolerant early-seral species (such as pines and larch) in areas where the historic fire return interval was less than 25 years, predominantly on south and west aspects. (*Note*: This action is not applicable to Alternative 2.)

- Trees with a dwarf mistletoe rating of four or more (where two-thirds or more of the live crown are infected) will be harvested, except for those retained for wildlife purposes.

- All harvested/thinned units will be monitored and evaluated at intervals of 1 and 3 years after project completion to determine if objectives have been achieved and if there is a need for additional forest health restoration treatments, including thinning and/or planting. Indicators for Land Health Standards for Forested Public will be used to determine the effectiveness of management actions and whether forest management goals have been achieved.

Riparian Management

- Riparian reserve buffers measuring 300-feet slope distance will be maintained along each side of fish-bearing streams (Deer Creek, Hunters Creek, Alder Creek, Owl Creek, Chamokane Creek, Huckleberry Creek, Waitts Creek, and Sand Creek). Riparian reserves measuring 160 feet slope distance will be reserved on each side of all perennial and intermittent streams of second order and greater. Riparian reserves measuring 100-feet slope distance will be reserved on each side of first-order intermittent streams.

- Riparian reserves will help provide refugia and travel corridors for special status and other wildlife species. Snags in riparian reserves will be protected by buffers so they can be retained rather than felled as OSHA hazard trees.

- No logging equipment will be allowed in stream crossings.

- Road density will be reduced to minimize downstream delivery of silt and sediment.

- Ditches and culverts will be maintained to aid fish passage.

Wildlife Habitat

- *Reserve Wildlife Trees* – A minimum of two wildlife reserve trees (green trees or culls measuring a minimum of 12 inches in diameter and 10 feet in height) will be retained per acre to maintain a viable population level of cavity-dependent wildlife and to provide for biological diversity.

- *Snags* - A minimum of 14 snags of the largest available dbh greater than 20 inches diameter and at least 50 feet in length will be retained per 100 acres to maintain nesting habitat for pileated woodpeckers, black-backed woodpeckers, and other cavity-dependent wildlife species. If less than 14 snags this size are available per 100 acres, then the next largest sizes will be retained, or large live trees will be girdled to reach this standard.

- *Down Logs* - Numerous large logs will be retained in various stages of decay to provide ground forage habitat for various wildlife species. Because of their high value and short supply, all existing large hollow logs will be retained. In addition, some large hollow trees that are cut (up to 1 large hollow tree per 10 acres) will be retained onsite.

- *Seasonal Restrictions* - Harvest or harvest-related activities, including road construction, will be restricted to prevent disturbance to wildlife (specifically big game on winter range and during fawning) and displacement of wintering grouse from important habitat. Also, any bald eagle nests or winter roost sites discovered prior to or during project activities will be protected, as will important bat roosts, active carnivore den sites, and other sensitive wildlife

sites. These seasonal restrictions will be identified in planning documents for site-specific projects in the Huckleberry Mountains area.

- *Raptors and Threatened/Endangered Species* - If any raptor nests or threatened or endangered species of wildlife are observed by BLM personnel during layout, marking, harvest operations or post-harvest activities, a biologist will be immediately notified and project activities ceased until a biological evaluation is completed and any needed protective measures are implemented.

- *Goshawk* - If an active goshawk nest is found during harvesting, road building, pre-project inventory, or other activities related to a project, a minimum of 30 acres of the most suitable habitat surrounding the nest will be excluded from the project. Activities within 1 mile of the nest will be delayed to minimize disturbance during the goshawk bonding and nesting period, through a seasonal restriction from April 1 to August 30; also, 400 acres of suitable habitat around the nest will be managed as a post fledging area.

Snag Trees, Down Woody Debris, and Other Material

- Large stumps and numerous large logs will be retained in various stages of decay to provide foraging habitat for pileated and black-backed woodpeckers. Some dying trees, trees with heartwood rot, insect-infested trees, and trees with distorted shape or wind breakage will be reserved. Trees with the greatest potential for immediate use by pileated woodpeckers have old cavities, broken tops, about 33 percent of limbs and bark remaining, and some decay. Trees with broken tops (both live and dead) are the most heavily used for foraging.

- Where snag habitat is not present or is limited, green trees or culls will be retained for future snag habitat, unless they pose a safety hazard.

- Large (>20 inches dbh) green trees with broken tops and large (>20 inches dbh) snags with loose bark on ridgetops will be retained and protected.

- In areas containing wintering habitat for blue grouse, reserved trees will include at least 100 trees (greater than 9 inches diameter) standing per acre, and with openings of less than 800 feet wide to allow for grouse movement.

- Down logs greater than 12 inches in diameter will be retained, to a maximum range of 30 to 35 tons per acre averaged throughout each unit. Where this size class cannot be retained due to site conditions and fuel concerns, the largest available downed woody material will be retained.

- In areas where lopping and scattering are the prescribed slash disposal method, tree branches and tops as well as unmerchantable logs will be piled to a height of less than 24 inches above the ground. Slash concentrations posing fire hazards at landings and within 50 feet of mainline roads will be piled and burned.

Logging Systems

- All units will be yarded in a manner that after logging retains duff, litter, and coarse woody debris at or greater than current levels as is operationally possible. Disturbance of surface soil will be minimized to maintain productivity. Large coarse woody debris (minimum of 10

inches diameter and 10 feet in length) will be retained and protected to the greatest extent possible.

- For all cable yarding, maximum operational suspension will be maintained on slopes greater than 50%. Minimum corridor widths will be employed. The intent is to minimize surface disturbance and erosion hazard. Trees will be directionally felled away from all draw bottoms. Maximum operational suspension should be practiced to alleviate gouging and soil/duff displacement on steep draw side slopes and headwalls.

- Ground-based skidding will be limited to designated new skid trails and existing skid trails wherever possible. Trees will be felled toward skid trails to help maximize distance between skid roads and to minimize surface disturbance. Where overland flow and erosion is a concern, skid roads will be waterbarred after yarding is completed. The percentage of each unit covered by skid trails will be no more than 15%.

