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Subject: North Lochsa Face FEIS -- Sensitive Wildlife and Plants Biological Evaluation

To: District Ranger

I. INTRODUCTION

This document displays the possible effects to endangered and threatened species known or suspected to occur in the analysis area. The Clearwater Forest Plan (CFP) states that the Forest will "Cooperate with future recovery efforts on behalf of the gray wolf, bald eagle, and grizzly bear [and] Establish specific populations or habitat recovery objectives for T&E species when sufficient biological information is available to do so (II-24). The USF&WS species list of 12/01/00, (from Bi-annual Forest-wide Species List, 1-3-01-SP-0090/File #104.000), identified gray wolf, grizzly bear, bald eagle Canada lynx, water howellia, Ute ladies'-tresses and Spalding's catchfly. Because the Biological Evaluation for Canada lynx will require formal consultation with the USFWS, the lynx is addressed in a different Biological Evaluation.

The purpose and need for action in the NLF Analysis Area was developed from a comparison between desired future conditions (DFC's) in the area and the existing conditions. DFC's were developed using the: 1) CFP management goals, standards and guidelines; 2) An assessment of vegetation and land types to characterize historic and existing resource conditions; 3) Ecologic processes appropriate to the analysis area; and, 4) Scientific information from the Interior Columbia Basin Ecosystem Management Project (ICBEMP). Specific management practices were developed to address desired ecologic conditions with the NLF. The following describes the practices and associated ecologic conditions in the NLF analysis area, upon which the need for management actions are based:

Prescribed Burning: Historically, the breaklands have had a short-term fire regime of approximately 25 to 50 years. Frequent fires maintained a very diverse structure and composition, keeping stands open and allowing Douglas fir, western larch, and, to a lesser extent, ponderosa pine to dominate a stand and regenerate. Over 60 years of fire suppression has caused these species to become less dominant in the overstory and replaced by uniform stands of trees with dense understories of western red cedar, grand fir, and Douglas fir. Under these conditions, the potential for an extreme, large fire, uncharacteristic of the breaklands increases. Understory burns will help perpetuate the types of stand composition and structure that may occur when fire was an active ecological process on the landscape.

Timber Harvest: Many years of fire suppression have allowed a majority of the timbered stands to have basal areas higher than the normal range of variability. Increased stand densities,



combined with the drought conditions of recent years, have stressed the trees, making them more susceptible to attack by bark beetles, root rots, and other pests. As the incidence of insects and disease has increased, higher fuel loads have resulted, increasing the risk of higher intensity fires. Also, many of these acres are on the breaklands, where we want to bring fire back into the ecosystem. Timber harvest can be used to reduce the stand densities on the breaklands, which would allow more favorable conditions for prescribed burning.

Shrubfield Reforestation: Seral shrubfields, comprised of ninebark, mountain maple, alder, snowberry, ocean spray, willow, and other species, have come to dominate those areas affected by repeated large wildfires. These past fires eliminated tree seed sources and reduced site productivity through changing soil physical and chemical properties along with surface soil erosion losses. Forest vegetation is slowly returning to areas with deeper soils, but without treatment, some of the shrubfields may remain for many years.

Noxious Weeds: Invasive nonnative plants are rapidly establishing on arid and semiarid grasslands, roadsides, recreational sites and semiarid wildlands within the Columbia Basin. According to the recent scientific assessment of the Interior Columbia Basin, invading weeds can alter ecosystem processes, including productivity, decomposition, hydrology, nutrient cycling, and natural disturbance patterns such as frequency and intensity of wildfires. Changes in these processes can result in displacement of native plant species, impacting wildlife, recreation, and scenic values. The spread of weeds can be primarily attributed to human activities: roads and trails act as transportation corridors; the use of contaminated livestock feed; contaminated seed sources used in revegetation practices; and ineffective revegetation practices on disturbed lands. Wildlife and birds also contribute to the spread of non-native plants.

Watershed Restoration (Riparian Planting And Road Obliteration): The stream terraces within the Pete King and Fish Creek drainages would typically have a high percentage of old-growth trees. However, only remnants remain due to the 1934 fire and past timber harvest in these areas. With shade being limited, stream temperatures in both Pete King Creek and Fish Creek are currently above water quality standards. The re-establishment of shade providing trees is needed to reduce stream temperatures to desired levels. Re-establishing trees in the riparian areas of these streams will add to stream bank stability and potential large instream wood. Past land management practices have left a legacy of unneeded, unstable, redundant roads across the landscape. These roads are a chronic source of sediment to streams and have the potential for mass failures. Stabilizing these unneeded roads through obliteration can reduce this source of sedimentation.

II. PLANNED MANAGEMENT ACTIONS

To address the above management needs, Alternative 6 applies management activities on approximately 21,120 acres (17 percent of the land in the NLF Decision Area). Prescribed fire would occur on approximately 12,835 acres. Timber harvest on 7,290 acres, through five timber sales which would produce a total of 66 MMBF. Approximately 3.2 miles of temporary road would be constructed and 13 miles of road would be reconstructed to improve surface drainage and provide for safe use.

Alternative 6 responded to the issues of harvest in old growth and pre-commercial thinning in lynx habitat. Approximately 170 acres of mixed severity burning and 135 acres of under-burning are added under alternative 6. Unit 12, a mixed severity burn is expanded to follow a logical topographical break. Unit 169, an under-burn, was added from Alternative 3a. Approximately 325 acres of regeneration harvest, 485 acres of commercial thin, and 150 acres of Commercial timber salvage are dropped. Most of the units dropped were in old growth. In addition, one pre-commercial thin unit, located in lynx habitat is dropped.

Alternative 6 includes a programmatic Forest Plan Amendment, Appendix C to change the maximum burned acres from ‘wildfire’ to ‘unscheduled’ for certain management areas having primary resource emphasis other than timber. This is being done to balance fire suppression costs with resource values lost while also considering firefighter safety. This amendment also allows the use of alternative suppression strategies (confine and contain within the Lochsa Research Natural Area). Tables 1a and 1b, summarize the management prescriptions and general sites features associated with Alternative 6.

