Chapter 1: Purpose and Need

The Forest Service has prepared this Supplemental Environmental Impact Statement (EIS) on the potential effects of the vegetation and aquatic restoration projects in the North Lochsa Face project area (see Table 1-1) in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This Supplemental EIS discloses the direct, indirect, and cumulative environmental impacts and any irreversible or irretrievable commitment of resources that would result from the proposed action and alternatives.

Changes to Chapter One: Chapter 1 has been updated with a new format that includes a summary of the proposed action, a summary of the history of the project, additional information regarding the purpose and need for the project, information regarding Clearwater Forest Plan management direction, and update to the decision framework.

Summary

The Clearwater National Forest has developed a proposed action and a range of alternatives that are designed to:

- Manage forest vegetation to restore ecological structure, function, processes and composition; improve forest health; reduce the risk of uncharacteristically intense wildfire
- Control noxious weeds
- Improve aquatic conditions
- Improve growing conditions and resiliency in forest stands
- Support maintenance of desired vegetative characteristics in the Lochsa Research Natural Area
- Contribute timber products to the economy

The proposed action (Alternative 2) utilizes a variety of practices available to meet the vegetation restoration objectives. This includes prescribed fire, timber harvest and precommercial thinning to improve and restore ecological conditions, improve forest health and reduce the risk of high intensity wildfires; and an integrated pest management strategy that includes biological, mechanical and chemical treatment of noxious weeds to improve forest conditions. Aquatic management practices include road decommissioning, removal of sediment traps and riparian planting to improve aquatic conditions. Prescribed fire is proposed in the Lochsa Research Natural Area. Prescribed fire and timber harvest are proposed in the North Lochsa Slope Roadless Area and the

Lochsa Wild and Scenic River Corridor. The following would be accomplished under the proposed action (Alternative 2):

Table 1-1: Proposed Action (Alternative 2):

Vegetation Restoration	
✍ Regeneration harvest	2,860 acres
✍ Commercial thin	2,520 acres
✍ Removal of off-site ponderosa pine	2,220 acres
✍ Salvage harvest	465 acres
✍ Precommercial thinning	1,290
✍ Mixed severity burn*	5,485 acres
✍ Under burn	7,045 acres
✍ Chemical treatment of noxious weeds ✍ Manual treatment of noxious weeds ✍ Biological treatment of noxious weeds	16 sites; 500 acres 3 sites; 2 acres 4 sites; 260+ acres
Aquatic Restoration	
✍ Road decommissioning	66 miles
✍ Road long-term maintenance**	54 miles
✍ Removal of sediment traps	4 sediment traps
✍ Planting riparian areas	450 acres along Fish Creek; 150 acres along Pete King Creek
Other	
✍ Permanent road construction	1.1 miles
✍ Temporary road construction	3.7 miles

* Mixed severity burns result in a mosaic pattern of younger and older vegetation patches. They include a mix of low-intensity underburns, with patches of lethal, stand replacing fire. ** Long-term maintenance: roads are closed to motorized traffic and are placed in a condition to assure they are self-maintaining, with stable drainage.

Background

History: In January 1995 a team of Forest and District specialists started an assessment for the North Lochsa Face Landscape (see vicinity map in Appendix A). The assessment was completed in May 1996 (FEIS Project File, Document 1a). The assessment describes the ecological conditions of the North Lochsa Face area, focusing on structure, function and composition of the ecosystems. In addition, the assessment describes the social values associated with this piece of land. Opportunities to improve the landscape condition were identified based on the ecological conditions and social considerations.

In August 1996, a Notice of Intent was issued which started the scoping process for the North Lochsa Face environmental analysis. In June 1997 a draft Environmental Impact Statement (EIS) was issued. In June 1999 a Final EIS was issued. Two Records of Decision (ROD), the Recreation and Access Management ROD and the Vegetation and Aquatic Management ROD, were issued in April 2000 (Project File, Documents 1151, 1152 respectively).

The District Ranger adopted Access Option 3 in the Recreation and Access Management ROD. The decision delineated motorized and non-motorized recreational use by major stream drainage, based on social values combined with the suitability/capability of the

land to support different recreational experiences. Access Option 3 will maintain trail facilities, relocate and/or reconstruct problem trail stretches, provide road and trail signing and information, develop riding "loop" opportunities, and provide opportunities such as a range of challenging trail bike riding experiences. Friends of the Clearwater, Land and Water Fund of the Rockies, and the Nez Perce Tribal Executive Committee appealed this decision. The Regional Forester affirmed the Recreation and Access Management ROD in July 2000.

The Forest Supervisor adopted Alternative 3a *modified* in the Vegetation and Aquatic Management ROD. Alternative 3a includes the actions described in Final EIS Alternative 3a and additional underburning and prescribed burning in the Fish and Hungery Creek drainages as described in Alternative 3. The Friends of the Earth, Resource Organization on Timber Supply, Nez Perce Tribal Executive Committee, and the Land and Water Fund of the Rockies appealed this decision. In July 2000, the Regional Forester *reversed* the decision and directed the Forest Supervisor to prepare a Supplemental EIS that clarifies the environmental analyses related to road obliteration effects.

New Supplemental EIS: This Supplemental EIS is being prepared in response to the Regional Forester's decision to reverse the Vegetation and Aquatic ROD. Therefore this Supplemental EIS only addresses the decisions to be made regarding vegetation and aquatic management. The decision relating to the Recreation and Access Management has been made and the Regional Forester affirmed that decision; therefore it will not be revisited.

This Supplemental EIS is being prepared in response to the Regional Forester's decision to reverse the Vegetation and Aquatic ROD. Therefore this Supplemental EIS only addresses the decisions to be made regarding vegetation and aquatic management.

Project Area Description

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 (CNF). It lies between Highway 12 and the Lolo Motorway (Forest Road 500) just north of the small communities of Lowell and Syringa, Idaho. Lewiston, Idaho is 95 miles west of the area on Highway 12; the Nez Perce Indian Reservation, headquartered in Lapwai, adjoins the Forest to the west; and Missoula, Montana is 130 miles to the east. The Lochsa River, a designated Wild and Scenic River, runs alongside Highway 12. The project area includes Fish, Pete King, Deadman Creek, Bimerick, Apgar, Glade and Rye Patch Creeks.

The area is relatively isolated and undeveloped. However, U.S. Highway 12, the only highway in central Idaho that connects Washington and Montana, carries a great deal of traffic year-round. It is the primary route for trucks hauling grain, logs and other products from Montana and the northern tier of states, as well as southern Canada, to the

shipping port of Lewiston. Recreation traffic on this highway, especially in the summer, can be heavy.

Two small communities, Lowell and Syringa, Idaho lie at the southern tip of the analysis area. Lowell offers places to stay and a restaurant for highway travelers and tourists. Within a 60-mile radius of the analysis area lie the towns of Kooskia, Kamiah, Grangeville, Orofino, Pierce, Weippe, and Stites. All are primarily timber-dependent communities, whose economies are directly affected by National Forest management. The analysis area is within Idaho County, but any activity in the analysis area could also affect those communities within adjacent Clearwater and Lewis Counties. It is a diverse landscape that offers a variety of experiences for the forest user.

The Lochsa Research Natural Area is located within the project area. The area contains a number of vegetation types that more typically occur in the Cascade Mountains, including Pacific dogwood (*Cornus nuttallii*) and at least 13 other plant species that are rarely found in inland locations. The Lochsa River, a Wild and Scenic River, is located on the eastern boundary of the project area. The area was designated as a Wild and Scenic River because of its scenery, recreation, and fish and wildlife. The Fish and Hungery Creek watersheds were identified as eligible Wild and Scenic Rivers in an amendment to the Clearwater Forest Plan (Amendment #2). A major portion of the North Lochsa Slope Roadless Area #1307 is located within the analysis area. Congress considered portions of this roadless area for wilderness in 1993 and 1994. Portions of the Lolo Trail National Historic Landmark also lie within the project area. This nationally designated historic landmark contains portions of the route used by the Lewis and Clark expedition as they crossed the Rocky Mountains to and from the Pacific Ocean in 1805 and 1806; segments of the trail used by the Nez Perce and U.S. Army during the war of 1877; and a prehistoric route used by native Americans to travel to the plains of Montana for buffalo hunting. Several sites relating to these historic and prehistoric events, among others, are located within this National Historic Landmark, and designation as a National Historic Landmark carries special management and coordination responsibilities. The area contains important sites and resources of traditional interest to the Nez Perce Tribe.