- To reduce compaction on skid roads, tractor yarding should take place when moisture levels are low enough to prevent rutting and soil displacement. Rubber tired skidders can be used when soil moisture is $\leq$20%.

- No yarding will be allowed up and down bottoms of draws within riparian areas. The intent is to minimize occurrence of erosion in existing areas of concentrated surface flow.

Roads and Skid Trails

- All skid roads will be approved by BLM. The intent is to minimize impacts by tractors and other mechanical equipment (disturbance, particle displacement, deflection and compaction) and thus minimize productivity loss. Existing skid roads will be favored over placement of new skid roads.

- Short temporary roads (referred to as operator spurs) could be needed in a few cases to facilitate yarding and hauling. Temporary roads will be waterbarred, blocked, seeded and closed after harvest operations are completed. Temporary roads will be ripped when access is no longer required to the area. Roads will not be constructed within 50 feet of riparian reserves.

- Access will be via BLM, State and County roads, along with easements and road use agreements with private landowners.

- Skid trails for tractor yarding will be spaced a minimum of 100 feet apart. Ground-lead yarding will be accomplished using tracked vehicles, with the leading end of each yarded log suspended from the ground.

- All landings and main skid trails will be ripped, waterbarred for drainage, and seeded after logging operations are completed.

- All landings will be designated by BLM and located adjacent to roads.

- Following completion of logging activities, all skid trails, landings, cut and fill slopes and other areas of soil disturbance will be seeded with native grasses and forbs. Non-native species commonly used for erosion control and site stabilization will be considered, if seed supplies of appropriate native species are not available.

- New road construction will be minimized by evaluating all feasible alternatives to road construction. Also, some existing roads may be closed for public use to reduce road density on BLM lands in accordance with Washington State Department of Wildlife guidelines for Rocky Mountain Mule Deer management (Washington State Department of Fish and Wildlife,1991). These guidelines allow for summer range maximum road density of 1.5 miles per square mile and winter range maximum road density of 0.5 miles per square mile.

- A variable strip of dense tall shrubs and small conifers will be retained along both sides of open roads to provide protective screening for wildlife. The guideline is to provide a variable-width band of dense tall shrubs and small conifers. Where existing screening cover is lacking, screening vegetation will be allowed to regenerate in openings in road rights-of-way.

- Road elements to be maintained by the contractor or timber purchaser include the: road surface, ditches, waterbars, culverts, and cut and fill slopes. Overland road surface flow will be minimized. Soil erosion, especially into streams and riparian areas, will be kept to levels at least or better than those experienced prior to logging operations and hauling. Dust abatement in the form of water, oil, or lignin will be used, especially during summer drought periods, to reduce soil loss and road hazards and also to maintain the road surface. Roads will be graded after each operating season and after completion of harvest operations.

Noxious Weeds

- Noxious/invasive weeds will be treated or controlled using mechanical, chemical or biological methods, according to the *Final EIS for Vegetation Treatment on BLM Lands in Thirteen Western States* dated July 1991, the Spokane District Noxious Weed Control Environmental Assessment, and any subsequent updates, revisions, or replacements to either of these documents.

- Monitoring to determine noxious weeds treatment needs will be done the first growing season after completion of any timber harvest operation. Vehicles and heavy equipment previously operating outside the Huckleberry project area will be power washed and inspected prior to entering the project area to reduce the potential for additional or expanded establishment of weeds.

Cultural Resources

- A Class III intensive cultural resources inventory will be conducted in the project area prior to project implementation. Areas previously surveyed to these standards will not require resurvey, although site monitoring and site relocation/identification for protection measures will take place. If needed, projects will be redesigned to protect cultural resource values. If cultural resources are located during project implementation, activities in the proximity of the resource will be halted, a BLM archaeologist will be notified for assessment, and the project will be redesigned to avoid impacting the site. If the site cannot be avoided, further consultation will be conducted with the Office of Archaeology and Historic Preservation

(OAHP), the Confederated Tribes of the Colville Reservation, and the Spokane Tribe of Indians.

- Consultation with the Office of Archaeology and Historic Preservation, the Confederated Tribes of the Colville Reservation, and the Spokane Tribe of Indians will take place for each proposed project within the Huckleberry area.

Fuels Treatment

- Areas having high fuels accumulation, or potential for such, will be scheduled for underburning, piling and burning, chipping, whole tree yarding, and/or fuels removal for biomass utilization.

- Efforts will be made to assure that actions do not increase fuel loading, nor increase the risk to lives or structures. Prescribed burning of lopped and scattered tops and branches will not be underburned where excessive fuel loading and fuel ladders pose a high risk of a catastrophic wildland fire.

- Prescribed burning operations will follow all requirements of the Washington State Department of Natural Resources (DNR). Burning permits will be acquired from the DNR when burning more than 30 tons of fuel per acre. Burning operations will be postponed if nearby communities are likely to be adversely affected (for example by smoke).

- Measures to reduce the potential level of smoke emissions from the proposed burn sites will include: mop-up to be completed as soon as practical after the fire, burning with lower fuel moisture in the smaller fuels to facilitate their quick and complete combustion, burning with higher fuel moisture in the larger fuels to minimize consumption and burn out time of those fuels, and covering handpiles to permit burning during the rainy season where there is a stronger possibility of atmospheric mixing and/or scrubbing.

- To minimize loss in soil productivity and surface erosion, underburning will be planned and scheduled to result in low intensity burns to reduce loss of organic matter, nutrients, and subsequent site productivity.

Special Status Plants

- As specific project areas are identified, surveys will be conducted in the appropriate season for those special status plant species potentially present in the area.

III. Affected Environment and Environmental Consequences

Vegetation

Affected Environment

Southern and western aspects in the project area are dominated by the Douglas-fir/ninebark association. This community typically occurs on dry, rocky soils, often with steep slopes. The understory is dominated by ninebark and other rhizomatous shrubs and grasses that are adapted

to summer drought and to fire. These species regenerate well after fire, providing strong competition to tree regeneration.

