# Appendix A – Best Management and Soil and Water Conservation Practices

## Introduction

The Clean Water Act, as amended, (33 U.S.C. 1323) directs the Forest Service to meet state, interstate and local substantive as well as procedural requirements respecting control and abatement of pollution in the same manner, and to the same extent as any non-government entity.

The Forest Service has the statutory authority to regulate, permit and enforce land-use activities on the National Forest System lands that affect water quality.

As the designated management agency, the Forest Service is responsible for implementing nonpoint source pollution control and the Washington State Water Quality Standards on National Forest System lands. The Forest Service's water quality policy is intended to:

1) *promote the improvement, protection, restoration and maintenance of water quality to support beneficial uses on all national forest service waters;*
2) *promote and apply approved Best Management Practices (BMPs) to all management activities as the method for control of non-point source pollution;*
3) *comply with established state or national water quality goals; and*
4) *design monitoring programs for specific activities and practices that may affect or have the potential to affect instream beneficial uses on National Forest System lands.*

The Forest Service also coordinates all water quality programs, on National Forest System lands within its jurisdiction, with the local, state and federal agencies, affected public lands users, adjoining land owners, and other affected interests.

The Environmental Protection Agency and the State of Washington are responsible for enforcement of these standards. The Forest Plan for the Idaho Panhandle National Forests states that the Forest will "maintain high quality water to protect fisheries habitat, water based recreation, public water supplies and be within state water quality standards" (Forest Plan, Chapter II, p. 27). The use of BMPs is also required in the Memorandum of Understanding between the Forest Service and the State of Washington as part of our responsibility as the Designated Water Quality Management Agency on National Forest System lands. The State's water quality standards regulate nonpoint source pollution from timber management and road construction activities through application of Best Management Practices (BMPs). The BMPs were developed under authority of the Clean Water Act to ensure that Washington's waters do not contain pollutants in concentrations that adversely affect water quality or impair a designated use. State-recognized BMPs that would be used during project design and implementation are contained in these documents:

a. *Rules and Regulations pertaining to the Washington Forest Practices as adopted by the State of Washington.*

Many of the rules and regulations for stream channel alterations are contained, in slightly different forms, in a Memorandum of Understandings (MOU) between the Forest Service and the State Washington. This MOU is incorporated into the Forest Manual and R-1 Supplement 31 and it contains provisions which are not currently state-recognized BMPs.

Please refer to Chapter II of this Environmental Analysis for site-specific and project-specific BMPs and Soil and Water Conservation Practices ("Water Quality Best Management Practices").

The practices described herein are tiered to the practices in FSH 2509.22. They were developed as part of the NEPA process, with interdisciplinary involvement, and meet state and Forest water quality objectives. The purpose of this appendix is to establish the connection between the Soil and Water Conservation Practice (SWCP) employed by the Forest Service and BMPs identified in the Washington Forest Practices Rules and Regulations (Title 222 WAC), and to identify how the Soil and Water Conservation Practice Standard Specifications for the Construction of Roads and the Timber Sale Contract provisions meet or exceed the rules and regulations pertaining to the Washington Forest Practices Act RCW 76.09.

The objective of this appendix is to provide conservation practices for use on National Forest System lands to minimize the effects of management activities on soil and water resources. The conservation practices were compiled from Forest Service manuals, handbooks, contract and permit provisions, to directly or indirectly improve water quality, reduce losses in soil productivity and erosion, and abate or mitigate management effects, while meeting other resource goals and objectives. They are of three basic forms: administrative, preventive, and corrective. These practices are neither detailed prescriptions nor solutions for specific problems. They are purposely broad. These practices are action-initiating process mechanisms which call for the development of requirements and considerations to be addressed prior to and during the formulation of alternatives for land management actions. They serve as checkpoints that are considered in formulating a plan, a program, and/or a project.

Although some environmental impacts may be characteristic of a management activity, the actual effects on soil and water resources would vary considerably. The extent of these management effects on soil and water resources is a function of:

1. *The physical, meteorological, and hydrologic environment where the activity takes place (topography, physiography, precipitation, channel density, geology, sol type, vegetative cover, etc.).*
2. *The type of activity imposed on a given environment (recreation, mineral exploration, timber management, etc.) and its extent and magnitude.*
3. *The method of application and the duration of the activity (grazing system used, types of silvicultural practice used, constant vs. seasonal use, recurrent application or one time application, etc.).*
4. *The season of the year that the activity occurs or is applied.*

These factors vary within the National Forests in the Northern Region and from site to site. It follows then that the extent and kind of impacts are variable, as are the abatement and mitigation measures. No solution prescription, method, or technique is best for all circumstances. Thus the management practices presented in the following include such phrases as "according to the design", "as prescribed," "suitable for," "within acceptable limits," and similar qualifiers. The actual prescriptions, specifications, and designs are the result of evaluation and development by professional personnel through interdisciplinary involvement in the NEPA process. This results in specific conservation practices that are tailored to meet site-specific resource requirements and needs.

# Items Common to All Soil and Water Conservation Practices

**Responsibility for Implementation**: The District Ranger (through the Presale Forester) is responsible for insuring the factors identified in the following SWCPs are incorporated into: Timber Sale Contracts through the inclusion of proper B and/or C provisions; or Public Works Contracts through the inclusion of specific contract clauses.

The Contracting Officer, through his/her official representative (sale administrator and/or engineering representatives for timber sale contracts; and Contracting Officers Representative for public works contracts) is responsible for insuring that the road construction and timber sale provisions are properly administered on the ground.