Over half of the project area burned between 1910 and 1934. These fires shape the landscape and vegetative patterns that exist today.

The Endangered gray wolf and Threatened Canada lynx are suspected to occur in the project area. Bald eagles are a winter resident along the Lochsa River. The Threatened bull trout is located throughout the Lochsa River subbasin, with major populations located in the upper Lochsa River drainage. Spring chinook salmon is found in the Lochsa River, and Threatened fall chinook salmon is found in the mainstem of the Clearwater River. Threatened Snake River Basin steelhead is located within the Clearwater River Basin. The project area includes habitat for one of the most famous and most studied elk populations in Idaho. Flammulated owl, northern goshawk, harlequin duck, belted kingfisher, moose, and pileated woodpecker are known to inhabit the project area. The project area also includes several sensitive plant species.

Management Direction

The Clearwater National Forest began implementation of the Forest Land and Resource Management Plan (Forest Plan) in September 1987. The Forest Plan, associated Forest Plan amendments, accompanying Final EIS, and ROD specify the overall direction under which the Forest will be managed. It sets forth the general direction for managing all of the Forest resources, and consists of both Forest-wide and area-specific goals, standards, and guidelines that provide for land uses with anticipated resource outputs. This Supplemental EIS tiers to the Forest Plan EIS and documents the analysis of the second level of planning, Forest Plan implementation, for the North Lochsa Face. The Clearwater Forest Plan divides the National Forest into 17 Management Areas (MAs). Each MA has its own goals and standards. A brief description of the Management Area direction pertinent to the proposed activities is displayed in Table 1-2.

Table 1-2: Forest Plan Management Area (MA) Descriptions for Proposed Vegetative Treatment Areas

A4 Foreground Viewing Areas (Forest Plan, Vol. 1, pp. III11-14): *Description:* This area consists of narrow corridors of land within foreground viewing area (generally ½ mile or less in width) of designated roads and trails and around lakes and developed recreational sites considered important for recreational travel and use. *Goal:* Manage to maintain and enhance an aesthetically pleasing natural appearing Forest setting around roads, trails and areas of concentrated public use.
A6 Historic Trail Corridor (Forest Plan, Vol. 1, pp. III 19-23): *Description:* This area consists of a corridor approximately ½ mile in width (1/4 mile on either side) that encompasses the historic Lolo Trail system which includes: the Lolo Trail, Nee-Me-Poo Trail, Lewis and Clark Trail, Bird-Traux Wagon Road, and Lolo Motorway. *Goal:* Manage to provide opportunity for recreational activities oriented to traveling over, understanding and appreciating the route as a historic travel route. Ensure prehistoric, historic and archeological sites are studied, preserved or protected.
A7 Wild and Scenic River Corridor (Forest Plan, Vol. 1, pp. III 24-31): *Description:* This area consists of the Lochsa "recreational" river as designated under Public Law 90-542 of the Wild and Scenic River System. *Goal:* Protect and enhance scenic values, cultural values, water quality, big game, non-game, and fishery habitats with special emphasis on the anadromous fishery.
C3 Big Game Winter Range (Forest Plan, Vol. 1, pp. III 43-46): *Description:* Big game winter range located generally on steep breaklands on south exposures supporting browse stands. *Goal:* Provide winter forage and thermal cover for big game.
C4 Big Game Winter Range/Suitable Timber Land (Forest Plan, Vol. 1, pp. III 47-49): *Description:* Big game winter range located generally on steep breaklands on north aspects supporting a mixture of browse and trees. *Goal:* Manage big-game winter range to provide sufficient forage and cover for existing and projected big-game populations and achieve timber production outputs.
C6
C8S Big Game Summer Range (Forest Plan, Vol. 1, pp. III 53-56): *Description:* Big game summer range and where applicable high fishery stream values. *Goal:* Maintain high quality wildlife and fishery objectives while producing timber from the productive Forest land.
E1 Timber (Forest Plan, Vol. 1, pp. III 57-60): *Description:* Timber producing land to be managed for healthy timber stands to optimize potential timber growing. *Goal:* Timber production to be cost effective and provide protection of soil and water quality.
M1 Research Natural Areas (Forest Plan, Vol. 1, pp. 64-67): *Description:* Existing and proposed research natural areas (Lochsa Research Natural Area). *Goal:* Maintain in natural and undeveloped condition.
US Unsuitable Lands (Forest Plan, Vol. 1, p III-74): *Description:* Non-forest land, noncapable timberland, and land with regeneration limits. *Goal:* Manage to maintain and protect soil and watershed values and vegetative cover.

In addition, the Clearwater National Forest signed a Stipulation Agreement, which was issued as a result of a settlement agreement between the Clearwater National Forest and the Wilderness Society, et al. on a lawsuit on the Clearwater Forest Plan (Project File, Document 732). The Stipulation Agreement includes the following direction that applies to the North Lochsa Face environmental analyses:[1]

> 2a. The Forest Service agrees to not approve any timber sale or road construction project decisions within the area covered by the proposed "Idaho Wilderness, Sustainable Forest and Communities Act of 1993, H.R. 1570".
>
> 2c. The Forest Service agrees to prepare an EIS for any proposed timber harvest or new road construction projects that will directly affect field verified old growth stand of 100 acres or more. Field verification will occur for all timber harvest and new road construction projects.
>
> 2d. The Forest Service agrees to only proceed with those projects that would result in no measurable increase in sediment production in drainages currently not meeting Forest Plan sediment standards. The Forest Service also agrees, as budgets permit, to repair or correct known sediment sources, on Forest Service lands within these drainages if technically feasible.

North Lochsa Landscape Assessment

The North Lochsa Landscape Assessment (Project File, Document 1a) evaluated the ecological conditions within the Pete King, Rye Patch, Canyon, Apgar, Glade, Deadman, Bimerick, Fish, Hungery and small, unnamed face drainages. The Interdisciplinary (ID) team evaluated the existing conditions and compared those conditions to historical conditions. The historical conditions did not represent one point in time, but were based on a range of conditions that would be expected for a given landtype association.

Landtype Associations (LTAs) are key to understanding the ecological conditions and capabilities of the landscape. Forest vegetation develops through ecological processes that are constantly undergoing change. Some of these processes include changes in soils, weather, and disturbances. Other processes involve the development of the vegetation itself, depending on whether an area contains young or old trees, or whether a particular type of vegetation can occupy a given site. To describe the structures, functions and composition of the North Lochsa landscape and the processes at work the area was described by LTAs. LTAs display similar potential natural vegetation, hydrology, nutrient cycling, successional change in vegetation, productivity, and fire frequency and severity.

[1] Project File, Document 733 documents how the forest interprets specific elements of the Stipulation Agreement and has been used since October 1993 to provide project guidance on implementation

There are five general categories of Landtype Associations within the 128,000-acre planning area. These include:

- Breaklands: steep aspects along rivers and major streams
- Colluvial midslopes: transition areas between the steep breaklands and more gentle, rolling uplands.
- Old surfaces: more gentle rolling uplands
- Frost churned ridges: higher elevation sites, occurring primarily along the Lolo Motorway
- Stream terraces: stream bottoms and meadows and found in lower Pete King drainage and Fish Creek drainage.

The ID team spent considerable effort in understanding and characterizing the role of wildfire and aquatic functions in each of the LTAs. They reviewed extensive vegetation inventory data to determine how vegetation types, patterns, successional stages and disturbance processes relate to the various landtype associations.

The ID team evaluated stream conditions and identified causes for stream sediment. They identified stream segments that had substantial cover removed through the fires early in the century. They evaluated landslides that had occurred in the landscape and determined the causes. The team reviewed and evaluated monitoring and research data, as well as on-the-ground conditions, to determine where activities could be placed without increasing the risk of landslides.

> The project was developed under the assumption that if ecosystem components are maintained within historical ranges, then species associated with these Landtype Associations will also be maintained.