Table 1a: Summary of Specific Features for Alternative 6

Prescribed Fire	
Mixed Severity Burn	5,655 acres
Underburn	7,180 acres
Timber Harvest	
Regeneration Harvest	2,720 acres
Off-Site Conversion (Clearcut)	2,220 acres
Commercial Thinning	2,035 acres
Commercial Timber Salvage	315 acres
Pre-commercial Thinning	995 acres
Roads	
Permanent Road Construction	0 miles
Temporary Road Construction (8 temporary roads)	3.2 miles
Reconstruction	13 miles

Table 1b Acres of Vegetation Treatment by Landform

Type of Treatment	Breaklands	Colluvial Mid-slopes	Frost Churned Uplands	Old Surfaces	Stream Terraces
Mixed Severity Burn	1490	710	2155	1260	40
Underburn	4585	1160	260	1035	140
Regeneration	1070	680	0	970	0
Off-site Harvest	20	0	200	2000	0
Commercial Thinning	445	435	0	1155	0
Commercial Timber Salvage	0	95	0	220	0
Pre-commercial Thinning	50	25	0	920	0
Total Treatment	7680	3105	2615	7560	180

The following section describes the key features of planned actions and specific project 'Design Criteria' associated with the implementation of Alternative 6:

Mixed Severity Burns: Approximately 5,655 acres of mixed severity burning is planned mostly within the Fish/Hungry Creeks and Face drainages. Mixed severity burning is planned across all LTAs to replicate fire disturbance processes. Although these fires would not consume all of the trees and shrubs, the size of possible openings created would range from 50 to 500 acres. Approximately 130 acres of mixed severity burns would occur within the Lochsa Wild and Scenic River Corridor, 85 acres would occur within the Lochsa Research Natural Area, and 5,125 acres would occur within the North Lochsa Slope Roadless Area. The mixed severity burns would be implemented over a five-year period. Only a few burns (3-5) would occur the first year and would be monitored to evaluate the effectiveness of the prescriptions in meeting land management objectives. In addition, multiple entries into the identified areas may be prescribed to slowly reduce fuel loads.

Under-burns: Approximately 7,180 acres of understory burns within ponderosa pine, grand fir, and Douglas-fir forest types are proposed mostly within the breaklands. These burns would reintroduce fire as an ecological process and would help perpetuate the types of stand composition and structure naturally found on these landscapes. Approximately 555 acres of underburns would occur within the Lochsa Wild and Scenic River Corridor, 175 acres would occur within the Lochsa Research Natural Area, and 6,030 acres would occur within the North Lochsa Slope Roadless Area. Under-burning is also proposed on the colluvial mid-slopes, frost churned uplands and old surfaces where large old ponderosa pine or Douglas-fir are present in the stand, indicating a history of frequent, low intensity fire. Upon completion of a fire management plan, prescribed natural fire may take up additional acres, should lightning strikes occur in desirable areas at times when the risks and consequences are at acceptable levels.

Regeneration Harvest: Regeneration harvest would occur on 2,720 acres in order to change species composition, and achieve the desired age class/size distribution and structure patterns. Regeneration harvest is planned primarily in the Pete King, Canyon, Fish and the Face drainages, with a lesser amount in Rye Patch, Apgar, Glade and Deadman drainages. Approximately 435 acres are located within the North Lochsa Slope Roadless Area and 235 acres within the Lochsa Wild and Scenic River Corridor. Although the harvest sites would appear natural with many trees remaining, the size of possible openings created would range from 40 to 450 acres. The percent of trees proposed for retention will vary, depending upon the LTA:

Breaklands: retain 50 percent or more of the trees

Colluvial midslopes: retain 35 percent

Old surfaces: retain 25 percent

Wild and Scenic River Corridor: retain 70 percent

Off-site Conversion: Clearcut harvesting would be utilized on 2,220 acres (35 units) to remove off-site tree species in the Bimerick Creek drainage and restore these sites to naturally occurring species adapted to the site. Restoration would also prevent the contamination of the local gene pool. These off-site trees primarily occur on the old surfaces, with minor amounts on the frost-churned uplands and breaklands. The existing access and gentle, rolling topography of this area, west of Bimerick Creek, lends itself well for the use of a log forwarder system, which can skid

logs over slash filled trails to existing roads, causing minimal soil disturbance compared to tractor yarding. The area east of Bimerick Creek would require a helicopter to land logs to landings on roads 5545 and 483. Should any of this area prove to be infeasible for harvest (i.e. no bids received), those areas would be burned to remove the off-site trees. Local seed sources would be used to replant the sites with genetically adapted species. The size of possible openings created by proposed clearcut harvests range from 10 to about 1,000 acres. All of this planned harvest is located within the North Lochsa Slope Roadless Area.

Commercial Thinning: Approximately 2,035 acres of commercial thinning is planned and would retain up to 67 percent of the trees on any LTA. Commercial thinning on the breaklands and colluvial mid-slopes would remove suppressed trees, usually of smaller diameter, releasing water and nutrients for the trees left on the site. Stand densities would be reduced to historical conditions. There are two types of thinning on the old surfaces. First, thinning would occur in some younger stands to promote faster tree growth of the remaining trees and reduce stand densities to historical conditions. Second, thinning would occur in some older stands so that these stands retain their vigor, live longer, contribute to the diversity of the stand, and provide old forest characteristics across the landscape for a longer period of time. Approximately 190 acres are located with the North Lochsa Slope Roadless Area.

Commercial Timber Salvage: Approximately 315 acres of commercial timber salvage harvest is planned mostly in the Walde Mountain area, with some units in the Canyon Creek drainage. Two units were dropped and three units reduced in size. Approximately 10 percent of the stand volume, consisting of dead, dying, and high-risk trees, would be harvested. Conventional logging yarding systems from existing system and temporary roads, would be used.

Pre-commercial Thinning: One unit that is located in lynx habitat is dropped. Approximately 995 acres of stands having more than 1,000 trees per acre, less than 7" diameter breast height, would be thinned back to 400-500 trees per acre, using chainsaws or other mechanical methods to carry out the treatment. These stands are mostly within the Pete King Creek and Canyon Creek drainages. The purpose is to reduce stocking levels to reduce the incidence of disease and favor seral species that are more resilient to disturbance.

Logging Systems: Approximately 75 percent of the area proposed for harvest has existing road systems and can be logged using conventional systems (skyline and tractor yarding). The remaining 25 percent proposed for harvest will require helicopter yarding. Most helicopter landing areas are proposed out of the river corridor along existing road systems. Two helicopter log landing areas are proposed on clearings within the river corridor near the mouths of Deadman and Bimerick Creeks, with a third proposed on a large grassy area 1.5 miles up Pete King Creek. The Bimerick site, a dispersed campsite above the highway, would require some clearing of trees to make it suitable as a helicopter landing.

Permanent Roads : None

Temporary Roads: Ten temporary roads, located mostly in the Pete King, Canyon, and Deadman Creek drainages totaling approximately 3.7 miles would be constructed for yarder

access and obliterated after use. There is one temporary road, approximately a quarter mile in length, located within the North Lochsa Slope Roadless Area.

Reconstruction: Forest Roads 481, 483, and 5545 need some curve widening and realignment to accommodate log trucks from the Van Camp and Bimerick Meadows areas to about Frenchman Butte (approximately 11.4 miles). Another 1.5 miles of the Pete King road (# 453) would be reconstructed to access a helicopter landing.