**Monitoring**: Implementation and effectiveness of water quality mitigation measures are also monitored annually. This includes routine monitoring by timber sale administrators, road construction inspectors, and resource specialists which is documented in diaries and project files. Basically, water quality monitoring is a review of BMP implementation and a visual evaluation BMP effectiveness. Any necessary corrective action is taken immediately. Such action may include modification of the BMP, modification of the project, termination of the project, or modification of the state water quality standards.

**Abbreviations**

TSC = Timber Sale Contract
TSA = Timber Sale Administrator
PWC = Public Works Contract
SCA = Stream Channel Alteration Act
BMP = Best Management Practices
SPS = Special Project Specifications
CFR = Code of Federal Regulations

SAM = Sale Area Map
COR = Contracting Officer Representative
EPA = Environmental Protection Agency
SWCP= Soil and Water Conservation Practices
SMZ = Streamside Management Zone

# Key Soil and Water Conservation Practices

**Class[*] Soil and Water Conservation Practice (FSH 2509.22)**

11 **WATERSHED MANAGEMENT**

W 11.07 Oil and Hazardous Substance Spill Contingency Planning
W 11.09 Management by Closure to Use
W 11.11 Petroleum Storage & Delivery Facilities & Management

**13 VEGETATION MANIPULATION**

G 13.03 Tractor Operation Excluded from Wetlands, Bogs, and Wet Meadows
E 13.04 Revegetation of Surface Disturbed Areas
E 13.05 Soil Protection During and After Slash Windrowing
E 13.06 Soil Moisture Limitations for Tractor Operation

**14 TIMBER**
E 14.14 Revegetation of Areas Disturbed by Harvest Activities
S 14.17 Streamcourse Protection (Implementation and Enforcement
E 14.18 Erosion Control Structure Maintenance

**15 ROADS AND TRAILS**

A 15.02 General Guidelines for Road Location/Design
E 15.03 Road and Trail Erosion Control Plan
E 15.04 Timing of Construction Activities
E 15.05 Slope Stabilization and Prevention of Mass Failures
E 15.06 Mitigation of Surface Erosion and Stabilization of Slopes
E 15.07 Control of Permanent Road Drainage
E 15.08 Pioneer Road Construction
E 15.09 Timely Erosion Control Measures on Incomplete Road and Stream-Crossing Projects
E 15.10 Control of Road Construction Excavation & Sidecast Material
S 15.11 Servicing and Refueling of Equipment
S 15.12 Control of Construction In Riparian Areas
S 15.13 Controlling In-Channel Excavation
S 15.14 Diversion of Flows Around construction Sites
S 15.15 Stream Crossings on Temporary Roads
S 15.16 Bridge & Culvert Installation (Disposition of Surplus Material and Protection of Fisheries)
E. 15.17 Regulation of Borrow Pits, Gravel Sources, and Quarries
E 15.18 Disposal of Right-of-Way and Roadside Debris
S 15.19 Streambank Protection

[*] A = Administrative E = Erosion Reduction G = Ground Disturbance Reduction
S = Stream Channel Protection/Stream Sediment Reduction W = Water Quality Protection

E 15.21 Maintenance of Roads
E 15.22 Road Surface Treatment to Prevent Loss of Materials
E 15.23 Traffic Control During Wet Periods
G 15.24 Snow Removal Controls

# Implementation of Best Management Practices

In cooperation with the State of Washington, the Forest Service's primary strategy for the control of nonpoint sources is based on the implementation of BMPs determined necessary for the protection of the identified beneficial uses. The Forest Service Nonpoint Source Management System consists of:

1. *BMP selection and design based on site-specific conditions; technical, economic and institutional feasibility; and the designated beneficial uses of the streams.*
2. *BMP Application*
3. *BMP monitoring to ensure that they are being implemented and are effective in protecting designated beneficial uses.*
4. *Evaluation of BMP monitoring results.*
5. *Feeding back the results into current/future activities and BMP design.*

The District Ranger is responsible for insuring that this BMP feedback loop is implemented on all projects. The Practices described herein are tiered to the practices in R1/R4 FSH 2509.22. They were developed as part of the NEPA process, with interdisciplinary involvement, and meet State and Forest water quality objectives. The purpose of this appendix document is to: 1) establish the connection between the SWCP employed by the Forest Service and BMPs identified in Washington Forest Practices Act (WAC 22-30) and 2) identify how the SWCP, Standard Specifications for the Construction of Roads, and the Timber Sale Contract provisions meet or exceed the rules and regulations pertaining to the Washington Forest Practices Act (WAC 222-30 and WAC 222-24).

## Format of the Best Management Practices Listing

Each Soil and Water Conservation Practice is described as follows:

**Title**: Includes the sequential number and a brief title.

**Objective**: Describes the objective(s) and the desired results for protecting water quality.

**Effectiveness**: Provides a qualitative assessment of expected effectiveness that the implemented BMP would have on preventing or reducing impacts on water quality. The effectiveness rating is based on: 1) literature and research (must be applicable to area) 2) administrative studies (local or within similar ecosystem); and 3) professional experience (judgment of an expert by education and/or experience). The expected effectiveness is rated either High, Moderate or Low as defined below:

**High**: Practice is highly effective (>90%) and one or more of the following types of documentation are available:

a) Literature/Research - must be applicable to area
b) Administrative studies - local or within similar ecosystem
c) Experience - judgment of an expert by education and/or experience.
d) Fact - obvious by reasoned (logical) response.

**Moderate**: Documentation shows that the practice is effective less than 90% of the time, but at least 75% of the time; logic indicates that this practice is highly effective, but there is little or no documentation to back it up; or implementation and effectiveness of this practice will be monitored and the practice will be modified if necessary to achieve the objective of the BMP.

**Low**: Effectiveness unknown or unverified, and there is little to no documentation; applied logic is uncertain in this case, or the practice is estimated to be less than 75% effective; or this practice is speculative and needs both effectiveness and validation monitoring.