The ID team identified existing conditions, the historic conditions that would be expected on the landscape and evaluated where there were major differences. Based on these concepts and differences the ID team identified management opportunities to move the landscape towards a more sustainable, resilient condition. These opportunities were further developed into site-specific actions as described in Alternative 2, the Proposed Action.

Findings from the North Lochsa Landscape Assessment and Basis for Purpose and Need

There is a need to improve forest health, reduce the risk of severe wildfire and maintain and restore ecological processes, function, structure and composition.

The North Lochsa Face Landscape Assessment and the EIS vegetation analysis (see Project File Vegetation Section) identified three distinct forest health conditions. These conditions include:

- Overstocked stands and changed tree composition in fire-dependent communities resulting in areas at high risk of catastrophic fire;
- Landtype associations that have forest vegetative composition skewed outside the natural range of variation; and
- Off-site ponderosa pine that was planted in Bimerick Creek resulting in unhealthy vegetative conditions.

The following table describes the existing condition, compared to the natural process and function of each LTA. It also identifies the management opportunities that could be used to bring the existing condition closer to the historic condition of the LTA. See Appendix A for a map showing locations of these LTAs.

Table 1-3: Breaklands; LTAs 21A, 21B, 21C, 23A, 23B, and 23C

LTA	Existing Condition	Characterization of the LTA	Management Opportunity
LTAs 21A/23A: Highly weathered, granitic breaklands High energy Thin soils	Shrubfields dominate dry sites Dominated by Douglas-fir on moister sites One to three fire intervals missed Tree densities higher than historical More uniform conditions Fire regime: lethal Risk of large catastrophic fire high	16% of analysis area Fire regime: mixed frequent 26-50 years. Low intensity to lethal Soils: thin, highly weathered granitic Dry sites – high energy Dryer habitats – open with seral fire-adapted species	Mimic low intensity and mixed severity fire to (1) change the composition, size, and number of smaller trees; (2) reduce accumulation of dead wood and the potential for patches to support large, severe fires
LTA 21B/23B Highly weathered, granitic breaklands High energy Deep soils	Dominated by Douglas-fir, grand fir Higher amount of climax species, Higher fuel loads than natural ¾ burned since 1910/1934 Repeated fires created shrubfields	10% of the analysis area Fire regime: Mixed, infrequent 50-100 years Mosaic of even and uneven-aged Douglas-fir, western larch, ponderosa pine, and grand fire Fuels: 15-25 tons per acre Patch size:10 to 30 acres; up to 200 acres	Mimic mixed severity and patch-lethal fires by: (1) changing composition, size, and number of smaller trees; (2) reducing accumulation of dead wood; (3) replacing the patch at approximately historic disturbance levels

LTA	Existing Condition	Characterization of the LTA	Management Opportunity
LTA 21C/23C Highly weathered granitic breaklands Low energy Deep soils	94% burned since 1910 Dominated by Douglas-fir, grand fir, western red cedar Still within natural range of variability	7% of analysis area Fire regime: lethal, 75-100 yr intervals North and east facing breaklands More continuous canopy than high-energy south facing breaklands Grand fir and western red cedar common	Mimic lethal fires by replacing the patch at approximately historic disturbance intervals. Thin to mimic historic stocking levels.

LTA 21A/23A: LTA's 21A and 23A are two of the major LTAs within the analysis area, comprising 16 percent of the area. These LTAs are characterized by high-energy breaklands with thin soils. They are located along the steeper canyons and contain some of the driest sites within the analysis area. The primary ecological process is a mixed fire regime ranging from low intensity underburns to stand-replacing lethal burns, occurring at intervals of 26 to 50 years. Historically stands tended to be open with early seral fire adapted species, such as ponderosa pine and Douglas-fir. The age class distribution included even-aged and uneven-aged patches of various sizes western redcedar. Grand fir cover types were found primarily in riparian areas and moist inclusions such as seeps and draws.

Intense large fires during the first part of the century impacted the majority of this LTA. Most of the acres burned in 1919 and 1934. Currently this LTA is dominated by densely stocked Douglas-fir with lesser amounts of grand fir, western redcedar and other species. The majority of the vegetation is less than 75 years old. Older trees are found as scattered remnants. There have not been any significant fire disturbances since 1934. This has resulted in forest vegetation with increased ground and ladder fuels, denser stands of small diameter trees and stand conditions that favor shade intolerant tree species. The forest vegetation is more uniform than historic conditions due to suppression of the mixed severity, frequent fires that maintained a diverse structure and composition. Due to fire suppression the risk of a large catastrophic fire is high and the fire regime has changed toward more lethal stand replacement fire than the historical mixed severity fire.

The desired condition is a landscape that supports non-lethal to mixed severity burns, which result in diverse vegetative conditions including patches of old, remnant trees, middle-aged trees and regeneration. As frequent fires pass through some small trees are killed, new trees become established, some mid-story trees are killed and occasional remnant trees die. The accumulation of dead wood is relatively low, due to frequent fire, and averages 10 to 15 tons per acre, mostly in material over six inches in diameter. There is little fluctuation in dead wood on site. Fires that consume some of the dead material on the ground also kill a few more trees that begin the process of breakdown and decomposition.

Management practices are designed to mimic low intensity and mixed severity fire by changing the composition, size and number of smaller trees and reducing the

accumulation of dead wood and the potential for these patches to support large, severe fires.

LTA 21B/23B: LTA's 21B and 23B comprise 10 percent of the analysis area. They occur on high-energy breaklands and have an intact volcanic ash cap and deeper soils. The primary ecological process is a mixed fire regime ranging from low to moderate intensity fire at intervals of 50 to 100 years.

Nearly three-quarters of LTA 21B burned from 1910 to 1934. Shrub fields, with scattered remnant trees and low numbers of young trees, dominate areas that were burned in 1910 and again in 1934. The cover types on these LTAs are dominated by Douglas-fir and grand fir, with lesser amounts of western redcedar, subalpine fir, ponderosa pine, western larch, lodgepole pine, and western white pine. Most of the vegetation is less than 75 years old. There have not been any major disturbances since 1934. Outside of the shrubfields, stocking levels are higher than what would be expected under a mixed fire regime. More early seral species would have been maintained, or established, as a result of the continuing natural role of fire on the landscape. Late seral species are now more common and high intensity fires could result due to higher fuel loadings, presence of ladder fuels and increased mortality during stress conditions such as drought.

The desired condition is a landscape in which forested patches are a mosaic of even and uneven-aged stands of Douglas-fir, western larch, ponderosa pine, and grand fir, with scattered large, old trees. Typical patch size averages 10 to 30 acres, but may range up to 200 acres. Dead wood on this LTA varies a little more than that on the previous LTA. Standing dead wood is at its highest level just after a disturbance, when a few large trees, and many small trees have been killed. As time passes, many of those trees fall over, and contribute to the wood on the ground that is becoming a part of the soil. Dead wood on the ground is at a low point immediately after a fire, because much of it is burned. The accumulation of dead wood is moderate and averages 15 to 25 tons per acre. .

Management practices are intended to mimic mixed severity fires by: 1) changing the composition, size, and number of smaller trees; 2) reducing the accumulation of dead wood; and 3) replacing the patch at approximately historic disturbance intervals.

LTA 21C/23C: LTA's 21C and 23C comprise 7 percent of the analysis area. These LTAs occur on low energy, granitic breaklands, with deep soils. Due to cool, moist aspects and deep volcanic ash soils, productivity is moderate to high. The primary ecological process is a lethal fire regime occurring at intervals of 75 to 150 years.

Historically a more continuous tree canopy occurred on these LTAs compared to the high energy, south-facing breaklands. Grand fir and western redcedar are common forest types but Douglas-fir dominated these sites up to 100 years after fires. Most of these LTAs burned in 1910. Very little fire originates in these LTAs. Fire typically moves in from dry LTAs such as south-facing breaklands. Fire suppression has not had a significant direct impact on these LTAs. Currently these LTAs are dominated by Douglas-fir, grand fir, and western redcedar with lesser amounts of subalpine fire, lodgepole pine, ponderosa pine, western larch, and western white pine. The majority of

the vegetation is less than 75 years old. The risk of large fires occurring in this LTA is low, in spite of changes in vegetation that has occurred in adjacent drier breaklands.