Low and mid elevation northerly aspect stands are in the grand fir and western redcedar associations. The grand fir types occur on relatively warm aspects and excessively drained substrates, but in areas somewhat moister and cooler than those occupied by Douglas-fir types. The understory in grand fir types is variable. In the driest phase of this series, the understory is virtually identical to that of Douglas-fir/ ninebark, with similar adaptation to drought. Competition to tree regeneration is not as great in this type since grand fir is a shade tolerant species. In the moister phases, predominant understory species include shiny-leaf spirea, common snowberry, big huckleberry, and pachistima. Strawberry species, white hawkweed, and sweetroot are common forb species within this series.

Western redcedar types typically occur on cool/moist and moist sites. Western redcedar is tolerant of shade, high soil moisture, summer drought, and temperature extremes. All tree species occurring in the area, with the exception of whitebark pine, may be found within the western redcedar series. The most important seral tree species are western larch, Douglas-fir, lodgepole pine, and grand fir. Subalpine fir and Engelmann spruce may be locally abundant within some of the cooler stands, especially in stream channels with cold air drainage.

The understory in Western redcedar types is generally species-rich, where the tree canopy cover is not so dense as to preclude light penetration. Stands with poorly developed herb and shrub layers are often found in dense western redcedar stands with a thick layer of litter. Tall shrubs or herbaceous species seldom dominate the understory, which is typically composed of pachistima, queencup beadlily, twinflower, and pyrola species. Dense shrubfields characterize early seral stages after logging or wildfire. Shrub species include redstem ceanothus, pachistima, sticky currant, thimbleberry, snowberry, Douglas maple, shiny-leaf spirea, and Scouler willow.

Plants of Cultural Importance: Berry-producing shrubs used by original peoples, including serviceberry, kinnikinnick, huckleberry, Oregon grape, rose, raspberry, and thimbleberry, are present within the project area.

Environmental Consequences to Vegetation

Reduction in overstory vegetation density would result in an increase in understory vegetation on stands of all vegetation types. On southern and western aspects in the project area, dominated by the Douglas-fir/ninebark association, the dominant understory species regenerate well when light levels are increased by overstory thinning, providing strong competition to tree regeneration. On northerly aspect, grand fir and western redcedar associations dominate, and reduction in overstory would also promote understory species regeneration. Many plants of cultural importance (such as huckleberry, Oregon grape, rose, raspberry, and thimbleberry) would increase when overstory is removed.

Impacts of Alternatives 1 & 2

Under both alternatives, vegetative communities would be moved toward greater structural diversity. Decreasing tree and shrub density would reduce incidence of disease and insect damage and would reduce risk of catastrophic fire. It would also result in faster growth of the remaining trees, thus promoting large conifers in the long term.

Cumulative Effects on Vegetation
Both private and public lands in the Huckleberry Mountains area have been harvested over the years. Some of the private lands have been clearcut. As a result, most areas are largely in early-to-mid seral stages of development. Harvesting on many of the south aspect slopes has resulted in stands which more closely resemble pre-settlement stocking. However, structure and tree sizes (principally large trees and old growth) have been altered. Additional components missing or greatly reduced in quantity over much of that harvest area include snags and down logs. Mitigations listed in both alternatives would maintain or improve many of the vegetative components on public lands in the Huckleberry area.

Noxious Weeds

Affected Environment – Noxious Weeds

Small infestations of spotted and diffuse knapweed are evident along existing roads and cutbanks within the Huckleberry Mountains area. These weed populations became established from disturbances such as vehicle movement, which introduced weed seed from off-site sources.

Environmental Consequences

Impacts to Noxious Weeds – Alternatives 1 & 2

Under both alternatives, noxious weed populations along roads and cutbanks would have potential to increase as a result of ground disturbances related to timber harvest activities, increased vehicle traffic, and wind-blown weed seed contaminating disturbed soils. Requiring vehicle and equipment cleaning, monitoring weed populations for spread, and implementing control measures would reduce the potential for increased weed populations.

Special Status Plant Species

Affected Environment - Special Status Plant Species

Distribution records (Washington Department of Natural Resources, Washington Natural Heritage Program 2002) indicated numerous special status plant species were potentially present in the area. Surveys in 2002 conducted in areas adjacent to the project area produced no new sightings of special status plant species. There is one new record for a special status plant species within the Huckleberry Programmatic EA area, within a BLM parcel. A population of least bladdery milk-vetch (*Astragalus microcystis*, a Washington sensitive species) was located in October 2004, in T. 29 N, R. 38 E., Section 6.

Environmental Consequences

Impacts to Special Status Plant Species – Alternatives 1 & 2

The project design feature provides protection for species located during a pre-activity survey. It is, therefore, unlikely that any special status plant species would be impacted. In the long term,

the stated goals of protection and/or restoration of special habitats and promotion of large conifers would increase suitable habitat for special status plant species.

Cumulative Effects

Even if a population of the one special status plant species that has been located within the project area, least bladdery milk-vetch (*Astragalus microcystis*, a Washington sensitive species) were to be impacted, it is unlikely that it would lead to a need to list the species. Sixteen additional sites of this species are known for the state, 13 of which are in northeastern Washington**.**

Fisheries/Riparian

Affected Environment

Perennial (year-round) and intermittent streams are present in the project area. Generally, the streams in this area are in good condition. Turbidity levels and stream temperatures are low. Riparian corridors for nearly all streams in the Huckleberry Programmatic area have had minor impacts, except for Alder Creek where it borders meadowlands and is impacted by cattle use.

The eight perennial fish-bearing streams in the project area are: Deer Creek, Hunters Creek, Alder Creek, Owl Creek, Chamokane Creek, Huckleberry Creek, Waitts Creek, and Sand Creek. Washington Department of Fish and Wildlife (ref. Curt Vail, WDFW pers. Comm.) lists both rainbow trout and eastern brook trout in each of these streams.