The effectiveness estimates given here are general, given the range of conditions throughout the Forest. More specific estimates are made at the project level when the BMPs are actually prescribed.

**Compliance**: Provides a qualitative assessment of how the implementation of the specific measures would meet the Forest Practice Act Roles and Regulations pertaining to water quality.

**Implementation**: This section identifies: (1) the site-specific water quality protection measures to be implemented and (2) how the practices are expected to be applied and incorporated into the Timber Sale Contract.

# Best Management Practices

***PRACTICE 11.07*** *- Oil and Hazardous Substance Contingency Planning*
***PRACTICE 11.11*** *- Petroleum Storage and Delivery Facilities and Management*
***PRACTICE 15.11*** *- Servicing and Refueling of Equipment*

**OBJECTIVE:** To prevent contamination of waters from accidental spills of fuels, lubricants, bitumens, raw sewage, wastewater and other harmful materials by prior planning and development of Spill Prevention Control and Countermeasure Plans (SPCC).

**EFFECTIVENESS:** Although SPCC Plans cannot eliminate the risk of materials being spilled and escaping into waters, they can, if followed, be effective at reducing adverse effects to tolerable levels. Depending on the location and quantity of a spill, a properly implemented Plan can provide for up to 100 percent containment of a spill.

**COMPLIANCE**: Meets Forest Practices Act Rules

**IMPLEMENTATION**: The timber sale contract holds the Purchaser responsible for taking appropriate preventative measures to insure that any spill of oil or oil products does not enter any stream or other waters of the United States. If the total oil or oil products storage exceeds 1,320 gallons, or if any single container exceeds the capacity of 660 gallon, the Purchaser would prepare a Spill Prevention Control and Countermeasure Plan. The plan shall meet EPA requirements including certification by a registered professional engineer. If necessary, specific requirements for transporting oil to be used in conjunction with the contract would be specified in the contract.

The Forest Service would designate the location, size and allowable uses of service and refueling areas. The criteria below would be followed at a minimum:

1. *Petroleum product storage containers with capacities of more than 200 gallons, stationary or mobile, would be located no closer than 100 feet from stream, water course, or area of open water. Dikes, berms, or embankments would be constructed to contain the volume of petroleum products stored within the tanks. Diked areas would be sufficiently impervious and of adequate capacity to contain spilled petroleum products.*
2. *Transferring petroleum products: During fueling operations or petroleum product transfer to other containers, there shall be a person attending such operations at all times.*
3. *Equipment used for transportation or storage of petroleum products shall be maintained in a leakproof condition. If the Forest Service Representative determines there is evidence of petroleum product leakage or spillage, he/she shall have the authority to suspend the further use of such equipment until the deficiency has been corrected.*

In the event any leakage or spillage enters any stream, water course or area of open water, the operator would immediately notify the Forest Service who would be required to follow the actions to be taken in case of hazardous spill, as outlined in the Forest Hazardous Substance Spill Contingency Plan.

***PRACTICE 11:09 - Management by Closure to Use***
***PRACTICE 15:23 - Traffic Control During Wet Periods***

**OBJECTIVE:** To reduce the potential for road surface disturbance during wet weather and to reduce sedimentation probability by excluding activities that could result in damage to facilities or degradation of soil and water resources.

**EFFECTIVENESS**: Moderate

**COMPLIANCE:** Meets Forest Practices Act Rules

**IMPLEMENTATION**: Closures (seasonal, temporary, or permanent) are made when the responsible line officer determines that a particular resource or facility needs protection from use. Specific guidelines for closure of roads during the period of the contract and at the end of the Purchaser's operations would be spelled out in this EIS and the timber sale contract.

Roads that must be used during wet periods should have a stable surface and sufficient drainage to allow such use with a minimum of resource impact. Rocking, paving and armoring are measures that may be necessary to protect the road surface and reduce erosion potential. Roads not constructed for all weather use should be closed during the wet season. Where winter field operations are planned, roads may need to be upgraded and maintenance intensified to handle the traffic without creating excessive erosion and damage to the road surface.

***PRACTICE 13.04** - Revegetation of Surface Disturbed Areas*
***PRACTICE 14.14** - Revegetation of Areas Disturbed by Harvest Activities*

**OBJECTIVE**: To protect soil productivity and water quality by minimizing soil erosion.

**EFFECTIVENESS**: Revegetation can be moderately effective at reducing surface erosion after one growing season, following disturbance, and highly effective in later years. Effectiveness has been shown to vary from 10 percent on 3/4:1 slopes to 36 percent on 1:1 slopes to 97 percent on 1:1 slopes in later years (Burroughs and King 1989).

**COMPLIANCE**: Meets Forest Practices Act rules.

**IMPLEMENTATION**: As determined necessary, temporary roads, landings skid trails, and anywhere else soil has been severely disturbed by Purchaser's harvesting or road construction operations would be seeded within one year after harvesting is completed. Seed mixes (consisting of native species) and fertilizer specifications would be incorporated into timber sale contract provisions. The timber sale contract would also include specifications for scarification/ripping of compacted landing and closed roads where this is deemed necessary by the interdisciplinary team.

***PRACTICE 13.05 - Soil Protection During and Following Slash Windrowing***

**OBJECTIVE**: To prevent removal or severe disruption of the productive surface soil and minimize losses from erosion.

**EFFECTIVENESS**: Moderate

**COMPLIANCE:** Meets Forest Practices Act rules.

**IMPLEMENTATION**: Windrowing or piling of slash with tractor or grapple piling machine is a common method of fire hazard abatement and site preparation. Potential for damage to soils and water are high. On slopes, windrows should be contoured as much as possible to act as a filter barrier which catches sediment and detains water runoff. Such piling would only be conducted on slopes greater than 50 percent upon the recommendation of a soils scientist or hydrologist. Care must be taken to minimize disturbance to the surface soil layer during these operations. Equipment would be prohibited from operating within 50 feet of streamcourses except at designated crossing areas. Areas where such slash disposal operations are acceptable would be identified in either the environmental impact statement, field and/or the timber sale contract.