To improve forest health and restore certain components of the NLF ecosystem, the following management activities would be implemented:

Control of Noxious Weeds - To eradicate new invaders (a weed species previously not known to occur within the project area) and reduce the extent and density of established noxious weeds, an Integrated Pest Management approach to weed control would be implemented along NLF roads and trails. The method(s) of choice for particular infestations is dependent upon weed species, infestation size, land use patterns and location. All areas of herbicide application would be followed by an aggressive revegetation effort. Selected seed mixes consider filling soil horizon niches that would reduce the risk of subsequent reinvasion. These mixes consider early, shallow rooted species; mid-season species with moderately deep roots; and late-season species with deeply rooted species. Considerations of disturbance regimes, species availability, and species performance (site habitat characteristics, germination requirements, growth rates and competition between species interactions) would also be included in revegetation plans. The following management techniques would be considered on specific sites and plant species for detailed locations of weed species and proposed treatments):

☞ **Physical/Mechanical:** Treatment, consisting of hand grubbing, mowing, tilling, or burning, would take place before seed production, with mowing or tilling being repeated during the growing season. Approximately ½ acres of dalmation toadflax, ½ acre of scotch broom would be hand pulled, and 1 acre of scotch thistle would be grubbed.

☞ **Chemical:** Within the entire project area, herbicides would treat a maximum of 500 acres (16 sites) that represents 0.035 percent of the 128,000-acre project area. Some of these sites, denoted in the treatment table, would include the distribution of biological control agents or mechanical control measures outside of roadsides and areas, where proximity to water sources (streams and/or high water tables) make herbicide applications inappropriate. Revegetation efforts would follow, and follow-up treatments would occur based upon monitoring of application effectiveness. Herbicides considered under chemical control scenarios include Clopyralid (TRANSLINE) and Dicamba (VETERAN 10G). Herbicides would treat those species addressed by the Clearwater Basin Weed Coordinating Committee as having an eradication objective and where infestation levels warrant an eradication objective. It is anticipated that two consecutive years of herbicide application would be needed, as revegetation with desired species reduces the likelihood of re-infestation within these sites.

☞ **Biological:** Biological control is a slow process, often requiring ten to twenty years to be effective, and is the deliberate introduction and establishment of natural enemies to reduce the target plants competitive or reproductive capacities. Its purpose is not eradication but a reduction in weed density and rates of spread to an acceptable level. Predatory insects are

commonly released against noxious weeds, and the biocontrol agent *Larinus minutus* would be released at several sites to control spotted knapweed and Canada thistle.

Road Obliteration - For the purpose of reducing the risk of sediment entering live streams and encouraging the natural flushing of instream sediments, approximately 66 miles of roads, no longer needed for management, are proposed for obliteration. This would involve the use of heavy equipment (excavators and dozers) to remove culverts, improve drainage, reduce road fills, and scarify compacted surfaces to promote revegetation. Priority of treatment is based on: 1) high risk of landslide or debris torrent; 2) proximity to fish bearing streams; and 3) chronic sediment sources. The results of removing these roads from the system would 1) decrease erosion and instream sediment deposition; 2) promote the natural sediment cleaning processes; and 3) improve the rate of spring flow recovery to more natural conditions.

Road Long-Term Maintenance - Another 54 miles of roads are proposed for long-term maintenance. These roads are not expected to be needed for timber access in the next 20 or more years. This is the practice of retaining existing roads for future use without relying on frequent road maintenance to keep the road open. The roads would be closed to motorized traffic and be placed in a condition to assure they are self-maintaining, with stable drainage. This practice may or may not include removal of culverts and ditches. Encroaching vegetation would not be removed. This practice would: 1) reduce road maintenance costs; 2) provide for future access; and 3) minimize erosion.

Sediment Trap Removal - There are two sediment traps in Walde Creek and two sediment traps in Pete King Creek that were installed in the mid-1980s for the purpose of trapping some of the bedload sediment (primarily sand) coursing through the streams. These traps have been cleaned annually. Sediment traps would be removed, with the sites restored to approximate natural channel cross-section conditions, to restore floodplain/stream channel integrity.

Planting Riparian Areas - For the purpose of restoring streamside vegetation to promote the re-establishment and role of large wood in providing shade, channel stability, and fish habitat diversity, 450 acres in a six-mile long strip along Fish Creek is planned to be inter-planted with cottonwoods. A similar 150-acre strip along 2 miles of Pete King Creek would be planted with conifers and deciduous tree species.

Temporary Roads: Eight temporary roads, located mostly in the Pete King, Canyon, and Deadman Creek drainages, each averaging about 0.5 mile in length, would be constructed for logging equipment access. Each road would be obliterated after use.

Road Obliteration and Long-Term Intermittent (Road) Use: During the next 5 years and as funding becomes available, all of the action alternatives would implement 68 miles of road obliteration and place 57 miles of roads under long-term road maintenance. Obliterated roads would be decommissioned to restore near natural surface water and stream drainage patterns, not be passable to vehicles of any sort (including bicycles), and removed from the CNF road system inventory. Roads placed in long-term intermittent use would be managed to reduce maintenance costs, while assuring surface water and stream drainage patterns do not threaten slope stability. While generally unusable by highway vehicles, some of these roads may allow ATV use.

The following monitoring would continue on the Forest and/or District:

- a. Ten percent of all units on the Forest are monitored for compliance with the rules and regulations of the Idaho Forest Practices Act.
- b. Annually, at least one completed timber sale project is monitored by the District and Forest to determine if: (1) requirements of the EA or EIS and decision document were implemented correctly; and (2) desired/predicted results and effects occurred. These results are retained in the District files and used for future reference. Of particular interest are successful application of planned vegetative management practices (including roading practices) in or near sensitive areas, erosion control, and access management.
- c. For timber sales, certified sale administrators would monitor the requirements of the timber sale contract, which reflect the requirements described in the Record of Decision and the FEIS.
- d. All eight major watersheds within the project area that flow into the Lochsa River are currently being monitored for summer water temperatures. These streams and a number of tributaries would be monitored for water temperatures. Substrate monitoring is currently ongoing and would continue in the Pete King Creek, Canyon Creek, and Deadman Creek drainages. Ongoing fish population monitoring projects would continue in the Pete King Creek, Canyon Creek, Deadman Creek, and Fish Creek (including Hungry Creek) drainages. Stream channel and habitat conditions were surveyed in 1991 and 1997 in the Pete King Creek and Canyon Creek drainages; these would be repeated in 2002. Follow up surveys are planned in the Deadman Creek (1999) and Fish Creek (2000) drainages.
- e. Pacific dogwood plants would be monitored during reconstruction of the access road to Bimerick helicopter landing, and prior to, during, and following the prescribed burning in the Lochsa RNA. Evergreen kittentails in the RNA would also be monitored prior to, during and after the burning in the RNA. The RNA monitoring would be done in conjunction with the Research Station scientists.
- f. New plantations, established after harvest, would be monitored for five years following planting to ensure that the land is successfully reforested (funded by KV).
- g. The CNF would monitor sediment delivery from road obliteration to better quantify the effects of this activity. A subset of the road obliteration activities, which have the potential to deliver sediment to the streams, would be monitored. The monitoring would be designed to quantify sediment delivery, and to the extent possible allow inference to the application of this activity in other areas. The results shall be submitted to the National Marine Fisheries Service each March following the field season data was collected.
- h. The CNF would monitor the effects of the first two years of mixed severity burns. Specifically the CNF would monitor the effects of the burns on Riparian Habitat Conservation Areas to determine if additional mitigation should be applied. A report would be produced that describes where, when, acreage, and method of treatment, methods of

evaluating effects, the effects of the prescribed burning, and any additional mitigation that should be applied to future burns. The CNF would report their findings and any added mitigation measures to the National Marine Fisheries Service for concurrence prior to proceeding with the next year's burns..