There are no known federally listed fish species in the area. The Huckleberry Mountains area is outside the range of anadromy for salmon or steelhead, and there are no known bull trout or bull trout habitat in the area.

Environmental Consequences

Impacts of Alternative 1 & 2

The buffers for riparian zones on the eight fish-bearing stream of 300 feet slope distance on each side of the stream, and 160 feet for riparian reserves on intermittent fish-bearing streams should adequately protect local fish populations.

Cumulative Effects

Cumulative effects on the fisheries resource would be negligible. The Proposed Action Alternative should improve the fisheries habitat within the analysis area.

Cultural and Paleontological Resources

Affected Environment

The project area is within the traditional use area of members of the Spokane Tribe of Indians and the Confederated Tribes of the Colville Reservation. The surrounding mountains and valleys were frequented by a number of Native American groups and individuals for hunting, gathering, and other traditional activities.

The Native American seasonal cycle of economic pursuits involved spring gathering of plants and roots, summer salmon and steelhead fishing, and fall hunting and gathering of berries (kinnikinnick, thimbleberry, huckleberry, currants, Oregon grape and others) until the collectors re-occupied their more permanent winter villages. Expected Native American use of the project area includes collection of many forest materials including fruits, lichens, fungi, mosses, ferns and fern-allies, conifers (including peeled cedars), and flowering plants. Wildlife resources important to Native Americans include but are not limited to deer, bear, elk, and moose, with deer being of greatest importance. Mineral materials may also have been collected from the area including ocher, alluvial clays, and tool stone materials. Traditional religious or spiritual pursuits may have occurred in the project area.

The first Euro-Americans to explore the region were primarily fur traders and trappers which included David Thompson, Jaco Finlay and Finan McDonald. Thompson arrived near the Kettle Falls region in 1811, while Finlay and McDonald setup a trading post at the confluence of the Spokane and Little Spokane Rivers in 1810. In 1855, placer gold was discovered in the Colville area. In 1872, a reservation for the Colville, Lakes, and a number of other bands was established east of the Columbia River and north of the Spokane River. The reservation was moved to the west of the Columbia River and east of the Okanogan River shortly thereafter. In 1892, the reservation was divided in half; the north half was restored to public domain. In 1896, the northern half was opened to mineral entry and in 1900 to homestead entry. The Spokane Indian Reservation, located south of the proposed project area, was created by Executive Order in 1881.

A review of historical and ethnographic documents and the BLM and SHPO cultural database was conducted for this project. Results of this review show that portions of the project area have been previously surveyed, and that 12 sites were previously recorded in the Huckleberry Mountains project area. The majority of sites previously recorded in the Huckleberry Mountains are mining sites, homesteads, and cabins.

Paleontological Resources: There are potential fossil-bearing strata within the Huckleberry Mountains, particularly in the northern extent of the BLM-administered lands. The Addy Quartzite is a lower Cambrian-Precambrian unit known to contain trilobites in shale argillite near Addy, Washington. It is unknown if the fossil-bearing member of the Addy Quartzite is present on BLM-administered lands.

Environmental Consequences

Impacts of Alternative 1 & 2

Both alternatives propose ground-disturbing activities (tree felling, tractor skidding, cable yarding, road, landing and skid trail construction, brush treatments, and underburning of fuels on the ground). However, cultural resources would be avoided and/or protected by buffer zones designed to eliminate any potential impacts. In addition, discovery of cultural resources will result in cessation of project activity in the area of the resource and notification of a BLM archaeologist to provide further analysis.

Fuels treatment and the resultant reduction in catastrophic wildfire potential would add an increased level of protection to historic wooden structures and other susceptible cultural resources. The underburning and management for more open stands would likely increase the populations of some culturally important plants, particularly huckleberries, which are of interest to both Native American and Euro American residents.

Paleontological Resources: Because proposed treatments would likely not affect the bedrock underlying the soil, no impacts (direct, indirect, or cumulative) to paleontological resources would be expected under either alternative.

Cumulative Effects
Past timber harvest in the area has resulted in minor damage to historic mining cabins, caused primarily by tree falling and skid trail placement. There are no known impacts currently occurring to cultural resources in the Huckleberry Mountains Area, other than natural deterioration of some wooden structures. Reasonably foreseeable actions in this alternative would not result in significant impacts to cultural resources. Therefore, there is not expected to be any measurable cumulative effects to cultural resources under either alternative.

Recreation

Affected Environment

The primary recreation uses for the south Huckleberries area are seasonal dispersed upland bird and deer hunting, and fishing. Other recreational uses could include wildlife viewing, wild berry picking, horseback riding, dispersed camping, and some snowmobile use. Waitts Lake, a popular public and private recreation area, is identified on the WDFW website as an access point for hunting on state and federal public land in the Lane Mountain/Red Marble area. Roads that connect from Waitts Lake to the Lane Mountain/Red Marble area are open all year and are commonly used during hunting season. Other motorized access into these areas is on existing primitive roads.

Environmental Consequences

Impacts of Alternative 1 & 2

Increased noise from timber harvesting and/or fire treatments could temporarily displace big game and upland birds, which could reduce the number of hunters to the area. Thinning of trees

and removal of trees infected with root-rot pockets would open up stands. In the future, these open stands would improve access for hikers, horseback riders, hunters, and for camping. These openings would also increase deer forage and likewise could increase hunting opportunities. The huckleberry growth would be decreased in the short term, but would re-establish.

Cumulative Effects on Recreation

Road improvements and skid trail development would improve access for both motorized and non-motorized recreational use. Overall visitation could increase due to access improvements.