***PRACTICE 13.06 - Soil Moisture Limitations for Tractor Operation***

**OBJECTIVE:** To minimize soil compaction, puddling, rutting, and gullying with resultant sediment production and loss of soil productivity by ensuring that activities are done when ground conditions are such that erosion and sedimentation can be controlled.

**EFFECTIVENESS**: Responsible implementation and enforcement are required for high effectiveness.

**COMPLIANCE**: No Related Forest Practices Act rules.

**IMPLEMENTATION**: Tractor operations would be limited to periods when the soil moisture content is 18 percent or less, the ground is frozen, or there is at least 18 inches of snow depth. Tractor operations would only be allowed outside of these specifications through the sue of designated skid trails. These requirements would be incorporated into provision of the timber sale contract.

***PRACTICE 15.04 - Timing of Construction Activities***

**OBJECTIVE**: To minimize soil erosion, sedimentation and loss in soil productivity by insuring that the Purchaser conducts his operations, including erosion control work, road maintenance, etc., in a timely manner, within the time period specified in the timber sale contract.

**EFFECTIVENESS**: Moderate

**COMPLIANCE**: Meets Forest Practices Act Rules

**IMPLEMENTATION**: Limited operating periods are identified and recommended during the environmental analysis by the Interdisciplinary Team. Contract language specifies contract termination date and operating periods within that contract. Purchaser's plans must show intent to operate within these time frames prior to approval to commence work. Extensions of time (except for contract term adjustments) and waiver of specified operating periods should be granted only after interdisciplinary team review.

***PRACTICE 14.17 - Stream Channel Protection (Implementation and Enforcement)***
***PRACTICE 15.19 - Streambank Protection***

**OBJECTIVES**: To protect stream beds and streamside vegetation, during and after forest practice operations and road construction, by (1) maintaining unobstructed passage of stormflows; (2) reducing sediment and other pollutants from entering streams; and (3) restoring the natural course of any stream, as soon as practical, if the stream is diverted as a result of timber management activities.

**EFFECTIVENESS**: High

**COMPLIANCE**: Meets Forest Practices Act rules

**IMPLEMENTATION**: Protecting stream channels during timber harvesting is accomplished by contract clause incorporated into the sale contracts. This is normally accomplished by designating particular streams as protected streamcourses and limiting or restoring timber management operations in streamside zones. There is substantial overlay between timber sale provisions to protect stream channels, and regulations that govern road construction and other practices.

The intent of the regulations and clauses is to protect the integrity of stream channels and minimize adverse impacts to the channel and downstream resources and beneficial uses. The following items are a minimum that would be incorporated into the timber sale contract specifically to govern channel protection in the project area.

1. Purchaser shall repair all damage to a streamcourse if the Purchaser is negligent in their operations, including damage to banks and channel, to an acceptable condition as specified by the Forest Service.

2. All project debris shall be removed from streamcourse, in an agreed manner that would cause the least disturbance. Specifically:

   *Whenever possible trees shall be felled, bucked, and limbed in such a manner that the tree or any part thereof would fall away from any streams. Within 24 hours, slash and other debris that enters streams as a result of harvesting or road construction operations shall be removed. If the slash would be beneficial (i.e. provide sediment filtering) then the Sale Administrator may allow the Purchaser to leave the slash in place below culverts.*

3. Location and method of stream crossing would be designed and agreed to prior to construction.

4. Wheeled or track laying equipment shall not be permitted to operate within 50 feet slope distance of the streams except at approved crossings.

5. On perennial streams, dewatering with filter fabric and/or diversion shall be considered prior to excavation for culvert placement.

6. Filter cloth, erosion control blankets, plastic, straw bales, and rip- rap would be used as appropriate to keep live water from contacting new fill during culvert installations.

7. When dewatering of a stream crossing is required, a non-erodible conduit, flex pipe or geotextile fabric would be used on all crossings. Silt fences shall be constructed below the stream crossing(s) prior to any streambank disturbance.

8. The construction activities in or adjacent to the stream may be limited to specific times to protect beneficial water uses.

9. Logs would be end-lined out of streamside and Riparian Areas. Equipment is permitted to enter streamside areas only at locations and times agreed by the Forest Service.

10. Material from temporary road and skid trail stream crossings would be removed and streambanks restored to an acceptable condition.

11. When cable yarding across or inside the riparian areas is necessary logs should be fully suspended across a stream and immediately above streambanks. Yarding shall be done in such a manner as to minimize streambank channel disturbance.

12. Construction equipment may cross, operate in or operate near streamcourses only where so agreed to and designated by the Forest Service prior to construction. Crossing of perennial stream channels would be done in compliance with the specifications included in the contract.

13. On perennial streams, stream channel alteration specifications would include the following:

    *a. Ford the stream only at one location.*
    *b. Any cofferdams or temporary crossings should be designed to handle high streamflows.*
    *c. Protect streambank vegetation as much as possible.*
    *d. All fill materials shall be placed and compacted in horizontal lifts.*
    *e. If rip rap is used, it shall extend at least one foot above anticipated high water mark, and meet minimum size criteria.*
    *f. Rip rap shall extend far enough upstream and downstream to reach stable areas.*

14. If the channel is damaged during construction, it would be restored as nearly as possible to its original configuration without causing additional damage to the channel, prior to fall rains.
15. Construction methods shall provide for eliminating or minimizing discharges of turbidity, sediment, organic matter or toxic materials. A settling basin may be required for this purpose.