Forests over 60 years old, are expected to comprise 35 to 65 percent of these LTAs. The accumulation of dead wood is moderate over the fire interval and averages 20 to 30 tons per acre, mostly in larger material.

Management practices are intended to mimic lethal fires by replacing the patch at approximate historic disturbance intervals, or stem exclusion processes by thinning to appropriate stocking levels.

On the breaklands there is a need to reduce the risk of severe or intense fires by reducing dense understories and favoring early seral, fire-adapted species. This would not change the risk of a fire occurring, but would change the intensity of how the fire would burn, resulting in an ecosystem more resilient to catastrophic fires.

Table 1-4: Colluvial Midslopes; LTAs 61 and 63

LTA	Existing Condition	Characterization of the LTA	Management Opportunity
LTA 61/63 Highly weathered granitic Colluvial mid-slopes	65% burned between 1910 and 1934 More western redcedar, grand fir and Douglas-fir in understory Stand densities higher than historically, especially on drier sites More uniform condition Root rot mortality increasing	12% of analysis area Transition zone between steeper, granitic breaklands and low-relief old surfaces Fire regime: low intensity to stand-replacing 75-150 yr intervals Fires more frequent, mixed severity where adjoining breaklands Less frequent, higher severity where adjoining old surfaces Patch size variable, ranging from 10 to 200 acres. Ponderosa pine, Douglas-fir and western larch on south and west aspects. Grand fir, western redcedar more prevalent on north and east aspects	Retain forest character that mimics the full range from low intensity to lethal firs as well as natural thinning processes by (1) limiting the accumulation of dead wood (2) changing the composition, size and number of smaller trees; (3) replacing the patch at approximately historic disturbance levels.

LTA 61/63: LTA's 61 and 63 represent 12 percent of the analysis area. These LTAs represent a transition zone between the steeper, granitic breaklands and the low-relief old surfaces. The primary ecological process is a mixed fire regime from low intensity to stand-replacing, occurring at intervals of 76 to 150 years.

Early seral species were historically maintained on these sites with fire. Fires would normally burn more intensely where fire intolerant species became established over time, and less intensely in areas where fire-tolerant seral species occurred. Grand fir and western redcedar were more prevalent on north and east aspects, with species, such as ponderosa pine, Douglas-fir and western larch on south and west aspects. In the past fire

created a mosaic of burned and unburned patches of various ages on warm aspects that were occupied by species such as Douglas-fir, western larch, and to a lesser extent, western white pine.

Large fires have impacted the colluvial slopes since the turn of the century, but to a lesser degree than in the breaklands. Approximately 65% burned between 1910 and 1934. Fire occurrence over the last 40 years has been high, but fire suppression has been very effective with none of the fires becoming large. Vegetation changes due to fire suppression are becoming more evident. Fire suppression has allowed more western redcedar, and grand fir to fill the understory in locations adjacent to the breaklands. This has resulted in lower crowns and reduced dominance of early seral species. On moister sites, fire suppression has not altered the vegetation to a significant extent. Stand densities currently are higher than historical levels in drier locations. Overall, conditions are more uniform than past levels due to suppression of the mixed infrequent fires that maintained a diverse structure and composition of forest types. The risk of large fires occurring in these LTAs is high due to changes as a result of fire suppression over the last 60 years.

The desired condition is one in which a variety of ecological processes are occurring including low intensity fires to lethal, stand replacing fires, as well as natural thinning of the understory. Currently the colluvial midslopes are more uniform and tree density higher than occurred historically.

On colluvial midslopes there is a need to restore forest composition, structure and processes by mimicking the full range of ecological conditions from low intensity to lethal, stand replacing fires, as well as natural thinning processes. Management practices designed to achieve restoration include: 1) limiting the accumulation of dead wood; 2) changing the composition, size and number of smaller trees; and 3) replacing the patch at approximately historic disturbance intervals.

Table 1-5: Frost Churned Uplands; LTAs 71B and 71C

LTA	Existing Condition	Characterization of the LTA	Management Opportunity
LTA 71B/71C Highly weathered Granitic Frost Churned Ridges Dry & Ridges Moist/Wet	72% burned between 1910 and 1934 Fire suppression has not had a significant impact at the stand level, but has prevented landscape level changes Dominated by subalpine fir, with lesser amounts of lodgepole pine, Douglas-fir	17% of analysis area Upper slopes, ridges High energy slopes within the subalpine fir zone Fire regime: lethal, infrequent 76-150 intervals; 100-200 years on LTA 71C Patch size 100 to 500 acres; 500 to 1000 acres LTA 71C Lodgepole pine maintained over long periods of time	Mimic lethal fires by replacing patches at approximately historic disturbance levels

LTA 71B/71C: LTA's 71B and 71C represent 17 percent of the analysis area. LTA 71B occupies upper slopes and ridges and high-energy slopes within the subalpine fire zone. LTA 71C occurs adjacent to 71B on the cooler, moister aspects. The primary ecological processes within both LTAs is high intensity wildfires occurring at intervals of 76 to 200 years, along with periodic mountain pine beetle attacks, windthrow and stem breakage.

Historically, lodgepole pine is maintained on these sites over long periods of time. As stands approach climax, subalpine fir becomes the predominate species which is replaced by lodgepole pine after a lethal wildfire. Large fire activity from 1910 to 1934 affected approximately two-thirds of these LTAs. These were mostly stand replacement fires.

Currently these LTAs are dominated by subalpine fir, lodgepole pine, grand fir, and Douglas-fir, with lesser amounts of mountain hemlock, ponderosa pine, western redcedar, western larch and western white pine. The majority of the vegetation is less than 120 years old. Subalpine fir is being infested with balsam wooly adelgid and there has been notable mortality in fir of all ages. Until biological controls are found for this insect, it is not likely that subalpine fir can be maintained as a major stand component. A higher fire risk and more intense fire behavior can be expected on sites with abundant subalpine fir.

The desired species is lodgepole pine in either pure or mixed species patches. Instead, subalpine fir dominates 47 percent of the area, and lodgepole pine only 18 percent. Little management activity has occurred in these LTAs.

There is a need to mimic lethal fires by replacing patches at approximately historic disturbance levels. There has been little disturbance over the last 70 to 90 years; therefore it is timely to create patches that resemble the ecological processes inherent to this LTA.

Table 1-6: Old Surfaces; LTAs 81A, 81B, 83A and 84A

LTA	Existing Condition	Characterization of the LTA	Management Opportunity
LTA 81A Granitic Old Surfaces Non-Umbric	51% burned in LTAs 81A, 81B, 83A, 84A Fire suppression has had little effect on individual stands, but has prevented landscape level changes Dominated by grand fir, western redcedar, Douglas-fir Diplodia blight is present in Bimerick Meadows. Host species Is ponderosa pine Ponderosa pine planted by the CCCs in Bimerick	16% of analysis area Occurs on rolling upland old surfaces Headwaters of all major drainages Fire regime: lethal, infrequent, 150-300 yr intervals Non lethal underburning occurred in small isolated patches on a 50 to 150 yr interval Moist to wet western redcedar, grand fir habitats. Historically contained some areas of western white pine	Mimic lethal fires and natural thinning processes by (1) changing the composition, size and number of smaller trees; (2) relaying the patch at approximately historic disturbance intervals; (3) maintaining historic patch sizes of about 1000 acres

LTA	Existing Condition	Characterization of the LTA	Management Opportunity
	Meadows is from non-native sources.		
LTA 83A Old surface Alluvium and Palouse soils	Not affected by large fires early in the century 26% has been intermediate harvest 15% regenerated to western white pine, western larch and Douglas-fir	3% of analysis area Fire regime: lethal, non-frequent 150-300 yr intervals Much larger areas of the grand fir cover type than LTA 81A.	Restore appropriate species composition in Bimerick Creek by removing off-site species and replanting
LTA 84A Border zone Old surfaces Non-Umbric	22% of the area previously harvested	5% of analysis area Similar to 81A but occurs on Border zone metasediment old surfaces on rolling uplands.	
LTA 81B Granitic Old surfaces - Umbric	Dominated with grand fir, subalpine fir, Douglas-fir, and western redcedar	14% of analysis area Grand fir mosaic Fire regime: lethal, very infrequent 150-300 yr intervals Similar to other old surfaces. Mosaic of trees with alder, bracken fern, and coneflower growing within interspersed stands openings.	