- i. Monitor prescribed burning in Fish "C" reaches (see staggering of units in Design Section). If burning the first year does not result in any changes to stream reaches, then burning does not need to be staggered.
- j. See design criteria for heritage resources for the following sites: 10-IH-558, 10-IH-2370, 10-IH-2371, 10-IH-2372, 10-IH-2373, 10-IH-2374, 10-IH-2145, 10-IH-2146, 10-IH-1649
- k. In consultation with the Idaho State Historical Preservation Office (SHPO), and in participation with the Nez Perce National Historic Park, develop a heritage resource management and monitoring plan that will protect culturally modified trees and other historic properties from effect. This plan will develop monitoring and mitigation measures for individual sites and will be submitted to the Idaho SHPO for review and approval by February 1, 2002. On an annual basis, no later than March 1, reports will be prepared and submitted to Idaho SHPO and the Nez Perce National Historic Park that will document accomplishments under the plan, results of monitoring, and recommendations for amendments. The plan may be updated annually as needed, and the Nez Perce Tribe will be invited to comment and provide input to the development and updating of this plan.
- l. Where pre-burning activities have been performed (e.g. fuels reduction, back burning, or wrapping), and in specified cases in other types of treatment areas such as commercial timber salvage or thinning units, monitoring of resource conditions may be required during project implementation. A qualified archeologist would monitor resource conditions and in the case of burn units; a fire crew would be pre-positioned in strategic locations to protect the resource.

Management Requirements and Design Features

The measures identified on the following table serve to further reduce impacts of the specific resources identified. Most are considered design features and are included in all action alternatives.

Table 1 - Management Requirements And Design Features

Objective	Task	Effectiveness
Watershed Design Measures		
Minimize risk and damage from fuel storage and/or spills	Utilize the Fuel Transport, Storage, and Spill Containment Plan, Biological Evaluation, Appendix J to minimize risk and damage from fuel spills	<i>High.</i> This Plan was used on the Van Camp Timber Sale and Goat Roost road construction projects (NMFS 1994). The plan was used for the Goat Roost road construction project. No problems regarding fuel spill, fuel transport or storage were reported or observed on the Goat Roost Project. NMFS determined that mitigation measures included in this updated Plan (for the North Lochsa Face Project) would avoid/contain any fuel spills at the two helicopter sites. NMFSS concluded that the proposed activities at these sites would have negligible likelihood of affecting listed species or their habitat. (NMFS 1999).
Minimize effects from prescribed fire on riparian areas	Locate ignition points for prescribed fire outside of RHCAs. Complete prescribed fire with multiple entries to gradually reduce fuel loading at the sites. Timing of burns will be based on fuel moisture to achieve the objectives and to avoid impacts to the riparian areas. Size of burn strips will be varied to control the intensity of the fire. As an additional measure, prescribed fire, especially with mixed severity burns will be conducted on several selective burn areas in order to evaluate impacts prior to full project implementation. Modifications of subsequent	<i>High.</i> Burning units when fuel moistures are higher reduces the intensity of fire. In addition, burn strips also can reduce intensity (USDA, Forest Service 1999c). Monitoring of similar projects within the North Fork Clearwater subbasin (Clearwater National Forest) have showed this to be effective in minimizing the effects on riparian areas (USDA Forest Service 199b, 199c). Although there may be some small, localized burning in the riparian areas, it would not effect a large enough area to show any measurable changes to stream habitat or conditions. In addition, staging of prescribed fire and



Objective	Task	Effectiveness
	<p>burns will be conducted if damage to riparian area functions are apparent. Prior to implementing the trial prescribed fires for the mixed severity burns, the CNF will provide the NMFS with a specific description of (where, when, acreage, methods of evaluating effects on RHCAs, etc). Prior to initiating subsequent prescribed fire for this action, CNF will submit for NMFS concurrence the results of the evaluations, and any additional mitigation CNF proposes based on these results and other information.</p>	<p>subsequent monitoring and adaptive management will ensure RHCAs and their functions are maintained (NMFS 1999).</p>
<p>Wildlife Design Measures</p>		
<p>Provide standing and down, dead and alive wood for variety of wildlife species.</p>	<p>The following criteria assumes planned timber management practices would retain: A minimum of 25 percent of the current tree canopy in the most heavily harvested (regeneration areas); Large live trees and snags would be retained in PACFISH buffers Snags created by prescribed burning would not be harvested The following are based on the Northern Region Snag Management Protocol (SMP, 2000) which was developed to provide adequate cavity habitat based on habitat needs of wildlife that require cavity habitat. Where available retain a minimum of two to four (SMP, p 6) Types 1, 2, or 3 snags (refer to Reserve Tree Marking Guide, pp 10-11) per acre over 21” diameter and greater than 50’ tall, including at least 1 ½ snags per acre greater than 28” (Bull, et al, 1997, pp 21-29). Where snags are not large enough to meet</p>	<p><i>High.</i> These guidelines favor retention of broken top live trees for snags. These trees do not present the safety risk to loggers and are likely to prevail much longer than well-decayed snags. Broken top trees, therefore have a higher probability of being retained within treatment units. (See Wildlife Report, pp 15-20 for more information)</p>

Objective	Task	Effectiveness
	<p>the above diameter criteria, retain two to four snags per acre of the largest snags (if available). In addition to the above (and where available) retain a minimum of 6-8 (SMP, p 6), Type 1 and 2 snags per acre over 9” to 21+” in diameter.</p>	
<p>Provide standing and down, dead and alive wood for variety of wildlife species. (Continued)</p>	<p>Retain a minimum of 5 to 10 live trees (i.e. “post burn”) (>50’ tall and 9-21” DBH) per acre in all harvest units (Bull, et.al., 1997 pp 21-29) Favor retention of: Live and dead trees with broken boles, greater than 8” at the break (Types 2 and 4 snags) Larger, greater than 21” dbh, hollow trees; Trees which contain witches brooms Favor retention of ponderosa pine, western larch, Douglas-fir on ridges and drier sites. In moist habitats, favor retention of western red cedar, larch and grand fir. Assure a variety of dead trees, well distributed, of varying diameter, height, density and decay. Apply snag density determinations, which can include RCHAs, at the stand level. Live trees in riparian areas included in the interior of the harvest unit can be used to supplement the count of a minimum of snags and live trees remaining within the harvest units. Favor retention of: 1) Live and dead trees with broken boles, greater than 8” at the break (Types 2 and 4 snags); 2) Large greater than 21” dbh), hollow trees; and 3) Trees that contain witches brooms. Favor retention of ponderosa pine, western larch, and Douglas-fir on ridges and drier sites. In moist habitats, favor retention of western red cedar, larch, and grand fir. Assure a variety of dead trees, well</p>	