### *PRACTICE 14.18 - Erosion Control Structure Maintenance*

**OBJECTIVE:** To ensure that construction erosion control structures are stabilized and working effectively.

**EFFECTIVENESS:** High

**IMPLEMENTATION:** The timber sale contract requires that during the period of the contract, the Purchaser shall provide maintenance of soil erosion control structures constructed by the Purchaser until they become stabilized, but not for more than one year after their construction. After 1 year, any erosion control work needed is accomplished through the Forest Service funding.

The timber sale contract also requires the Purchaser to maintain the erosion control structures concurrently with his operations under the sale, and in any case, not later than 15 days after completion of skidding each unit or subdivision.

### *PRACTICE 15.02 - General Guidelines for the Location and Design of Roads and Trails*

**OBJECTIVE:** To locate and design roads and trails with minimal soil and water resource impact while considering all design criteria.

**EFFECTIVENESS:** Moderate

**COMPLIANCE:** Exceeds Forest Practices Act rules

**IMPLEMENTATION:** As the timber sale contract is assembled, road location and design criteria are assembled from several volumes of standards, and optional specifications and guidelines. Specific roads and road segments often have specifications that are unique to the road or road segment. The following listed items, however, are general road location and design guidelines for minimizing impacts on water quality.

1. Fit the road to the topography - Use natural benches, follow contours, avoid long, steep road grades. Balance cut/fill where possible to avoid waste areas.
2. Locate on stable topography. Whenever possible, avoid slumps and slide prone areas and steep side hills.
3. Locate roads a safe distance away from streams and other water bodies, and provide an adequate buffer zone to trap sediment before it enters into any water body.
4. Minimize the number of stream crossings and choose stable sites. Structures would be designed (sized) for long-term stability, generally for the Q100+ (or greater) and then bumped up to the next culvert size and would provide for fish passage, if present. Use the IPNF Hydraulic analysis developed by Bob Embry to determine the Q100.

5. Locate and design roads to drain naturally by appropriate use of outsloping and insloping with cross drainage and grade changes, where possible. Cross drains would be installed to 1) carry interpreted flow across constructed areas; 2) to relieve the length undrained ditch; and 3) to reduce disruption of normal drainage patterns. Road and trail drainage should be channeled to effective buffer areas, either natural or man-made, to maximize sediment deposition prior to entry into live water.
6. Ditchlines and road grades would be designed to minimize unfiltered flow into streams. A rolling dip, relief culvert or similar structure would be installed as close as practical to crossings to minimize direct sediment and/or water input directly into streams. The drainage would be routed through the SMZ, buffer strips, or other sediment settling structures where possible.
7. At a minimum, windrows would be installed 100 feet on both sides of live stream crossings and where installation would minimize sediment delivery to nearby streams or channels. Windrows would also be installed where fill slope erosion is possible, or where road derived erosion may be delivered; (i.e. outflow area of culverts or rolling dips, etc.). The average height of the windrows would be 4 feet high and 4 feet wide. Openings for wildlife corridors would be incorporated at regular and appropriate intervals. No breaks in the windrow would occur within 150 feet of any streamcourse.
8. Design to the standard necessary to accomplish anticipated use and equipment needs safely, while providing for long-term protection of the soils and water.
9. Seeding and fertilization of erodible surfaces exposed during construction would be accomplished. Next season seeding would be done where original treatment is less than 50% successful.
10. Road construction occurring outside the normal operating season would have additional restrictions on the amount of pioneered road and additional erosion control measures.

### *PRACTICE 15.03 - Road and Trail Erosion Control Plan*

**OBJECTIVE:** To prevent, limit, and mitigate erosion, sedimentation, and resulting water quality degradation through timely implementation of erosion control practice.

**EFFECTIVENESS:** Moderate

**COMPLIANCE:** No related Forest Practices Act rule

**IMPLEMENTATION:** Prior to the start of construction, the Purchaser shall submit a schedule for proposed erosion control work as required in the Standard Specifications. The schedule shall include all erosion control items identified in the specifications. Erosion control work to be done by the Purchaser would be defined in Standard Specification 204 and/or in the Drawings. The schedule shall consider erosion control necessary for all phases of the project. The Purchaser's construction schedule and plan of operation would be reviewed in conjunction with the erosion control plan by the Timber Sale Administrator, District Watershed Specialist, and Engineering to insure their compatibility before any schedules area approved. The Engineer would certify that the Purchaser's Erosion Control Plan meets the specifications.

### *PRACTICE 15.06 - Mitigation of Surface Erosion and Stabilization of the Slopes*

**OBJECTIVE:** To minimize soil erosion from road cutslopes, fillslopes and travelways

**EFFECTIVENESS**: Moderate

**COMPLIANCE:** Meets Forest Practices Act Rule

**IMPLEMENTATION:** Areas requiring mitigation of surface erosion may occur anytime during the life of the timber sale contract. When these are found, the following provisions would be implemented.

a. All disturbed areas associated with road construction and reconstruction would be seeded. The first seeding would be applied as soon as practical after cuts and fills are brought to grade within seeding seasons as established in the timber sale contract. A second seeding in the fall or spring season following road construction would be required where original seeding did not adequately revegetate exposed soil areas.

b. Where surface erosion is occurring because of inadequate vegetative cover, additional seeding and re-fertilization would occur using recommended seed and fertilizer mixes. If the Purchaser has done his required seeding, or bare spots are not caused by the Purchaser, seeding would be done by the Forest Service.

c. Where ditches are carrying erosion products into stream channels, erosion cloth ditch blocks would be installed to "short-circuit" the delivery. Seeding of the eroding surfaces and seeding of the stored sediment in the ditch would also be accomplished.