Fire and Fuels

Affected Environment

The fuel complexes can be broken down into four primary Plant Association Groups (PAGs): low elevation grass/forbs, ponderosa pine/grassland, mid elevation Douglas-fir, and mid/upper elevation western redcedar/grand fir. This variation is due primarily to precipitation and aspect. The ponderosa pine and grass/forb PAGs are found on low elevation and south and western aspects. The Douglas-fir and redcedar/grand fir PAGs are found on mid to upper elevation on all aspects except southern. The Douglas-fir/ninebark association is the exception and is found primarily on mid-elevation southern and western aspects. This association has a very high floristic component comprised of dense, tall rhizomatous shrubs.

Much of the ponderosa pine complex is at risk from fuel ladders into the tree crowns due to encroachment of Douglas-fir into the natural grass/forb understory. Many of the forested stands have been harvested and are in various successional stages. Brush in heavily harvested stands is generally heavy, especially on southern aspects. During summer drought periods, these stands become highly flammable. Most Plant Association Groups have dense fuel understories, with a majority having fuel ladders into the upper tree canopies. Fires in these stands are generally stand replacement in intensity.

Weather fronts with associated lightning usually come out of the southwest. The Huckleberries and eastern Okanogan Highlands Province are the first mountainous areas these fronts encounter after crossing the Cascades. Generally, rain-bearing clouds redevelop after passing through the cascade rain shadow and Columbia Basin. This, coupled with orographic (mountain) lifting, provides the right conditions for summer storms with considerable amounts of precipitation. On rare occasions, lightning will occur with little or no measurable precipitation. These are the storms that can trigger lightning-ignited wildland fires. Over the last 30 or more years, there have been few fires. All were aggressively attacked and suppressed soon after ignition.

Environmental Consequences

Impacts Alternative 1 – Proposed Action
Management of the forested lands in accordance with the objectives and goals set forth in Chapter 1 would change fuel structure and continuity to more closely resemble pre-settlement conditions. Brush density and height would be reduced, and stands on all elevations and aspects

would be managed to mimic natural disturbance regimes and fuel conditions. The resulting mosaic of fuel types and conditions would improve forest health and limit the size and intensity of wildland fires. Under these improved stand conditions, fire could be used as a management tool for controlling fuel buildup on stands with a fire return interval of less than 25 years.

Impacts Alternative 2
Management of the forested land in accordance with Alternative 2 would resemble Alternative 1 in all but two aspects. Brush reduction and conversion to timber would not be emphasized in Alternative 2. Brush would continue to be a fuels problem. In addition, under this alternative, non-commercial understory vegetation would be a fuels source for wildland fires.

Cumulative Effects on Fire and Fuels
Overall, fire severity and intensity would be less in the managed areas. As a result, fires could be more easily controlled with reduced potential for property and structure losses. The number and size of stand replacement fires would be reduced, and fire encroachment into developed areas would be proportionally less.

Wildlife Species and Habitats

Affected Environment

Big Game
Big game species known to occur in the Huckleberry area include: deer, elk, moose, and black bear. Habitat for each of these species occurs on forested: private, DNR, and BLM lands throughout this geographic area. Moose numbers have increased over the last 20 years, and a hunting season is being considered for this species in the Huckleberry area. Road densities within the plan area are consistently above 2.4 miles per square mile, and in some places as high as 4.8 miles per square mile.

Threatened and Endangered Species and Species of Concern – A biological assessment was completed for threatened and endangered species, and consultation was completed with the U.S. Fish and Wildlife Service under requirements of Section 7 of the Endangered Species Act. In addition, this project tiers to the Biological Assessment prepared for the Spokane District Resource Management Plan (1987, and as amended in 1992).

Species considered and that could potentially occur in the project area include: Canada lynx, grizzly bear, gray wolf, and northern bald eagle (all Federally listed Threatened species, source: www.or.blm.gov/or930/sssdb, March 14, 2005). The assessment for this project, for both Alternatives 1 and 2, found there would be *no effect* to endangered: gray wolf, bald eagle, or grizzly bear. There would be a *may affect, not likely to adversely affect* on Canada lynx under both alternatives.

> *Gray Wolf*: The Huckleberry analysis area is located outside the designated recovery areas of the gray wolf and does not contain habitat proposed as critical or identified as linkage habitat between recovery areas. The Washington Department of Fish and Wildlife database on Priority Habitats and Species includes records of wolf sightings in most

forested counties in and around the analysis area. Wolves could wander undetected and unrecorded across BLM lands, but there are no records of wolf dens or rendezvous sites on or near BLM lands. BLM-administered lands are not designated as critical habitat and are not in a gray wolf recovery zone.

No wolves have ever been verified to occur within the analysis area, nor are they expected to occur there at present. Any use of the analysis area by the gray wolf is likely to be individuals passing through the area. As wolves expand their range in the west, future occupation of the area by wolves is possible.

Bald Eagle: Bald eagles are known to nest along the Columbia River adjacent to Lake Roosevelt. The project area is located approximately 10 miles from Lake Roosevelt, and it would be unusual for bald eagles to nest that distance from the Columbia River. No nests are known within a mile of the project area, and suitable nesting habitat does not occur in the project area.

Grizzly Bear: The proposed project is located outside the designated recovery areas for the grizzly bear and is not in areas proposed as critical habitat or identified as linkage habitat. The grizzly bear has never been verified to occur within the analysis area, nor are they expected to occur there. Grizzly bears are either undocumented or so rare and transitory on BLM land that management actions under Alternative 1 or 2 would have insignificant and discountable effects. If resident bears are detected, guidance in the Spokane RMP, BLM policy, and requirements of the Endangered Species Act will ensure that actions and activities will be managed to protect bears from direct effects. If adverse effects cannot be avoided, BLM will consult with U.S. Fish and Wildlife Service before proceeding with the action

Canada Lynx: The project area is located outside mapped Canada lynx habitat as defined under the Lynx Conservation Assessment and Strategy (2000). A lynx track was verified approximately 10 miles east of the project area (1981 record). Although lynx likely occur occasionally as individuals passing through the area, a sustaining breeding population of lynx is unlikely to occur in the area at this time because of the marginal habitat conditions. Future lynx use of the marginal habitats in the Huckleberry analysis area is possible if lynx populations increase across northern Washington.