LTAs 81A, 81B, 83A and 84A: These LTAs comprise approximately 38 percent of the analysis area. These LTAs occur on rolling upland old surfaces with granitic parent materials. They are found in the headwaters of all major drainages in the analysis area. The primary ecological process is a lethal, very infrequent fire regime, with return intervals of 150 to 300 years. Patch sizes range from small openings to 1000 acres in size.

Historically, LTA 81A contained some areas of long-lived stands of western white pine, with climax species becoming more prominent as the stands aged. Old surface LTAs contain the majority of the old growth with the North Lochsa Face area because of lack of disturbance over long periods of time.

Large fire activity from 1910 through 1934 affected about 51 percent of the old surface LTAs. These were mostly stand-replacement fires. Currently the LTAs are dominated by grand fir, western redcedar, and Douglas-fir, with lesser amounts of subalpine fir, ponderosa pine, lodgepole pine, western white pine, and western larch. Western white

pine has declined due to mortality caused by white pine blister rust. In addition, past timber harvest has left 15 to 40 acre patches, but those patches are generally larger than would be created from insect and disease process (1/4 to 5 acres), and smaller than stand replacing events due to fire (1,000 acres or more).

After the 1934 fire, the Civilian Conservation Corps (CCCs) planted ponderosa pine (primarily), Douglas-fir, and spruce in the Bimerick Creek drainage and Boundary Peak areas. These trees were mainly planted on old surfaces. Ponderosa pine were not the species that would have naturally regenerated here, and the tree seedlings came from distant sources, including the Bitterroot, Cabinet, Chelan, and Deschutes National Forests. Recent research has shown that these species are genetically adapted to specific elevations and geographic areas. This stock was not matched to the planting sites with those criteria. As a result, these trees exhibit poor form and are slower growing than those from local seed sources. Also, they are now falling victim to diseases (particularly *Diplodia* blight) that would normally not affect trees of this age. Root rots, blights, needle casts, and insect infestations have all been observed. As these trees contribute to the gene pool, they put future generations at risk for increased levels of insects and diseases.

The desired condition includes small patches of early seral trees along with large, 1000-acre plus patches of older trees. Patches of trees older than 160 years are expected to dominate 20 to 40 percent of these LTAs, and patches of mature forest, 100 to 160 years old are expected to occupy another 20 to 35 percent.

There is a need to restore ecological composition and function by removing the off-site ponderosa pine, Douglas-fir and spruce and replanting with species that are adapted to the ecological conditions of the area. In addition, there is a need to change the composition, size and number of smaller trees as well as maintaining historic patches of about 1000 acres. There is a need to mimic lethal fires by replacing the patch at approximately historic disturbance levels.

Table 1-7: Stream Terraces; LTA 10A

LTA	Existing Condition	Characterization of the LTA	Management Opportunity
LTA 10A Stream terraces	Within range of variability. Most of the western redcedar forest is still missing due to the early 1900 fires	1% of analysis area Ave fire return interval 300 yrs. Long lived western redcedar forest and wet meadows Abundant moisture	Maintain stable characteristics of plant communities. No activities, except riparian planting and prescribed burning are proposed in this LTA.

There is a need to manage for forest vegetation conditions that are more suitable to a fire-dependent ecosystem. In the long-term this would be done by a) encouraging more resilient and sustainable forest conditions; b) improving tree species composition and structure of selected stands through timber harvest and application of prescribed fire; and

c) utilizing vegetative management practices to emulate historical landscape disturbances and forest processes.

In addition, the landscape analysis found elk habitat to be declining due to advancing forest succession shading out preferred forage species. Forest Plan goal #5a (Forest Plan, p II-3) is to "Provide habitat for viable populations of all indigenous species." Forest Plan goal #5b (Forest Plan, p II-2) is to "Maintain, and where appropriate, improve the winter and summer habitat over time to support increased populations of big-game wildlife species. A large amount of the project area is located in management areas where elk habitat (big game summer and winter range) is emphasized."

There is a need to improve growing conditions and resiliency for overstocked forest stands.

High stocking levels, especially on the drier LTAs, have led to limited availability of sunlight, water and nutrients for individual trees, predisposing them to insect and disease problems and increased fire risk. Existing shade-tolerant species are more sensitive to water deficits, whereas, moderately stocked stands having a high percentage of early seral species are more resilient when faced with water deficits, insects, diseases, or fire. ***There is a need to reduce stand densities and favor early seral species that are more resilient***.

There is a need to control noxious weeds.

Forest Plan goal #16b (Forest Plan, p II-4) states "Manage National Forest resources to prevent or reduce serious long lasting hazards from pest organisms utilizing principles of integrated pest management.

Noxious weeds are those plants that have been designated by federal, state, or county officials as such. In *Weeds of the West* by Whitson et al.(1992) a weed is defined as, " A plant that interferes with management objectives for a given area of land at a given point in time." The Idaho Noxious Weed Law defines a "noxious weed" as any exotic plant species that is established or that may be introduced in the State, which may render land unsuitable for agriculture, forestry, livestock, wildlife, or other beneficial, uses and is further designated as either a State-wide or County-wide noxious weed (Idaho Code 24 chapter 22). Primary concerns are generally expressed as losses in commodity yield or interferences of land use. However, impacts of these invasive non-native plants to ecosystem function and health are becoming increasingly important.

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 (Quigley and Arbelbide 1997). 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.

On the Clearwater National Forest, travel-ways (roads and trails) are the main seed depositories and transportation corridors for invasive/non-native plant species. Given the nature of use of the travel-ways within the analysis area, it would be safe to assume that all roads and trails have at least one invasive/non native weed species established on them.

Surveys conducted along U.S. Highway 12 documented Spotted knapweed (*Centaurea maculosa*) present continually from Kooskia to Lolo Pass, with scattered patches of Canada thistle (*Cirsium arvense*), Meadow hawkweed (*Hieracium pretense*), Scotch broom (*Cytisus scoparius*), Common crupina (*Crupina vulgaris*), St.Johnswort (*Hypericum perforatum*), Dalmation toadflax (*Linaria genistifolia ssp. dalmatica*), Field bindweed (*Convolvulus arvensis*), and Scotch thistle (*Onopordum acanthium*). *It should be noted that the Idaho Department of Transportation currently manages noxious weeds along the Highway 12 corridor.* Also documented were two potential invaders, Sulfur cinquefoil (*Potentilla recta*) and Perennial peavine (*Lathyrus latifolius*). Sulfur cinquefoil is the only species present that is known to persist under a forested canopy. It is not yet a listed Noxious Weed species in Idaho, but is considered a serious threat to big game winter range habitat.

In 1995, FS Road 101 was surveyed from U.S. Highway 12 to Mex Mountain. This survey revealed spotted knapweed present almost continually on both sides of the road as well as scattered infestations of Dalmation toadflax, Canada thistle, Perennial peavine, St. Johnswort and Orange hawkweed (*Hieracium aurantiacum*). Roads 417, 514, 455 and 418 were also traveled during this survey. Spotted Knapweed, Orange Hawkweed and Canada thistle were found on these roads.

In March of 1995, the Clearwater Basin Weed Coordinating Committee was formed. This Committee is a multi-agency working group, whose purpose is to develop consistent management objectives for weed species known to occur within the Clearwater River Basin and develop preventative measures for reducing the threat of invasion by new non-native plant species. The role of the Clearwater National Forest, as an active participant, is to follow through with weed management as agreed upon by the Committee within constraints set by federal policies.

There is a need to use an integrated pest management approach, including the use of mechanical, biological, and chemical treatments to control noxious weeds.

There is a need to improve aquatic conditions.

Forest Plan goal #7 (Forest Plan, p II-2) is to "Manage the Forest's fishery streams to achieve optimum levels of fish production by: 1) maintaining the high quality habitat in existing high quality streams and, 2) rehabilitating and improving degraded streams on certain developed portions of the Forest; and then maintaining the optimum levels." Forest Plan goal #10a is to "Manage watersheds, soil resources, and streams to maintain high quality water that meets or exceeds State and Federal water quality standards, and to protect all beneficial uses of the water, which include fisheries, water-based recreation, and public water supplies."