Objective	Task	Effectiveness
	<p>distributed, of varying diameter, height, density and decay. Apply snag determinations, which can include RHCAs, at the stand level. Live trees in riparian areas included in the interior of the harvest unit can be used to supplement the count of a minimum of snags and live trees remaining within the harvest unit.</p> <p>Favor retention of snags in patches (clumps), mixed with live trees. Avoid marking snags near log landings and firelines. Recognize terrain, unit boundaries, and logging system limitation that can constrain or remove opportunities for retaining snags and replacement snags. Do not retain snags which are obvious threats to tree faller safety.</p> <p>“High stump” snags to be felled; fall trees away from snag patches to reduce risk of damage during logging and prescribed fire.</p> <p>Develop planned fire prescriptions which retain at least 2 to 4 per acre (>15” dbh and >50’ tall) and 5 more live trees per acre.</p> <p>Blind leads, benches and/or in the interior of the unit are likely sites for retaining patches.</p> <p>Do not plan to retain snags within 100 feet below and 200 feet above, an open road.</p> <p>Retain all damages reserve trees. Where there is a need to replace a live tree, replace “in-kind”.</p>	
<p>Promote optimum levels of browse production and utilization.</p>	<p>Develop and employ dry-season prescribed fire on productive (forested) winter range sites. Each site would be reviewed (at a minimum) in the field by a wildlife biologist, ecologist/silviculturist and fire manager to assure dry-site burning is feasible to meet</p>	<p><i>Low to High.</i> Where dry-season fire is applied the effectiveness would be high because it emulates historic vegetation disturbances, and produces the largest quantities of high quality browse. However, dry-season fire may not be applied to all prescribed burns in the winter range</p>

Objective	Task	Effectiveness
	elk winter range and other resource management objectives.	because certain areas may have a high risk of stand replacement fire, or concerns over smoke or degraded visual quality. Spring burning may have to be applied in these areas with the result of less than optimum levels of browse production.
Provide free movement of big game	Where thinning is done to promote tree growth, keep existing big-game trails clear of slash.	<i>High.</i> Implementation of this criterion would be via routine project planning and contract specifications. Existing big-game trails are readily observed on the ground and thinning slash easily directed away. Removal of slash from big-game trails would ensure free movement of big game.
Protect goshawk nests	Buffer confirmed goshawk nests, located during project planning, by retaining approximately 20-25 acres of the forest stand in which the nest occurs. If an active nest is found during active timber harvest or prescribed burning activities, suspend all activities within a 500 to 600 foot radius (approximately 20 to 25 acres) of the nest during courtship, nesting and brood rearing (March 15 to August 1).	<i>High.</i> Buffering or avoiding disturbance to species which are sensitive to human disturbance during nesting and brood rearing, assures the best opportunity for the species to reproduce successfully. CNF field crews are encouraged (and the public) to report active goshawk nests (See SEIS Wildlife Report pp 15-20 for more information).
Vegetative Design Measures		
Coordinate activities for Pacific dogwood within the Lochsa RNA	Develop a prescribed fire plan for the Lochsa RNA through the Regional RNA coordinator. Develop the prescribed fire plan(s) and monitoring by (as a minimum) qualified Pacific dogwood botanist, forest ecologist, fire scientist, and fire manager.	<i>High.</i> Skilled botanists (through university sources, Research Station or contracting) ecologists, fire scientists and fire practioners are available to collaborate on developing, implementing and monitoring fire prescriptions to promote Pacific dogwood.
Protect Green Bug-on-a-Stick	If green bug-on-a-stick occurs outside a default PACFISH buffer, then buffer the area from disturbance (not to exceed 2 acres). This species may be located on the extreme northeast margin of Unit 48.	<i>High.</i> Skilled botanists (through University sources or contracting) are available to survey Unit 48 to verify presence/absence. Avoidance/buffering would be high. If no species is found, then buffering is not required.
Protect threatened	Include standard timber sale contract clause CT6.251	<i>High.</i> Avoids impacts to plants found.

Objective	Task	Effectiveness
and endangered plants	in the contract which allows any proposed, endangered, or threatened plant species observed during sale activity be given protective measures.	
Noxious Weeds Design Features		
Minimize the spread of noxious weeds	Clean off-road equipment of loose debris (CT6.26) prior to moving on to Sale Area.	<i>Moderate.</i> Requiring cleaning of equipment reduces the chance that weed seeds that have been picked up by the equipment are transported from site to site
Minimize the spread of noxious weeds	Revegetate raw soils (seeding) that are exposed through project activities as soon as practicable. Use weed free seed.	<i>Moderate.</i> Revegetating raw soils reduce the likelihood that weeds can get established.
Minimize the spread of Noxious Weeds	Certified weed-free forage and straw, is now required for use on all National Forest lands on the Clearwater National Forest (36 CFR 261.5)	<i>High.</i> If enforced this is a very effective tool at eliminating new invaders
Minimize new weed invaders	To prevent the establishment and spread of noxious weeds, revegetate all ground disturbances resulting from management activities with an appropriate, certified noxious weed free seed mix and fertilized as necessary.	<i>Moderate.</i> Care needs to be taken not to seed too much. In areas where ground disturbance is minimal, allowing native plants to re-seed also helps to maintain plant diversity.
Ensure safe herbicide use	Post treatment areas prior to and following herbicide applications near high human use areas. In addition, information on where and when spraying and other treatments would occur would be available to the public at the Ranger District Office	<i>High.</i> Effective at preventing unintentional exposure.
Ensure safe herbicide use	Application of registered herbicides to treat noxious weeds would be performed by or directly supervised by a State licensed applicator.	<i>Moderate.</i> Licensed applicators are required to be trained in the proper use and handling of herbicides. Applicators must be kept current annually, so new information is always shared.
Protect the Resources	All herbicide applications would be ground based, not aerial.	<i>Moderate.</i> This helps to prevent drift.