Lynx occur in mesic, coniferous forests that have cold, snowy winters and provide a prey base of snowshoe hare, usually at elevations greater than 4,000 feet. Lynx habitat includes lodgepole pine, subalpine fir, and Engelmann spruce. In northeastern Washington, cedar-hemlock habitat types may also be considered lynx habitat. Cool, moist, Douglas-fir, grand fir, western larch, and aspen forests when interspersed within subalpine forests may also contribute to lynx habitat. Although the planning area consists of cool, moist mixed conifer forest, the small acreage of these types in the planning area, and the great distance from subalpine habitats, makes the planning area habitats unlikely to sustain a viable lynx population.

BLM Sensitive Species and Species of Concern - Species of concern include those species identified by the Washington Department of Fish and Wildlife's Priority Habitat and Species Program that either occur or have potential habitat within the project area. The species of concern likely to occur within the project area that were evaluated for this assessment are listed

in Table 1. Environmental effects of both Alternative 1 – Proposed Action (Commercial and Restoration) and Alternative 2 (Commercial Harvest) are shown, indicating whether each alternative would likely improve, maintain, or decrease habitat conditions for the species evaluated over a long-term trend. Alternative 1 would maintain or improve habitat for all of the species of concern; Alternative 2 would likely decrease habitat for three species (blue grouse, pileated woodpecker, and goshawk).

Table 1 Occurrence of Washington State Wildlife Species of Concern in Huckleberry Mountain Area and Effects of Alternatives on Their Habitat

Species	Species Presence in Area	Type of Habitat Concern	Effects on Habitat - Alternative 2	Effects on Habitat - Alternative1
Blue Grouse	Year around	Mistletoe on Ridge tops	Decrease	Maintain
Vaux's Swift	Summer/Nesting	Large Hollow Snags	Maintain	Improve
Pileated Woodpecker	Year around/Nesting	Old Growth Mixed Conifer	Decrease	Maintain
Black-backed Woodpecker	Year around/Nesting	Healthy Ponderosa Pine/Snags	Maintain	Maintain
White-headed Woodpecker	Year around/Nesting	Healthy Ponderosa Pine/Snags	Maintain	Improve
White-breasted Nuthatch	Year around/Breeding	Old Growth Ponderosa Pine	Maintain	Improve
Oregon Vesper Sparrow	Summer/Breeding	Grass/Shrubs	Improve	Improve
Goshawk	Summer/Nesting	High Canopy Cover Forest	Decrease	Maintain
Flammulated Owl	Summer/Nesting	Old Growth Ponderosa Pine	Maintain	Improve
Northern Leopard Frog	Year around/Breeding	Ponds Without Bull Frogs	Maintain	Maintain
Columbia Spotted Frog	Year around/Breeding	Ponds Without Bull Frogs	Maintain	Maintain
White-breasted Nuthatch	Year around/Breeding	Old Growth Ponderosa Pine	Maintain	Improve
Merriam's Shrew	Year around/Breeding	Shrubs and Forest/down logs	Maintain	Maintain
Townsend's Big-eared Bat	Summer/Breeding	Old Growth Forest/Snags	Maintain	Improve

Migratory Birds – The following analysis addresses BLM responsibilities for land bird conservation under the *Migratory Bird Treaty Act* and the *Presidential Executive Order for the Conservation of Migratory Birds*. Many studies have documented a recent decrease in populations of migratory birds in forested areas. The huckleberry analysis area is primarily classified as mixed mesic conifer forest by "Partners in Flight," a group of migratory bird scientists comprised of government and non-government groups and individuals. Partners in Flight (www.partnersinflight.org) described the important wildlife habitat components in this habitat for migratory birds as:

- Multi-layered old forest – Provide benefits to species such as golden-crowned kinglet, chestnut-backed chickadee, hermit thrush, blue grouse, Townsend's warbler, and winter wren.
- Large snags – Provide benefits to species such as Vaux's swift.

- Overstory canopy closure (60% +) – Provide benefits to species such as northern goshawk, great gray owl, spruce grouse, pileated woodpecker, golden-crowned kinglet, and chestnut-backed chickadee.
- Dense shrub understory in a patchwork of openings – Provide benefits to species such as fox sparrow, song sparrow, orange-crowned warbler, spotted towhee, and Wilson's warbler.

Impacts to Migratory Birds - Both Alternatives
Environmental impacts to wildlife are considered in relation to the basic forest components listed above. In the Huckleberry analysis area, these conditions support migratory birds, as well as a wide variety of wildlife common to northern Washington.

Both Alternatives 1 and 2 would likely provide all of these habitat components, except for the multi-layered old forest. However, areas of multi-layered old forest would occur across the landscape in areas outside of timber management, such as riparian zones, wetlands, or steep hillsides not suitable to harvesting. Small openings with dense growths of shrubs that would occur in areas of sanitation salvage around insect and disease pockets and large snags retained across the landscape would provide similar benefits as multi-layered old forest.

Impacts to Big Game
Under both alternatives, the forest would be more open, which would reduce hiding cover for game species such as deer and black bear. Security would be reduced in areas of high road densities. This impact would be mitigated somewhat by maintaining or creating cover along open roads, and by closing roads where possible. In the long term, both alternatives would create more hiding cover by opening up the tree canopy, which would produce pockets of a dense shrub understory within 3 to 5 years. This would also improve forage quality.

Wildlife Habitat Diversity - Snags, Down Logs, Special Habitats
Snag and down logs are key to wildlife diversity. In relation to the historic range of conditions, snags of all sizes are presently fewer than before the arrival of early settlers, but down logs are generally more abundant. These conditions are explained by the greater than normal extent of mid-seral forests and the relative shortage of old growth forests due to past timber harvest. Snags tend to have a short life span, whereas down logs tend to have a long life span. Snags and down logs were historically unevenly distributed across the landscape and should occur in patches.