The analysis area is composed of relatively "managed" watersheds, with the exceptions of Fish/Hungery Creeks and some of the face watersheds. Mass wasting, such as debris

torrents associated with channels, increased substantially after the large fire in 1934. Large landslide events, mostly related to roads, occurred in the 1970s, 1987, and 1996. The 1996 event was primarily due to higher than normal rainfall and saturated soils. (Further information can be obtained by referencing the *Assessment of 1995-96 Floods and Landslides on the Clearwater National Forest, Part 1 Landslide Assessment*, December 1997.) These events have affected fish habitat productivity. Except for Fish/Hungery Creeks, the major drainages are all above desired conditions for sediment. ***There is a need to reduce sediment sources including roads that are in landslide or debris torrent high-risk areas.***

Four sediment traps were constructed in the early 1980's in Pete King Creek to trap suspended and bedload sediments primarily from past road failures and before the sediments deposited into downstream spawning and rearing areas. During an interagency consultation meeting, representatives from the National Marine Fisheries Service, US Fish and Wildlife Service, Idaho Department of Fish and Game, and the Nez Perce Tribe recommended that the traps be discontinued for various reasons. ***Based on interagency recommendations to restore natural processes and functions to the aquatic ecosystem there is a need to remove sediment traps.***

The stream terraces within the Pete King and Fish Creek drainages would typically have a high percentage of large mature trees. However, only remnants remain due to the 1934 fire that overran these areas. With shade being limited, stream temperatures in both Pete King Creek and Fish Creek are currently above preferred conditions for fish rearing and reproduction. In addition, long-term wood recruitment is limited. ***There is a need to reduce stream temperatures and increase wood recruitment by reestablishing shade and large trees along Pete King and Fish Creek.***

There is a need to contribute timber products to the economy.

Historically, logging has been the primary means of support and a way of life for local community residents. Most communities were hit hard by the timber shortages of the 1990s, and there has been some movement towards economic diversification. County unemployment is approximately 20 percent due to mill closures. However, logging still plays a significant role in the area, and the timber harvest proposed under vegetative management would benefit those people who work in the mills and wood products industry.

The local communities influenced by proposed activities in the North Lochsa Face area are Lowell, Syringa, Kooskia, Stites, Kamiah, Grangeville, Pierce, Weippe, and Orofino. Although there has been some economic diversification due to expanding recreational opportunities, most of these communities remain dependent on the harvest of timber for economic survival.

There is a need to provide economic benefit to local communities by providing goods and services, including timber products.

Findings from Other Assessments or Policies

Scientific Findings of the Interior Columbia River Basin: An analysis of the status of ecosystems within the Interior Columbia River Basin was completed in November 1996. The assessment determined that the primary ecological risks to this area were (1) cold forest types are sensitive to soil disturbance; (2) fire severity in lower elevations and dry forest types; (3) aquatic integrity induced by low forest integrity in dry and moist forest types. The primary opportunities to address risks to integrity include reduction of fire threat in lower elevations and manage road densities, and reduction of fire severity through restoration practices (Status of the Interior Columbia Basin Summary of Scientific Findings PNW-GTR-385, p. 127).

The proposed action is designed to reduce fire severity by reducing the amount of biomass in the forest and manage road densities by decommissioning unneeded roads that are causing sediment.

Natural Resource Agenda (USDA, 1998): This national policy states that to accomplish the goal of restoring and maintaining healthy watersheds, the Forest Service will implement a nine-point strategy, including "restore degraded ecosystems and attain desirable plant conditions". It also identifies seven areas of concern in regard to forest health issues to be addressed, including fuel buildups and disturbance patterns such as insect and disease outbreaks.

The proposed action is designed to respond to forest health and ecological conditions through restoration of vegetative conditions.

The Natural Resource agenda states "Forest Service policy is to restore and maintain healthy watersheds for use by current and future generations." In support of this policy, the Agenda states that the Forest Service will (1) restore degraded ecosystems; (2) reconstruct, relocate, and decommission roads to help restore degraded watersheds; (3) conserve and recover threatened, endangered, and sensitive species and their habitats.

The proposed action is designed to restore and maintain healthy watersheds through road decommissioning, removal of sediment traps, instream fish habitat improvement projects and riparian area planting. The action would assist in the conservation and recovery of fish species by reducing the risk of catastrophic fire and reducing sediment delivered to streams.

National Fire Plan (USDA, 2000): In 1999, the General Accounting Office determined that a cohesive strategy is needed to address catastrophic wildfire threats (GAO/RCED 99-65). The report states that "Tree stands on national forests of the interior West have grown much denser in recent decades, have undergone shifts in species composition, and have experienced increases in some insect and disease infestations. These indicators, often considered indicators of poor health, jeopardize the ability of these forests to sustain wildlife habitat as well as timber production. In addition, they pose a more immediate

problem-the threat of catastrophic wildfires." The Forest Service prepared a response to the GAO report, titled "Protecting People and Sustaining Resources in Fire-Adapted Ecosystems, A Cohesive Strategy". The strategy outlines approaches to protect

communities and maintain land health in fire-adapted ecosystems. It states that "In fire-adapted ecosystems, some measure of fire use – at the appropriate intensity, frequency, and time of year – must be included in management strategies intended to protect and sustain watersheds, species, and other natural resources over the long term.

Although the basis for this project occurred prior to the strategy, the project meets the purpose of the strategy through the development of actions designed to restore resilient ecosystems that will sustain the resources through time.

> "Tree stands on national forests of the interior West have grown much denser in recent decades, have undergone shifts in species composition, and have experienced increases in some insect and disease infestations. These indicators, often considered indicators of poor health, jeopardize the ability of these forests to sustain wildlife habitat as well as timber production. In addition, they pose a more immediate problem-the threat of catastrophic wildfires."

Clean Air Act: The Clean Air Act requires the Environmental Protection Agency (EPA) to identify air pollutants with adverse effects on public health and welfare, establishing primary and secondary National Ambient Air Quality Standards (NAAQS) for each identified pollutant. Each state is required to develop a plan for maintaining air quality within these standards. Smoke is the primary pollutant of concern for the Clearwater National Forest. The Forest abides by the North Idaho Smoke Management Memorandum of Agreement, and participates in the North Idaho Airshed Group, comprised of the major outdoor burning practitioners in North Idaho. This agreement established procedures to regulate the amount of smoke produced by prescribed fire and identifies airsheds for management purposes. The North Idaho Airshed Group uses fuels and weather information to analyze smoke impacts to local communities and impose burning restrictions when warranted.

The Clean Air Act also includes a process for designation of areas (Class I, II, or III) for air quality management. Class I areas are the "cleanest" areas and get special visibility protection, including a limit in the allowable increase in pollutants and particulate concentrations. Class I areas on the Clearwater National Forest are in the Selway-Bitterroot Wilderness. Class II areas are areas of good air quality with no air quality restrictions. The North Lochsa Face analysis area id designated Class II. The NAAQS pollutant of concern in the North Lochsa Face analysis area is particulate matter and its effects on visibility.

Visibility is a concern in the Bitterroot Valley of Montana, where particulate matter standards are often not met during the summer and fall burning seasons. Because of its location relative to the prevailing winds, prescribed burning or wildfires in the North

Lochsa Face project area could contribute to air quality degradation in the Bitterroot Valley.

The burning proposed in the North Lochsa Face analysis area is intended to achieve the purpose and need for action by altering tree density and composition and reducing woody fuel loads and fuel ladders while maintaining air quality standards.

Roadless Policy (USDA, 2001): In January 2001, the Forest Service issued a final rule and record of decision pertaining to prohibitions on road construction, road reconstruction, and timber harvesting in inventoried roadless areas on National Forest System lands (Federal Register, Vol. 66, No. 9, pp. 3244-3273). This decision prohibits road construction, road reconstruction and or timber cutting, sale or removal in inventoried roadless areas except under certain circumstances. On May 10, 2001 the District Court of Idaho issued a preliminary injunction against implementation of the roadless rule. That decision is now before the Ninth Circuit Court of Appeals. Due to the uncertainty of the litigation, the Chief of the Forest Service, Dale Bosworth, issued a letter June 7, 2001 which described the delegation of authority for issuing decisions regarding timber harvest and road construction in roadless areas. On July 27, 2001, Interim Directives 2400-2001-3 and 7710-2001-2 were issued, implementing the Chief's June 7 letter.