d. Where either straw bale/erosion cloth structures are not felt to be effective, underdrains or other measures would be installed to drain the ditches onto suitable ground, or at least reduce erosion impacts to the stream.

e. Slumping of cutslopes would require a combination of both mechanical and vegetative controls. If/when this problem is found, a solution would be determined in consultation with Engineers, geotechnical and resource specialists and appropriate actions taken to remedy the situation or minimize adverse impacts.

f. Additional underdrains (i.e. French drains) would be constructed where intercepted moisture is encountered on incised stream approaches. Erosion control blankets and straw bales would be used to dissipate ditch scour and stabilize fill slopes.

g. At ditch relief culvert locations, or at culvert locations in dry or intermittent wet draws, the slash piles shall not be broken but shall be placed a minimum of 20 feet below the culvert outlet. At culvert locations in live streams, slash piles shall not be broken but shall be continued at the toe of the embankment over the top of the culvert. No slash shall be allowed to restrict the flow of water from the culvert.

Unless caused by the Purchaser during his maintenance operations, or known before sale award and included in timber sale contract, these items (a-g) would be beyond the scope of Purchaser responsibility. Repair and/or improvement would be then handled by contract modification or by the Forest Service.

***PRACTICE 15.07 - Control of Permanent Road Drainage***

**OBJECTIVE:** To minimize the erosive effects of concentrated water and the degradation of water quality by proper design and construction of road drainage systems and drainage control structures.

**EFFECTIVENESS:** Moderate

**COMPLIANCE:** Meets Forest Practices Act rules

**IMPLEMENTATION:** The following items would be included in the identified road contract specifications or drawings.

1. *For New Construction and Reconstruction* - During and following operations on outsloped roads, retain out slope drainage and remove berms on the outside except those intentionally constructed for protection of road grade fills.
2. *For New Construction* - The following criteria would be incorporated into new road design:
   a. Construct cross drains and relief culverts to minimize erosion of embankments. Minimize the time between construction and installation of erosion control devices. Use riprap, vegetative matter, downspouts and similar devices to minimize erosion of the fill.
   b. Prior to fall or spring runoff, install drainage structures or cross-drain uncompleted roads which are subject to erosion.
   c. Install relief culverts at a minimum grade of 1 percent greater than road gradient and at a gradient of 30 to 35% perpendicular to the road to encourage self maintenance of the culvert.
3. *For Existing Roads* - At a minimum, the following items would be added to or improved in the existing road system that would be used for proposed timber haul:
   a. Energy dissipaters or downspouts would be placed below problem culvert outlets (Reconstruction item).
   b. In all areas where ditch erosion is significant at this time, relief culverts that drain onto suitable areas would be installed (Reconstruction item) and ditches may be rocked.
   c. Roads restricted after use would also have erosion control measures in place prior to final pull-out.
   d. For all native surface roads to be restricted after use, the travelway would be seeded and fertilized: and would have the surface roughened to accept seed germination and vegetative establishment where necessary and beneficial.

***PRACTICE 15.08 - Pioneer Road Construction***

**OBJECTIVE:** To minimize sediment production and mass wasting associated with pioneer road construction.

**EFFECTIVENESS:** Moderate

**COMPLIANCE:** No directly related Forest Practices Act rule.

**IMPLEMENTATION:** The following contract specifications would be required:

a. Construction of pioneer roads shall be confined to the roadway limits unless otherwise approved by the Contracting Officer.

b. Pioneering shall be conducted so as to prevent undercutting of the designated final cut slope, and to prevent avoidable deposition of materials outside the designated roadway limits.

c. Erosion control work would be completed concurrent with construction activity or prior to the wet season. During the wet and winter season, no more that 1,000 feet of road can be in the pioneer state without the required erosion control work completed.

d. Permanent culverts would be installed during the pioneer phase unless positive control of sediment can be accomplished during installation, use, and removal of the temporary structure.

***PRACTICE 15.09 - Timely Erosion Control Measures on Incomplete Road and Stream-Crossing Projects:***

**OBJECTIVE:** To minimize erosion of and sedimentation from disturbed ground on incomplete projects.

**EFFECTIVENESS:** Moderate

**COMPLIANCE:** Meets Forest Practices Act rules

**IMPLEMENTATION:** The following measures would be implemented during projects:

1. Temporary culverts, side drains, flumes, cross drains, diversion ditches, energy dissipaters, dips, sediment basins, berms, debris racks, or other facilities needed to control erosion would be installed as necessary. The removal of temporary culverts, culvert plugs, diversion dams, or elevated stream-crossing causeways would be completed as soon as practical.
2. The removal of debris, obstruction, and spoil material from channels and floodplains.
3. Seeding with native species to minimize erosion.
4. Installation of drainage structures or cross draining uncompleted roads which are subject to erosion prior to fall or spring runoff.

Erosion control measures must be kept current with ground disturbance, to the extent that the affects area can be rapidly "closed" if weather conditions deteriorate. Areas must not be abandoned for the winter with remedial measures incomplete.

***PRACTICE 15.10 - Control of Road Construction Excavation and Sidecast Material***
***PRACTICE 15.18 - Disposal of Right-of-Way and Roadside Debris***

**Objective:** To insure that unconsolidated excavated and sidecast material, construction slash, and roadside debris generated during road construction is kept out of streams, and to prevent slash and debris from subsequently obstructing channels.

**Effectiveness:** High

**Compliance:** Meets Forest Practices Act rules

**Implementation:** In the construction of road fills near streams, compact the material to reduce the entry of water, and minimize the amount of snow, ice, or frozen soil buried in the embankment. No significant amount of woody material shall be incorporated into fills. Slash and debris may be windrowed along the toe of the fill, but in such a manner as to avoid entry into a stream and culvert blockage.