Wildlife use of snags in dry mixed conifer forests are characterized by high use levels for ponderosa pine and larch snags with a slightly lower use of Douglas-fir, and a much lower level of use for white fir and other conifer species. Dead aspen also provide high levels of use where available. Large hollow logs of any species are relatively rare and receive high levels of wildlife use. Woodpeckers are good indicators of snag use, but a large number of wildlife species depend on snags and down logs. Mitigation measures for both alternatives would maintain the largest available size classes of snags, and create more large snags over time, with emphasis on high use tree species. Both alternatives would provide adequate levels of snags to meet these objectives.

Immediately adjacent to roads, both snag and down log habitats become scarce from fuel wood removal. This condition exists at present and would not change, except that both Alternatives

would reduce road miles. A reduction in road miles could reduce the potential for fuel wood removal adjacent to roads.

Cumulative Effects on Wildlife Habitat

Forest lands in the southern Huckleberry Mountain vicinity, including private and public lands, have been harvested over the years. Some of the private lands have been clearcut. As a result, most areas are largely in early-to-mid seral stages of development. Wildlife habitat components missing or greatly reduced in quantity over much of that harvest area include large trees and old growth, snags and down logs. Mitigations listed for both alternatives to maintain these habitat components would improve wildlife diversity on public lands in the Huckleberry area.

Soils

Affected Environment

The soils within the proposed project area are formed on mountains, foothills and terraces. General soil associations located in mountainous areas are Spokane-Moscow-Rock outcrop and Huckleberry-Raisio-Hartill. The general soil association located on foothills and terraces is Atis-Newbell-Donavan. Huckleberry-Raisio-Hartill soils make up approximately 80 percent of the proposed project area, while Spokane-Moscow-Rock outcrop and Atis-Newbell-Donavan soils make up about 10 percent each. These soils are formed in material weathered from various geologic types. They are moderately deep to very deep, well drained and range from nearly level to very steep.

The main uses of these soils are for timber production, wildlife habitat, and grazing. These soil associations exhibit medium to high surface runoff, and very rapid surface runoff on steeper slopes. Erosion hazard is medium to high, and very high on steep slopes. The main limitations of these soils for harvesting timber include steepness and rockiness of slope, and soil stability and structure that restricts the use of certain ground-disturbing equipment.

Environmental Consequences

Impacts of Alternatives 1 & 2

Soil compaction resulting from the use of roads, log landings, and skid trails would have the potential to reduce water infiltration, thus increasing surface runoff and subsequent erosion. Soil compaction and displacement would reduce vegetation vigor and density, and would increase the potential for establishment of noxious weeds. Soils would be displaced and/or compacted where track and wheeled skidding is utilized. Soils gouging and displacement would occur as a result of tractor and cable yarding operations.

Cumulative Effects on Soils

Common to Alternatives 1 and 2

Considering the recovery of the proposed project area from past and present land management and disturbances, as well as design features (such as selected logging systems to mitigate impacts to soils), the cumulative effects on soils are expected to be minimal.

Water Resources

Affected Environment

Eight stream courses with both perennial and intermittent segments are located within the proposed project area. They are: Deer Creek, Hunters Creek, Owl Creek, Huckleberry Creek, Waitts Creek, Chomokane Creek, Alder Creek and Sand Creek. Streams segments that lie within the proposed project area are primarily first order streams, and are classified by the Washington State Forest Practice Act Rules and Regulations (WAC 222-16-030 Water Typing System) a Type "Np" or Type 4 Water and Type "Ns" or Type 5 Water. These waters are described as follows:

> *"Type Np Water"* - means all segments of natural waters within the bankfull width of defined channels that are perennial nonfish habitat streams. Perennial streams are waters that do not go dry any time of a year of normal rainfall. However, for the purpose of water typing, Type Np Waters begin at a point along a channel where the contributing basin area is at least 300 acres.
>
> *"Type Ns Water"* – means all segments of natural waters within the bankfull width of the defined channels that are not Type Np Waters. These are seasonal nonfish habitat streams in which surface flow is not present for at least some portion of the year of normal rainfall and are not located downstream from any stream reach that is a Type Np Water. Ns Waters must be physically connected by an above-ground channel system to Type S, F, or Np Waters.

Environmental Consequences

Impacts to Water Resources – Alternatives 1 and 2

Partial removal of the forest canopy and additional construction of roads, skid trails and landings would create openings in the forest canopy and additional exposed surface areas. Reducing interception and accelerated snow melt may allow more precipitation to become available for stream flow at an increased rate. This may result in physical damage to intermittent streams, increasing sediment load and water temperatures.

Proper road and skid trail construction and maintenance, as well as placement of riparian buffer strips measuring 100-200 feet wide would reduce risk of degradation to streams within and outside project areas.

Cumulative Effects on Water Resources

Common to Alternatives 1 & 2

Considering recovery of the area from past and present land management within the proposed project watershed, as well as design features of the proposed timber sale (such as maintenance of buffers to protect water quality), the cumulative effects on water resources are expected to be minimal.

Air Resources

Affected Environment

Air quality in the vicinity of the proposed project area is rated high and is generally maintained throughout the year. Natural factors influencing air quality here are mountainous topography, prevailing southwesterly winds from the Columbia Basin, and weather fronts from the Pacific Ocean and Canada.

Environmental Consequences

Impacts to Air Quality - Alternatives 1 and 2

Impacts to air quality may include fugitive dust from vehicular travel on forest roads, and smoke from slash burning. Management provisions for dust abatement and burning when weather conditions disperse smoke would reduce the potential or severity of these impacts.

Environmental Justice

No disproportionately high and adverse human health or environmental effects on minority or low-income populations are expected to result from implementation of any of the alternatives addressed in this environmental assessment.