The Chief's June 7, 2001 letter stated:

> "Effective immediately, I am reserving to myself, the decision authority for timber harvest and road construction in inventoried roadless areas…. I will follow this letter with an Interim Directive…The Interim Directive will include exceptions similar in scope to those provided in 36 CFR 294.12 and 26 CFR 294.13."

A lower line officer may issue decisions for timber harvest and road construction if they are consistent with the exceptions outlined in 36 CFR 294.12 and 26 CFR 294.13.

The circumstances where timber harvest is allowed include:

1) The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the roadless area characteristics as defined in 294.11.

   i) To improve threatened, endangered, proposed, or sensitive species habitat; or

   ii) To maintain or restore characteristics of ecosystem composition, and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period.

Interim Directive 2400-2001-3, 2404.11 "...adds new paragraph 4 that reserves to the Chief the authority to approve certain proposed timber harvests in inventories roadless

areas as defined in FSM 7712.16a, until revision of a land and resource management plan."

Interim Directive 2400-2001-3, 2404.15 "... adds a new paragraph 13 that requires Regional Forester review and agreement on the purpose and need for timber harvests in roadless areas and assigns to Regional Foresters the responsibility to screen proposed timber harvests in inventoried roadless areas to determine those that should be recommended to the Chief for approval."

Interim Directive 2400-2001-3, 2404.15 delegates the authority to approve timber harvest in roadless areas to the Regional Foresters if the following circumstances exist:

a. The timber is generally small-diameter material and the removal of timber is needed for one of the following purposes:

> (1) To improve habitat for listed or proposed threatened and endangered species, or for sensitive species (FSM 2670), or
>
> (2) To maintain or restore the desirable characteristics of ecosystem composition and structure, for example, to reduce the risk of uncharacteristic wildlife effects.

b. The cutting, sale, or removal of timber is incidental to the implementation of a management activity and not otherwise prohibited under the land and resource management plan.

c. The cutting, sale, or removal of timber is needed and appropriate for personal or administrative use as provided for in 36 CFR Part 223.

d. The harvest is in a portion of an inventoried roadless area where construction of a classified road and subsequent timber harvest have previously taken place, and the roadless area characteristics have been substantially altered by those activities.

Interim Directive 7710-2001-2, 7710.4 "...adds a new paragraph that reserves to the Chief the authority to approve certain proposed road construction or reconstruction projects in inventoried roadless areas until revision of a land and resource management plan or the adoption of a plan amendment that has considered the protection or other management of inventoried roadless areas as defined in FSM 7712.16a. Provides that the Chief may designate other Washington Office officials to serve as Responsible Official for decisions that are to be made at the Chief's level.

Interim Directive 7710-2001-2, 7710.42 "...Revises paragraph 3 to be consistent with the Chief's reservation of authority. In new paragraph 3.a, the Regional Forester's authority to serve as Responsible Official on a road construction/reconstruction project in contiguous unroaded areas is retained. In a new paragraph 3.b, the Regional Forester's authority as Responsible Official is limited to those Environmental Impact Statements (EIS's) for road construction or reconstruction in inventoried roadless areas authorized by FSM 7712.16b, paragraph 2, and FSM 7712.16d.

Adds a new paragraph 7 assigning to Regional Foresters the responsibility to review and determine if proposed road construction or reconstruction projects in inventoried roadless areas, that are not within the Regional Forester's decision authority should be forwarded to the Chief for approval.

Also adds a new paragraph 8 assigning the Regional Forester the responsibility of reviewing and agreeing to the purpose and need statements for any Notice of Intent to prepare a draft EIS that considers road construction or reconstruction in inventoried roadless areas.

Interim Directive 7710-2001-2, 7712.16a "...Removes an incorrect citation to FSM 7705 from the definition of inventoried roadless areas.

Interim Directive 7710-2001-2, 7712.16b "...Revised paragraph 1a through 1c to add a reference to FSM 7712.16d in the introductory phrase and to add references to the Responsible Official and the Chief to be consistent with changes in delegated authority in this ID.

Adds a new paragraph 4 directing that road construction or reconstruction projects which meet compelling needs other than those specifically identified and described as examples in FSM 7712.16b, paragraph 2, may only be approved by the Chief.

> ***The proposed action would require Chief's approval to allow for 1.1 miles of permanent road construction and .25 miles of temporary road construction within the North Lochsa Slope Roadless Area. The vegetative treatments, including timber harvest, were designed to maintain and restore ecosystem composition, function, and structure; therefore they meet the intent of the exemptions (see Supplemental EIS, Roadless Area analysis).***

The North Lochsa Landscape Assessment covered many aspects of roads analysis for the project area, as described in *Roads Analysis: Informing Decisions About Management the National Forest Transportation System* (USDA Forest Service, Miscellaneous Report FS-643, August 1999). A roads analysis specific to this project will be completed prior to issuing a Decision for the North Lochsa Face Ecosystem Management project.

Executive Order on Environmental Justice

Executive Order (EO) 12898, published in the Federal Register on February 16, 1994, was designed to focus Federal attention on the environmental and human health conditions in minority and low-income communities, with the goal of achieving environmental justice. It is also intended to promote nondiscrimination in Federal programs substantially affecting human health and the environment. It provides minority and low-income communities access to public information on, and opportunities for participation in, matters related to human health or the environment.

EO 12898 requires Federal agencies to ensure that all Federal programs that affect the environment or human health do not use criteria, methods, or practices that discriminate on the basis of race, color, or national origin. Each Federal agency is required to analyze the environmental effects of Federal actions, including effects on human health, economics and social effects, and effects on low-income or minority communities, as required by the National Environmental Policy Act of 1969 (NEPA). Each Federal agency is also required to ensure that the public has adequate access to public information related to human health or environmental planning, regulations, and enforcement.

The project area lies within the reservation area of the Nez Perce Tribe. This area is also included within Idaho County, which has a disproportionately high rate of unemployment and low income compared to other counties in the State of Idaho.

Proposed Action

The project was developed through an assessment of the project area and identifying the desired condition, including social desires. The desired condition is based on the concept of sustainability.

> Sustainability: "*Meeting the needs of the current generation without compromising the ability of future generations to meet their needs. Ecological sustainability entails maintaining the composition, structure and processes of a system, as well as species diversity and ecological productivity. The core element of sustainability is that it is future oriented.*" (Protecting People and Sustaining Resources in a Fire-Adapted Ecosystem – A Cohesive Strategy, p. 31)

The ID team developed the proposed action by evaluating the existing condition, determining the desired condition and identifying significant differences. The components are designed to meet the needs identified in the Landscape Assessment and move the existing condition towards desired conditions that would provide ecological sustainability.

Improve forest health, reduce the risk of severe wildfire and maintain and restore ecological process, function, structure and composition.

To move current forest conditions toward the desired sustainable conditions and to meet Forest Plan goals for the area, the following activities are proposed:

- Prescribed burn (mixed severity) approximately 5,485 acres primarily in Fish and Hungery Creeks and the Face drainages. The purpose is to return fire to maintain ecosystem health and reduce the risk of catastrophic fire. Mixed severity fire consists of fires alternating between low-intensity understory fires and long-interval, stand replacing fires producing two vegetative patterns. Mixed severity fires result in a mosaic pattern of alternating young and older vegetative patches across the landscape similar to what would be expected naturally, without fire

suppression. Mixed severity fires would increase shrub species desired by big-game species such as elk therefore meeting Forest Plan goals and standards for the area.