Objective	Task	Effectiveness
Protect the Resources	Evaluate all treatment sites for threatened, endangered and sensitive species plant habitat suitability. Survey highly suitable habitat as necessary before treatment. No spraying with vehicle based spraying devices would be done within 25 feet of any known threatened, endangered, or sensitive (TES) plant location. No chemical spraying would be done within 25 feet of any known (TES) plant occurrence.	<i>Moderate.</i> It is important that a botanist, or a person trained in botany, be involved in implementation of the spray program. The Forest Botanist developed these mitigation items.
Protect the Resources	Mix herbicides at least 100 feet away from surface water or wellheads. Have a spill kit available in the immediate vicinity of all herbicide mixing and spray operations. Apply herbicides when wind speeds are less than 6 miles per hour, or as specified on the label. Do not apply herbicides if precipitation is expected within 4 to 6 hours.	<i>Moderate to High.</i> Use of ground based equipment minimizes the risk of contaminants reaching streams while mixing, amounts are usually small. Monitoring wind speed and knowing weather forecasts are very important in helping keep the herbicides where they are intended to be.

Objective	Task		Effectiveness
Eliminate herbicide contact with water where needed	Distance from water	Practice	<i>Moderate to High.</i> These recommendations are well above any of the protection measures on the herbicide labels and should help eliminate any herbicide contact with water.
	0-10 feet	Prohibit application of herbicides over water. Hand application of glyphosate and triclopyr only.	
	10-50 feet	Hand application of aquatically approved herbicides only	
	50-150 feet	Use aquatically approved herbicides if boom spraying	
	All distances	Reseed with native mix or mix which would prevent invasion of weeds and is certified weed free.	
Pre-treat Units to Limit Further Weed Spread	Pre-treat spotted knapweed adjacent to units 32,33, 47,48, and 227 prior to harvest activities. Pre-treat orange and yellow hawkweeds on Dry Point prior to activities in the area.		<i>Moderate to High.</i> Pre-treatment would minimize further weed spread.

III. ANALYSIS AREA

The North Lochsa Face analysis area covers approximately 128,000 acres of mostly forested, steep mountains on the Lochsa Ranger District of the Clearwater National Forest, just north of the small communities of Lowell and Syringa, Idaho. The Lochsa District boundary and the Lolo Motorway form the northeast and northern boundary of the analysis area. The Pete King Creek drainage forms the southwest boundary. U.S. Highway 12 and the Lochsa River, a designated Wild and Scenic River, form the south/southeast boundary up to Fish Creek, and the remaining boundary is the eastern watershed divide of Fish Creek.

The Lochsa River drainage is approximately 755,000 acres in size. National Forest lands compose over 94% of the drainage or 714,000 acres. Most of the private lands (Plum Creek Timber Company) are located in the headwaters of the drainage in the Powell area. Stream flows within the mainstem Lochsa River are low during fall and early winter, but unlike Lolo Creek and the Potlatch River, may provide spawning habitat for fall chinook salmon. However, other constraints, such as water temperatures may limit any future fall chinook production. No documentation is available to indicate any fall chinook salmon production in the Lochsa River. Juvenile steelhead trout rearing has been documented in most the Lochsa River drainage (accessible to adult migration); production is considered very low primarily due to overall adult escapement and secondary to habitat conditions in several drainages. Steelhead trout spawning has been observed in the upper mainstem Lochsa River and several tributaries (Squaw and Papoose creeks), but high flows conditions usually prevents documentation of spawning in most streams. The highest densities of steelhead trout have been reported in the Fish Creek and Boulder Creek (lower Lochsa tributary) drainages. Adult bull trout rearing has been documented in the mainstem Lochsa River, and numerous larger tributaries; numbers have been very low and mostly located in the upper Lochsa River. Recently, bull adult spawning and/or early rearing have documented in several tributaries (all within the upper Lochsa River watershed), such as Squaw Creek, Beaver Creek, Shotgun Creek and Papoose Creek. Squaw Creek has shown the greatest concentration of fluvial spawners.

Cumulative Effects - Lochsa River Drainage

National Forest Lands: The recovery trend within the Lochsa River drainage from past wildfires and roading/timber harvest could be rated as a positive, but slow process due to the past road and timber harvest activities from the early 1950's to 1994. The recent 1995/1996 flood events set back recovery in a few drainages (ie. Squaw, Papoose and Pete King creeks). However, monitoring data has indicated a "new" recovery trend. Recovery trend of the riparian areas along most of the fish bearing tributaries is a positive, but slow process. Minimal timber harvest within 100-150 foot of these fish bearing streams have occurred within the last ten years; none is planned in the future due to PACFISH direction within the Forest Plan. Vegetative conditions should improve along these streams and their non-fish bearing tributaries over the next 10-20 years. Full recovery may take over 50-100 years for the smaller streams and much longer (i.e., western red cedar habitats) along the wider riparian areas of the larger streams. Full recovery along streams with roads existing within 150-300 feet is not expected, but vegetative conditions are expected to improve and provide additional streamside cover and potential woody debris.

The overall recovery trend is most likely slightly positive one over the last 10 years; the new road construction and timber harvest activities are relatively minor compared to past years. However, the drainage still shows evidence of delays to the aquatic recovery due to activities, such as past logging and road construction, that continue to contribute to riparian degradation

and stream channel alterations. The recent amendment to the Forest Plan to include more refined riparian management objectives (PACFISH) will maintain and/or accelerate the attainment of improved instream and riparian conditions within the USFS lands. In addition, the upgraded road maintenance program and intensive road obliteration program within the Lochsa River drainage will accelerate recovery.

State and Private Lands: With the exception of a small parcel of land at the mouth of Pete King Creek, the project area is under the administration of the USFS. However, a significant amount of private land exists in the upper Lochsa River drainage. The extent of additional activities under private lands (Plum Creek Timber Company), other than the actions connected with the Goat Roost and Spruce ROW's are unknown at this time. Additional road construction and timber harvest on private lands are expected to occur at unknown intensities in future years. Future projects involving Forest lands may need undergo consultation dependent upon the extent of the action.

This Biological Evaluation displays the impacts of implementing Alternative 6, described in the North Lochsa Face Supplemental Environmental Impact Statement. Tables 1, 2 and 3, summarize the potential effects of the planned action on the sensitive fish, wildlife and plant species identified for the Clearwater National Forest and the North Lochsa Face area. A more complete review of local sensitive fish, wildlife and plants are displayed in the SEIS and the respective fisheries, wildlife and plants specialist reports.