Where slash windrows are not desirable or practical, other methods of erosion control such as erosion mats, mulch, and straw bale or fabric sediment fences would be used. Where exposed material (excavation, embankment, borrow pits, waste piles, etc.) is potentially erodible, and where sediments would enter streams, the material would be stabilized prior to fall or spring runoff by seeding, compacting, rip-rapping, benching, mulching or other suitable means.

### *PRACTICE 15.13 - Controlling In Channel Excavation*

**OBJECTIVE:** To minimize downstream sedimentation by insuring that all in-channel excavations are carefully planned.

**EFFECTIVENESS:** High

**COMPLIANCE:** Meets SCA rules

**IMPLEMENTATION:** Location and method of stream crossings would be designed and agreed to prior to construction. The following items highlight some of the principal provisions which can be incorporated into the timber sale contract that would govern channel protection:

1. Construction equipment may cross, operate in, or operate near streamcourses only where so agreed to and designed by the Forest Service prior to construction.
2. No construction equipment shall be operated below the existing water surface except that fording the stream at one location only would be permitted, and work below the water level that is necessary for culvert bedding or footing installations would be permitted to the extent that it does not create unnecessary turbidity to stream channel disturbance.
3. Wheeled or track laying equipment shall not be permitted to operate within 25 feet slope distance of the apparent high water mark of Type 5 streams 75 feet of Type 4 streams, except at approved crossings.
4. Construction of any hydraulic structures in stream channels would be in compliance with timber sale contract specifications.

### *PRACTICE 15.14 - Diversion of Flows Around Construction Sites*

**OBJECTIVE:** To minimize downstream sedimentation by insuring that all stream diversions are carefully planned.

**EFFECTIVENESS:** High

**COMPLIANCE:** Meets SCA Rules

**IMPLEMENTATION:** Flow in streamcourses may only be diverted if the Forest Service deems it necessary for the contractor to meet contractual specifications. Such a diverted flow shall be restored to the natural streamcourse as soon as practicable. Stream channels impacted by construction activity would be restored to their natural grade, condition, and alignment.

### *PRACTICE 15.17 - Regulation of Borrow pits, Gravel Sources and Quarries*

**OBJECTIVE:** To minimize sediment production from borrow pits, gravel sources, and quarries, and limit channel disturbances in those gravel sources suitable for development in floodplains.

**EFFECTIVENESS:** High

**COMPLIANCE:** No Related Forest Practices Act RULE

**IMPLEMENTATION:** Minimize opportunities for erosion from borrow pits and gravel sources from entering streams.

1. Complete any crushing and/or screening of excavating bedload away from any active stream channels and minimize future opportunities for waste materials to enter area streams, even under flood conditions.
2. Identify and implement opportunities to minimize erosion from existing borrow pits within the drainage.
3. If development of new rock sources are needed within the watershed, complete a pit development plan or rock source development plan which outlines all mitigation measures needed to control future erosion of the rock source.

### *PRACTICE 15.18 - Disposal of Right-of-Way and Roadside Debris*

**OBJECTIVE:** To insure that debris generated during road construction is kept out of streams and to prevent slash and debris from subsequently obstructing channels. Also see Practice 15.10

**EFFECTIVENESS:** High

**COMPLIANCE:** Meets Forest Practices Act Rules

**IMPLEMENTATION:** Disposal of Right-of-Way and roadside slash be accomplished with one or more of the following practices.

1. Windrowing
2. Scattering
3. Chipping
4. Piling and Burning
5. Removal to previously agreed to locations.

Solid cull logs may be bucked into manageable lengths and piled alongside the road for fuelwood. No wood may obstruct flow in ditchlines or culverts.

### *PRACTICE 15.19 Streambank Protection*

**OBJECTIVE:** To minimize sediment production from streambanks and structural abutments in natural waterways.

**EFFECTIVENESS:** Moderate

**COMPLIANCE:** Meets Forest Practices Act Rules

**IMPLEMENTATION:** To reduce sediment and channel bank degradation at sites disturbed by construction of stream crossing or roadway fill, it may be necessary to incorporate "armoring" in the design of a structure to allow the water course to stabilize after construction. Riprap, gabion structures, and other measures are commonly used to armor stream banks and drainage ways from the erosive forces of the flowing water. These measures must be sized and installed in such a way that they effectively resist erosive water velocities. Stone used for riprap should be free from weakly structured rock, soil, organic material and materials of insufficient size, all of which are not resistant to stream flow and would only service as sediment sources. Outlets for drainage facilities in erodible soils commonly require rip-rapping for energy dissipation. See conservation practice 14.17 for additional measures.

### *PRACTICE 15.21 - Maintenance of Roads*

**OBJECTIVE:** To conduct regular preventive maintenance operations to avoid deterioration of the roadway surface and minimize disturbance and damage to water quality, and fish habitat.

**EFFECTIVENESS:** Moderate

**COMPLIANCE:** Meets Forest Practices Act Rules

**IMPLEMENTATION:** For roads in active timber sale areas, standard timber sale contract provisions require the Purchaser to perform or pay for road maintenance work commensurate with the Purchaser's use. Purchaser's maintenance responsibility shall cover the before, during and after operations period during any year when operations and road use are performed under the terms of the Timber Sale Contract. All maintenance work shall be done concurrently, as necessary, at least to the following minimum standards:

1. Culverts and ditches shall be kept functional.
2. During and upon completion of seasonal operations, the road surface shall be crowned, out-sloped, in-sloped or waterbarred, and berms removed from the outside edge except those intentionally constructed for protection of fills.
3. The road surface shall be maintained as necessary to minimize erosion of the subgrade and to provide proper drainage.
4. If road surface stabilizing materials are used, apply them in such a manner as to prevent their entry into streams.
5. Sidecast of all material associated with road maintenance would be done in a manner to prevent its entry into streams.
6. Slumps, slides and other erosion features causing stream sedimentation would be kept repaired and stabilized.