- Understory burn approximately 7,045 acres within ponderosa pine, grand fir, and Douglas-fir forest types, located mostly on the breaklands. The purpose is to reintroduce fire as an ecological process and help perpetuate the stand compositions and structures naturally found on the landscape.
- Utilize regeneration harvest on 2,860 acres. Regeneration harvest would retain 25 to 50 percent of the overstory trees using uneven-aged management, shelterwood or seed tree systems. Harvest is proposed primarily in Pete King, Canyon, Fish and the unnamed face drainages, with a lesser amount in Rye Patch, Apgar, Glade, and Deadman drainages. The purpose is to change species composition, and achieve desired age class/size distribution and structure patterns.
- Clearcut 2,220 acres in Bimerick Creek to remove off-site trees and replant with appropriate species. The purpose is to prevent contamination of the gene pool and restore the site with trees adapted to the ecosystem.
- Commercial thin 2,520 acres primarily in Pete King, Canyon, Deadman drainages, with a lesser amount in Rye Patch, Apgar, Glade, Bimerick and the face drainages. Commercial thinning would retain approximately 70 percent of the live basal area. The purpose is to remove small, suppressed trees, thus increasing water and nutrients for the trees left on site.
- Salvage 465 acres of dead, dying and high-risk trees, primarily in the Walde Mountain area. Approximately 10 percent of the stand volume would be removed. The purpose is to remove dead and dying trees to reduce fuel loading and provide goods and services to local communities.

In addition, in an effort to balance suppression costs with resource values, a non-significant Forest Plan amendment has been proposed to delete the wildfire acre limitations in certain management areas having a primary resource emphasis other than timber. The amendment would change the target maximum burned acres from wildfire to an unpredetermined number of acres (unscheduled). The amendment would only apply to those management areas within the North Lochsa Face analysis area: A4, A6, A7, C3, C4, C6, and C8S. Table 1-8 summarizes the acres of vegetative treatment by landform.

Table 1-8: Acres of Vegetation Treatment by Landform

Type of Treatment	Breaklands	Colluvial Midslopes	Frost Churned Uplands	Old Surfaces	Stream Terraces
Mixed Severity Burn	1355	695	2160	1260	15
Underburn	4560	1160	260	1035	140
Regeneration	1100	705	0	1055	0
Off-site Harvest	20	0	200	2000	0
Commercial Thin	480	480	0	1560	0
Salvage	0	135	0	330	0

To complete the timber harvest, 1.1 miles of permanent road would be constructed along a ridge and approximately 13 miles of road would be reconstructed (curve widening, realignment, surfacing, and installation of drainage structures). Ten temporary roads (3.7 miles) would be constructed for access and obliterated (returned to contour) after use. About 25 percent of the total area proposed for harvest would require helicopter yarding. The remaining area would be logged along existing road systems using conventional systems (skyline and tractor yarding).

Improve growing conditions

Approximately 1,290 acres of stands having more than 1,000 trees per acre, less than 7 inches in diameter at breast height (DBH), would be thinned back to 400-500 trees per acre, using chainsaws or other mechanical means as a method of treatment. These stands are mostly within the Pete King Creek and Canyon Creek drainages. The purpose is to reduce stocking levels to levels to limit the incidence of root rot and to favor seral species that are more resilient to disturbance.

Control noxious weeds

To meet Forest Plan goals an Integrated Pest Management (IPM) approach to weed control would be used within the project area. Under an IPM approach, all control methods are available. The following management techniques will be considered on specific sites and plant species:

- 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. Mechanical treatment is proposed to assist in eradication of Dalmatian toadflax, scotch broom, and scotch thistle on three sites (2 acres).
- Chemical: Herbicides would be used to treat a maximum of 500 acres (16 sites).
- Biological: Biological control includes the release of insects that eat certain plant species. The biological control agent *Larinus minutus* would be released at several sites to contain spotted knapweed and Canada thistle.

Improve aquatic conditions

A major focus of this project is to improve and provide healthy, diverse, and resilient aquatic systems to support a variety of conditions and benefits.

To maintain and improve water quality and meet Forest Plan goals, the project proposes to:

- Obliterate (partially or fully) 40 miles of road in Pete King, 17 miles in Canyon/Deadman, 3 miles in upper Fish Creek, and 6 miles in the river face drainages. The purpose is to remove roads no longer needed for long-term transportation purposes and remove chronic sediment sources for aquatic habitat improvement.
- Another 25 miles of road in Pete King, 16 miles in Canyon/Deadman, 5 miles in upper Fish Creek and 8 miles of road in the river face drainages are proposed for long-term maintenance. Purpose is to retain existing roads for future use without relying on frequent road maintenance to keep up the roads. The roads would be closed to motorized traffic and be placed in a condition to assure they are self-maintaining, with stable drainage.
- Four existing sediment traps in the Pete King drainage would be removed, with the sites restored to approximate natural channel cross-section conditions. Purpose is to assure floodplain/stream channel integrity.
- Interplant approximately 450 acres, consisting of a strip 300 feet wide, 6 miles long on both sides of Fish Creek, with fast growing deciduous trees (i.e. cottonwoods). Purpose is to restore streamside vegetation and promote the re-establishment and role of large wood in providing shade, channel stability, and fish habitat diversity.
- Full plant approximately 150 acres, consisting of a strip 300 feet wide along 2 miles of Pete King Creek with cedar, grand fir, white pine, and deciduous tree species.

Contribute timber products to the economy

The proposed action was designed to provide a supply of timber for logging-dependent communities and benefit roads and school districts.

Scope of the Analysis

The Council on Environmental Quality regulation implementing NEPA requires that Federal agencies consider three types of *actions* to determine the scope of an EIS (40 CFR 1508.25).

Connected Actions are those actions that are closely related. Actions are connected if they automatically trigger other actions that may require NEPA analysis; if they cannot or will not proceed unless other actions are taken previously or simultaneously; and if they are interdependent parts of a larger action and depend on the larger action for justification.

Similar Actions are those which, when viewed with other reasonably foreseeable proposed actions, have similarities that provide a basis for evaluating their environmental consequences together, but are not necessarily connected. The proposed vegetative and aquatic actions are considered together because both are designed to restore the

ecosystems, both vegetative and aquatic within the Lochsa Face analysis area. They would be completed in a similar time frame, the same geographic area, and for similar purposes.

Cumulative Actions are those actions, which when viewed with other proposed actions have cumulatively significant impacts and therefore should be discussed in the same impact statement.

The regulations also require agencies to consider three types of *alternatives*; the no action alternative, other reasonable courses of actions; identify the preferred alternative and include mitigation measures not already included in the proposed action (40 CFR 1502.14). The Supplemental EIS considered these alternatives in Chapter 2.

In addition, agencies must consider three types of *effects*, direct, indirect and cumulative effects. The Supplemental EIS discloses the direct, indirect and cumulative effects in Chapter 4. The cumulative effects analysis considered geographic boundaries of the effects; time frames (determining how far into the future to analyze cumulative effects); and past, present, and reasonably foreseeable future actions. The physical bounds of this analysis are the North Lochsa Face analysis area, although, the geographical extent of some resource boundaries (i.e. certain wildlife home range sizes) extend beyond the analysis area.

In the context of administrative scope, this analysis: (a) is limited to the vegetative and aquatic proposed actions (the decision on the Recreation and Access Management alternatives has already been made); (b) is not a general management plan for the North Lochsa Face area; and (c) is the final site specific NEPA documentation, and not a programmatic analysis.

Decision Framework

The Responsible Official for this EIS is the Forest Supervisor. The decision framework consists of:

- What actions or mix of actions, if any, should be selected to improve the ecological conditions?
- If an action is selected, what mitigation measures, management requirements, and monitoring are needed to implement ecosystem management on the North Lochsa Face landscape?
- Whether or not a Forest Plan amendment is needed to meet overall objectives.

Availability of Project Files

An important consideration in preparation of this EIS has been the reduction of paperwork as specified in 40 CFR 1500.4. In general, the objective is to furnish enough

site-specific information to demonstrate a reasoned consideration of the environmental impacts of the alternatives and how these impacts can be mitigated. More detailed information is in the project file in the District planning records and is available for public inspection. The reader may want to refer to the Clearwater Forest Plan and EIS. The Supplemental EIS is "tiered" to the Forest Plan EIS and Record of Decision, as encouraged in 40 CFR 1502.20. Copies of the Forest Plan, Forest Plan EIS, and Record of Decision are available at libraries in the Clearwater National Forest locale and at the Forest Supervisor and Ranger District office.