**Table 1 - Biological Evaluation Summary - Sensitive Plants
North Lochsa Face SEIS**

Species	Determination	Rationale
Anderegg's Cladonia	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Arrowleaf Coltsfoot	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Broad-fruit Mariposa	No Impact	A planned underburn occurs adjacent to the only known population within the analysis area. The burn is expected to promote the retention of grassy openings, with a sparse overstory of ponderosa pine and Douglas-fir and associated Idaho fescue and bluebunch wheatgrass, that are favored habitat for this species.
Bristle-stalked Sedge	No Impact	Possible wet sedge meadows habitats that this species may inhabit, such as Fish Creek Meadows, Bimerick Meadows, Glade Creek meadows and Canyon Meadows, will not be treated or disturbed by planned actions in any of the alternatives.
Chickweed Monkeyflower	No Impact	This species occurs on cliffs and outcrops and is not expected to be affected by planned treatments.
Clustered Lady's Slipper	MIH/BI	Six of the known 14 populations in the NLF study area occur in or near prescribed burn areas. Two populations occurring in Unit 227 and near Unit 241 occur in riparian areas. Two populations (in or near Units 246 and 33) occur on ridges. A fifth population occurs in a riparian habitat occurring within a spotted knapweed infestation area. The sixth population occurs in Unit 43. Units 33 & 43 involve regeneration timber harvest. Planned disturbances (regeneration harvest and low/mixed severity fire) are expected to maintain habitat conditions for this species by maintaining large, live trees within the patch. Surface disturbance that retains some live trees that are associated with the perennial rhizomatous root system is expected to maintain individuals within populations. Though some Armellaria root rot infected Douglas fir stands will be treated by either logging or prescribed, other infected stands outside of the planned treatment units would be unaffected by the planned actions. The actual effect of development (i.e., canopy opening, reduced competition from shrubs/trees and soil disturbance) is unknown. In the event that fire is sufficiently intense to consume the duff layer where a population occurs, is likely that affected plants would not survive. The planned treatments are likely more beneficial than detrimental to this species due to reduced shading of understory trees over-topping this species. Greenlee (1997) stated that in the short term, individuals may be impacted by timber harvest activities or canopy reduction, but in the long term populations may benefit from the reduced threat of stand-replacing fire.
Constance's Bittercress	No impact	No planned activities in known or suspected population(s).
Crenulate Moonwort	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.

1/ NI = No impact

2/ MIH = May impact individuals or habitat, but will not likely result in a trend toward federal listing or reduced viability for the population or species.

3/ BI = Beneficial Impact

Species	Determination	Rationale
Dasynotus	MIH/BI	All action alternatives include timber harvest and prescribed fire within the historical range of Dasynotus. Units 29, 38, 207, 212 and 213 include or are on the margins of known Dasynotus populations. This species is expected to benefit from both canopy and soil disturbances, including planned timber salvage operations.
Deer Fern	MIH	No planned activities in known population(s). Known or suspected populations are expected to be protected by application of default PACFISH buffers. The possibility exists that some unknown populations may occur outside of riparian habitats within planned treatment areas. Regeneration harvest or prescribed fire occurring on upland sites containing deer fern would likely kill individual plants in the treatment areas.
Evergreen Kittenail	MIH/BI	The Van Camp population is located near a planned underburn (Unit 214) and a regeneration harvest (Unit 186). The Brush Hill population is at the edge of a regeneration harvest (Unit 59). All alternatives include Unit 59; Alternatives 2, 3, 3a, 5 and 6, include prescribed burning in Unit 214. Only Alternative 2 includes timber harvest planned in Unit 186. The actual effect of development (i.e., canopy opening, reduced competition from shrubs/trees, and soil disturbance) is unknown. Creating openings in the forest canopy is expected to benefit this species (as evidenced by known occurrences in timber harvest units and road cuts). The Glade Creek population would not be affected by any planned action.
Gold-Back Fern	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Green Bug-On-A-Stick	No Impact	The one known occurrence of this species within the NLF project area is in an upland location on a northeast aspect at the extreme northeast margin Unit 48 (included in Alternatives 2 through 6). Though confirmed in other watersheds surrounding NLF, it is likely that more than one population occurs in the NLF. Because only one sighting has been confirmed in the NLF, however, and because this location occurs within a planned treatment site, this population will be protected by buffering from disturbance. This action would: 1) Retain the decayed wood and shade required by this species and 2) Protect the only confirmed sighting of this species in the NLF.
Henderson's Sedge	MIH	Known populations occur near prescribed fire Units 23/229 boundary (LRNA), and between Units 212 and 213. Two other populations occur in noxious weed infestations (spotted knapweed in lower Nut Creek and meadow hawkweed in the west fork of Pete King Creek near Smith Saddle. Planned prescribed fire in the Lochsa RNA and Deadman Creek, may impact two known populations within the NLF project area. Both populations are located in a riparian areas that are unlikely to carry fire. Prescribed fire would be expected to retain riparian habitat conditions. Lichthardt and Moseley (1994, pg 54), stated that "...threat to sensitive species in this unit (Lochsa Conservation Unit) can be considered minor." Noxious weed control activities area expected to maintain Henderson sedge populations occurring in these infestations.
Icelandmoss	No Impact	Planned disturbances (low/mixed severity fire) in upper Fish and Hungery Creeks may improve habitat conditions for this species by opening the forest canopy and increasing understory shrub density. However, this species is believed associated with moist habitat shrubs (menziesi and Labrador tea) that are unlikely to burn except in extreme burning conditions.
Idaho Strawberry	MIH/BI	Responds favorably to increased light after harvest and light to moderate burns. Planned disturbances (regeneration harvest and low/mixed severity fire) are expected to improve habitat conditions for this species by opening the forest canopy, reducing vegetative competition and improving germination success.



Species	Determination	Rationale
Lance-Leaved Moonwort	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Leafless Bug-On-A-Stick	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Least Moonwort	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Licorice Fern	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Light Hookeria	MIH	The preferred habitat for this species is riparian areas associated with perennial to intermittent streams, or wet forest. The only known population in the NLF occurs on the margins of pre-commercial thinning Unit 270. These locations will be protected by application of default PACFISH buffers.
Maidenhair Spleenwort	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Mingan Moonwort	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Mountain Moonwort	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Naked Mnium	NI	Found in riparian areas, moist draws and seeps, this species would be protected by application of standard PACFISH buffers. Prescribed fires are neither planned nor expected to be applied when burning conditions are sufficiently dry enough to threaten riparian habitats where this species might reside.
Pacific Dogwood	MIH/BI	Road reconstruction is planned to access a helicopter log landing near the mouth of Bimerick Creek. Approximately 12 Pacific dogwood plants occur along this access road. The site has been reviewed and it is feasible to reconstruct the road without removing these plants. Engineering design and inspection of this project will be critical to assure these plants are fully protected during the project. Benefits similar to burning may be derived from the planned road reconstruction as number of the dogwood in this area are growing on or near soils disturbed by the original road construction into the site. Lichthardt and Moseley (1994, pg 54), stated that "...Management practices such as fire or conifer thinning might be applied to ... but injury to individual trees should be avoided when planning timber sales and road and trail maintenance." Planned disturbances (regeneration harvest and low/mixed severity fire) are expected to improve habitat conditions for this species by opening the forest canopy, reducing vegetative competition and improving germination success. Alternatives 2, 3, 3a, 5 and 6, also propose prescribed fire within the Lochsa Research Natural Area (LRNA). The purpose for this practice is to rehabilitate Pacific dogwood populations within the LRNA. Reducing competition from other shrubs and partially opening of the tree canopy may reduce micro-site humidity. This may improve local habitat conditions for established Pacific dogwood, thereby reducing their susceptibility to root and leaf diseases. This action is consistent with the "Conservation Plan for Cornus Nuttallii (Pacific Dogwood), in Idaho, 1991", pg 12 & 13. The prescribed fire plan would be jointly developed (as a minimum) by a qualified Pacific dogwood botanist, forest ecologist and fire manager.
Salmon-Flower Desert-Parsley	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Short-Styled Triantha	No Impact	Grows below seasonal high-water line along large streams and rivers. No activities are planned to occur in potential habitat.