Other Critical Elements That Were Considered

- Wild and scenic rivers
- Prime/unique farmlands
- Floodplain
- Special area designations (including Areas of Critical Environmental Concern)
- Wilderness

The Huckleberry programmatic area does not have any of the above elements within its analysis area, and there are no reports of either hazardous or solid wastes within the area. Forest management activities are not expected to have adverse impacts on energy.

IV. Coordination/Consultation With Other Agencies, Groups, and Individuals

This environmental assessment was prepared by an interdisciplinary team of BLM resource specialists representing various resource values, including forestry, soils, hydrology (water), wildlife habitat, cultural values, botany, and others.

Consultation for this programmatic proposal was done with the following:

- Linda Hallock, U.S. Fish and Wildlife Service, Spokane Office
- Confederated Tribes of the Colville Reservation by letter dated April 24, 2003
- Spokane Indian Tribe of Indians by letter dated April 24, 2003
- Office of Archaeology and Historic Preservation by letter dated April 24, 2003
- Stevens County Historical Society by letter dated April 24, 2000

Others coordinated with on the programmatic proposal were:

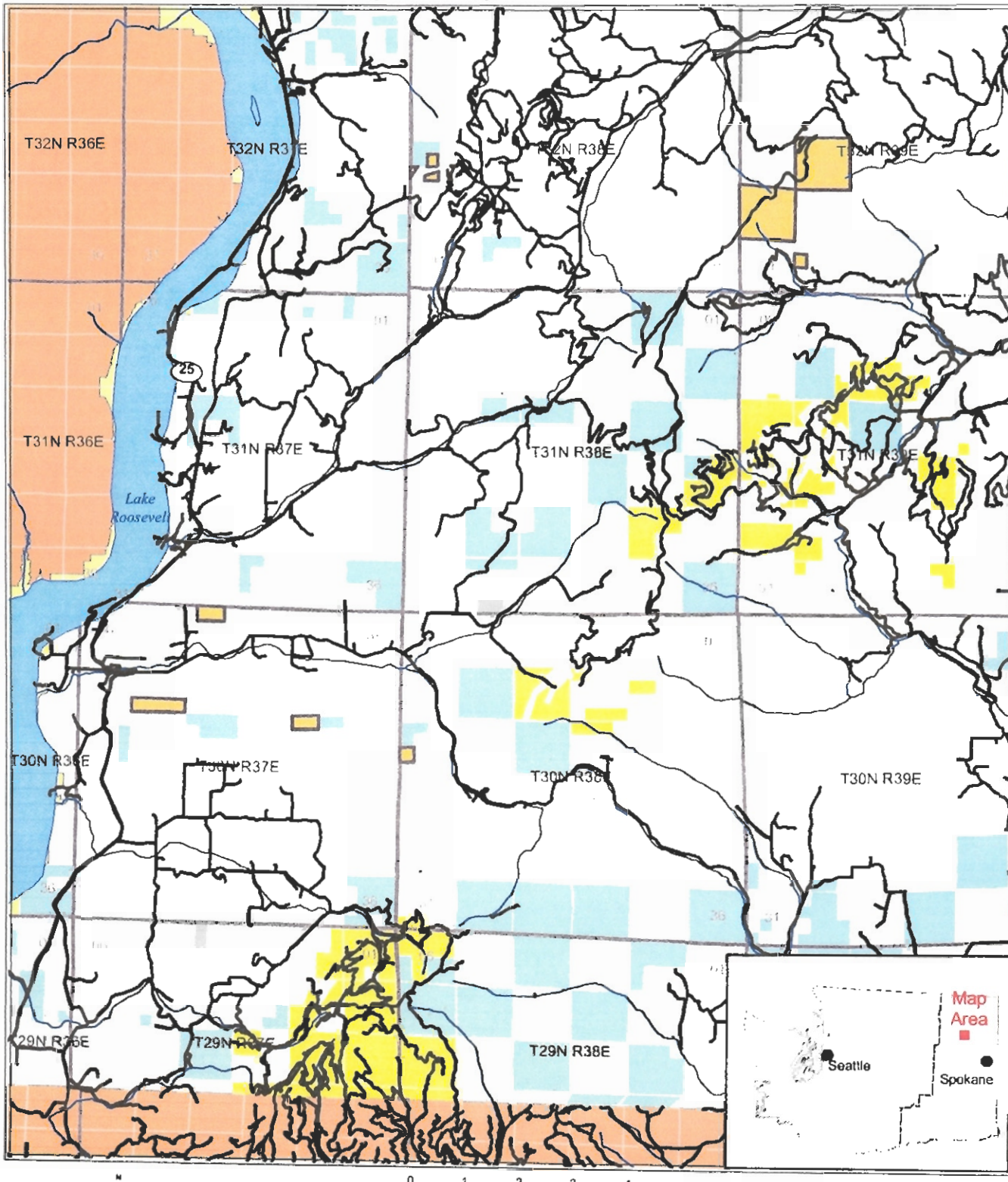
- Adjacent landowners (Boise and Inland Empire Paper)
- Washington State Department of Natural Resources
- Michael Sapp, Riley Creek Lumber Company, LaClede, Idaho
- Marilyn Spradlin, Forest Capital Partners LLC, Colville, Washington

V. Distribution of the Environmental Assessment

A copy of this environmental assessment was sent to the Washington Department of Ecology, SEPA Unit, P.O. Box 47703, Olympia, WA 98504-7703. County commissioners in Stevens County and the Washington Department of Fish and Wildlife will be notified of the availability of the environmental assessment. A copy of this environmental assessment will be mailed to members of the Eastern Washington Resource Advisory Council.

The environmental assessment will be posted on the Spokane BLM Internet website at www.or.blm.gov/spokane, under Planning, Border Resource Area. Copies of the environmental assessment will also be mailed by request.

Huckleberry Programmatic Plan Area



Legend

- BLM Administered Lands
- BLM Lands not included in project
- BIA Tribal Lands
- USBR
- DNR Lands
- Private
- Lakes
- Major Streams
- Washington State Roads
- Townships
- Sections

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