NLF SEIS

Species	Determination	Rationale
Sierra Woodfern	NI	Grows below seasonal high-water line. Confirmed at Wilderness Gateway campground; may occur along Lochsa River. No NLF activities are planned in potential habitat.
Spacious Monkeyflower	MIH/BI	It is possible this species occurs in or near Unit 21. Promoting the open forest and grassland characteristics of this site using prescribed could improve or maintain habitat for this species.
Sticky Goldenweed	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.
Sweet Coltsfoot	No Impact	Suitable habitat neither present nor expected in or near the NLF study area.

**Table 2 - Biological Evaluation Summary - Sensitive Wildlife
North Lochsa Face SEIS**

Species	Determination	Rationale
Black-backed Woodpecker	MIIH* BI**	Endemic snag habitat will remain throughout NLF. Planned prescribed fire will improve habitat for this species by approximately 12,900 acres. Provisions for retention of standing and down large wood within planned timber harvest units will also provide for incidental use by this species.
Coeur d' Alene Salamander	No Impact	Suitable habitat not present within planned treatment areas. No direct or indirect effects to Coeur d'Alene salamanders or their habitat is expected
Fisher	MIIH	Planned project activities will reduce estimated available habitat by approximately 11% (from 21,400 acres to 19,200 acres). Prescribed silvicultural practices would promote more rapid tree growth (diameter and height) in younger stands of dense forest. In the long-term, vertical diversity (multi-storied canopy, snags, down logs, etc.) would increase and provide denning, resting and foraging habitat for prey species. The impacts are associated primarily with prescribed fire. No detectible effect on fisher populations or its respective habitats is expected. No substantive increases in current motorized access prescriptions are associated with this project. Planned road obliteration will reduce motorized access into some areas of potentially suitable habitat. The planned actions, when compared to existing patch size and historic timber harvest practices, would enhance the development of larger patches of older trees by: 1) Retaining patches (which include primarily mid-seral and late mature) and 2) Promoting increased tree growth in younger patches of dense forest.
Flammulated Owl	MIIH/BI	An estimated 5600 acres of suitable flammulated owl habitat would be treated. The rationale for habitat improvement for flammulated owl is based on the retention of: 1) A substantial amount of live, mature ponderosa pine and Douglas fir, and 2) Removal of smaller understory trees which would open the forest understory for hunting. The planned action, therefore, is expected to improve the suitability of these areas for flammulated owls.

NLF SEIS

Species	Determination	Rationale
Harlequin Duck	No Impact	Riparian planting is the only activity planned in or near harlequin duck habitat. This activity is not expected to impact harlequin ducks or duck habitat.
Northern Goshawk	MIH	Planned project activities will reduce estimated available habitat by approximately 9% (from 48,200 acres to 44,000 acres). Prescribed silvicultural practices would promote more rapid tree growth (diameter and height) in younger stands of dense forest. In the long-term, vertical diversity (multi-storied canopy, snags, down logs, etc.) would increase and provide denning, resting, nesting and foraging habitat for prey species. No detectible effect on goshawk populations or its respective habitat is expected. The impacts are associated primarily with prescribed fire. The planned actions, when compared to existing patch size and historic timber harvest practices, would enhance the development of larger patches of older trees by: 1) Retaining patches (which include primarily mid-seral and late mature) and 2) Promoting increased tree growth in younger patches of dense forest..
Western Toad	No Impact	Suitable habitat not expected within planned treatment areas. No direct or indirect effects to western toad or its habitat is expected
Wolverine	MIH	Suitable habitat would be improve by approximately 4% (increased from 15,100 acres to 15,700 acres). Although live trees and snags would be retained in these stands, the value of these stands to wolverine would be reduced from current conditions. Prescribed fire practices, however, are expected to improve rodent habitat. Rodent populations should locally increase as forest canopies are opened, promoting shrub and young tree growth. Timber harvest is currently limited to developed (roaded) portions of the Forest. No road development of designated roadless areas is being considered or implemented. Road obliteration, though largely outside of suitable wolverine habitat, would continue to benefit the restoration of Forest health (via improved water quality, reforestation and decreased motorized access). The potential to affect wolverine habitat, due to the Lewis and Clark Trail bi-centennial celebration is unclear at this time. The CNF is considering limiting access along this route for safety and resource protection. It is anticipated that increased human disturbance from this activity would be limited to the immediate trail corridor from July through September. Actions within the NLF would not alter current conditions or management actions related to snowmobiling and other winter recreation on the CNF.

**Table 3 - Biological Evaluation Summary - Sensitive Fish
North Lochsa Face SEIS**

Species	Determination	Rationale
Spring Chinook Salmon	MIH	Spring chinook salmon occur in Pete King and Fish creeks. Limited spawning has been documented in Pete King Creek; most likely from salmon supplementation efforts. Sediment primarily from prescribed fires, road obliteration and sediment trap stabilization will most likely cause short-term changes in substrate conditions through the introduction of sediment. Mitigation measures (as described for steelhead trout and bull trout within the BA), such as multiple entry prescribed burns, prescribed burn ignition sites outside RHCA's, implementation of default PACFISH riparian buffers adjacent to harvest areas, the obliteration of newly constructed roads after use, timing of road obliteration activities, erosion control measures associated with the road obliteration will minimize the amount of sediment expected to reach the streams. These measures, when considered in combination with long-term benefits from the project (road obliteration and riparian planting) supports the conclusion that the project is not likely to contribute to the federal listing of the species.
Westslope Cutthroat Trout	MIH	Westslope cutthroat trout occur in all of the project area streams. Sediment primarily from prescribed fires, road obliteration and sediment trap stabilization will most likely cause short-term changes in substrate conditions through the introduction of sediment. Mitigation measures (as described for steelhead trout and bull trout within the BA), such as multiple entry prescribed burns, prescribed burn ignition sites outside RHCA's, implementation of default PACFISH riparian buffers adjacent to harvest areas, the obliteration of newly constructed roads after use, timing of road obliteration activities, erosion control measures associated with the road obliteration will minimize the amount of sediment expected to reach the streams. These measures, when considered in combination with long-term benefits from the project (road obliteration and riparian planting) supports the conclusion that the project is not likely to contribute to the federal listing of the species.

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