### *PRACTICE 15.22 - Road Surface Treatment to Prevent Loss of Materials*

**OBJECTIVE:** To minimize the erosion of road surface materials and consequently reduce the likelihood of sediment production.

**EFFECTIVENESS: High**

**COMPLIANCE:** No directly related Forest Practices Act Rule

**IMPLEMENTATION:** On timber sale roads, the Purchaser shall undertake measures to prevent excessive loss of road material if the need for such action has been identified by the interdisciplinary team. Road surface treatments may include: watering, applying magnesium chloride, sealing, aggregate surfacing, chip-sealing, or paving.

### *PRACTICE 15.24 - Snow Removal Controls*

**OBJECTIVE:** To minimize the impact of snow melt on road surfaces and embankments and to reduce the probability of sediment production resulting from snow removal operations.

**EFFECTIVENESS:** Moderate

**COMPLIANCE:** No directly related Forest Practices Act Rule

**IMPLEMENTATION:**

1. The Purchaser is responsible for snow removal in a manner that would protect roads and adjacent resources.
2. Rocking or other special surfacing and/or drainage measures may be necessary, before the operator is allowed to use the roads.
3. During snow removal operations, banks shall not be undercut nor shall gravel or other selected surfacing material be bladed off the roadway surface. Ditches and culverts shall be kept functional during and following roadway use. If the road surface is damaged, the Purchaser shall replace lost surface material with similar quality material and repair structures damaged in blading operations.
4. Snow berms shall not be left on the road surface or shall be placed to avoid channelization or concentration of melt water on the road or erosive slopes. Berms left on the shoulder of the road shall be removed and/or drainage holes opened at the end of winter operations and before spring breakup. Drainage holes shall be spaced as required to obtain satisfactory surface drainage without discharge on erodible fills. On insloped roads, drainage holes shall also be provided on the ditch side, but care taken to insure that culvert inlets are not damaged.

# Appendix B – Noxious Weeds

Several noxious and undesirable weed species occur or may occur in the project area, including weeds designated by the State of Washington as noxious and those considered for control by the Priest Lake Ranger District. Some weed species are not known in or near the project area but are potential new invaders. The list of noxious weeds includes the following:

| **Common name** | **Scientific name** |
|---|---|
| Tansy ragwort | *Senecio jacobaea* |
| Scotch broom | *Cytisus scoparius* |
| Purple loosestrife | *Lythrum salicaria* |
| Leafy spurge | *Euphorbia esula* |
| Musk thistle | *Carduus nutans* |
| Diffuse knapweed | *Centaurea diffusa* |
| Spotted knapweed | *Centaurea biebersteinii* |
| Rush skeletonweed | *Chondrilla juncea* |
| Meadow hawkweed | *Hieraceum caespitosum* |
| Orange hawkweed | *Hieraceum aurantiacum* |
| Dalmatian toadflax | *Linaria genistifolia* ssp. *dalmatica* |
| Oxeye daisy | *Leucanthemum vulgare* |
| Sulfur cinquefoil | *Potentilla recta* |
| Goatweed | *Hypericum perforatum* |
| Canada thistle | *Cirsium arvense* |
| Bull thistle | *Cirsium vulgare* |
| Houndstongue | *Cynoglossum officinale* |
| Common tansy | *Tanacetum vulgare* |
| Dyer’s woad | *Isatis tinctoria* |
| Mousear hawkweed | *Hieracem pilosella* |
| Common crupina | *Crupina vulgare* |
| Scotch thistle | *Onopordum acanthium* |
| Perennial pepperweed | *Lepidium latifoliium* |
| Russian knapweed | *Acroptilon repens* |
| Brown knapweed | *Centaurea jacea* |
| Black knapweed | *Centaurea nigra* |
| Gorse | *Ulex europaeus* |
| Japanese knotweed | *Polygonum cuspidatum* |
| Bighead knapweed | *Centaurea macrocephala* |
| Vochin knapweed | *Centaurea nigrescens* |
| Buffalobur | *Solanum rostratum* |
| Meadow knapweed | *Centaurea jacea x nigra* |
| Babysbreath | *Gypsophila paniculata* |
| Common bugloss | *Anchusa officianalis* |
| Viper’s bugloss | *Echium vulgare* |

As specified in Features Common to All Action Alternatives, the private landowner would be required to monitor for and treat the above species on newly constructed special use authorization road for three years following each period of use. Treatment must be conducted according to the Integrated Pest Management Strategy outlined in the Priest Lake Noxious Weed Control Project Record of Decision and Final EIS (USDA 1997).

Treatment methods may include cultural, mechanical, biological and chemical. Any chemical control would be conducted in accordance with label guidelines and would be performed or directly supervised by a licensed pesticide applicator.

The private landowner would be required to submit a monitoring report to the District Weed Coordinator annually during the above mentioned three-year period. A weed treatment report, and pesticide use report if necessary, would also be submitted. A sample report format follows.

The list of Noxious Weeds of Pend Oreille County from the Washington State Noxious Weed Control Board is included in the project file. A copy of the Priest Lake Noxious Weed Control Project Final EIS is available at the Priest Lake Ranger District.

**NOXIOUS WEED MONITORING AND TREATMENT REPORT**

**Sale / Area:______________________________** **Date:_________________** **Observers:__________________________________**

**Survey Method:** **Vehicle** **Foot** **Bike** **ATV** **Page _______ of _______**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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5 = EXTREME
4 = VERY HIGH
3 = HIGH
2 = MODERATE
1 = LOW
0 = NONE

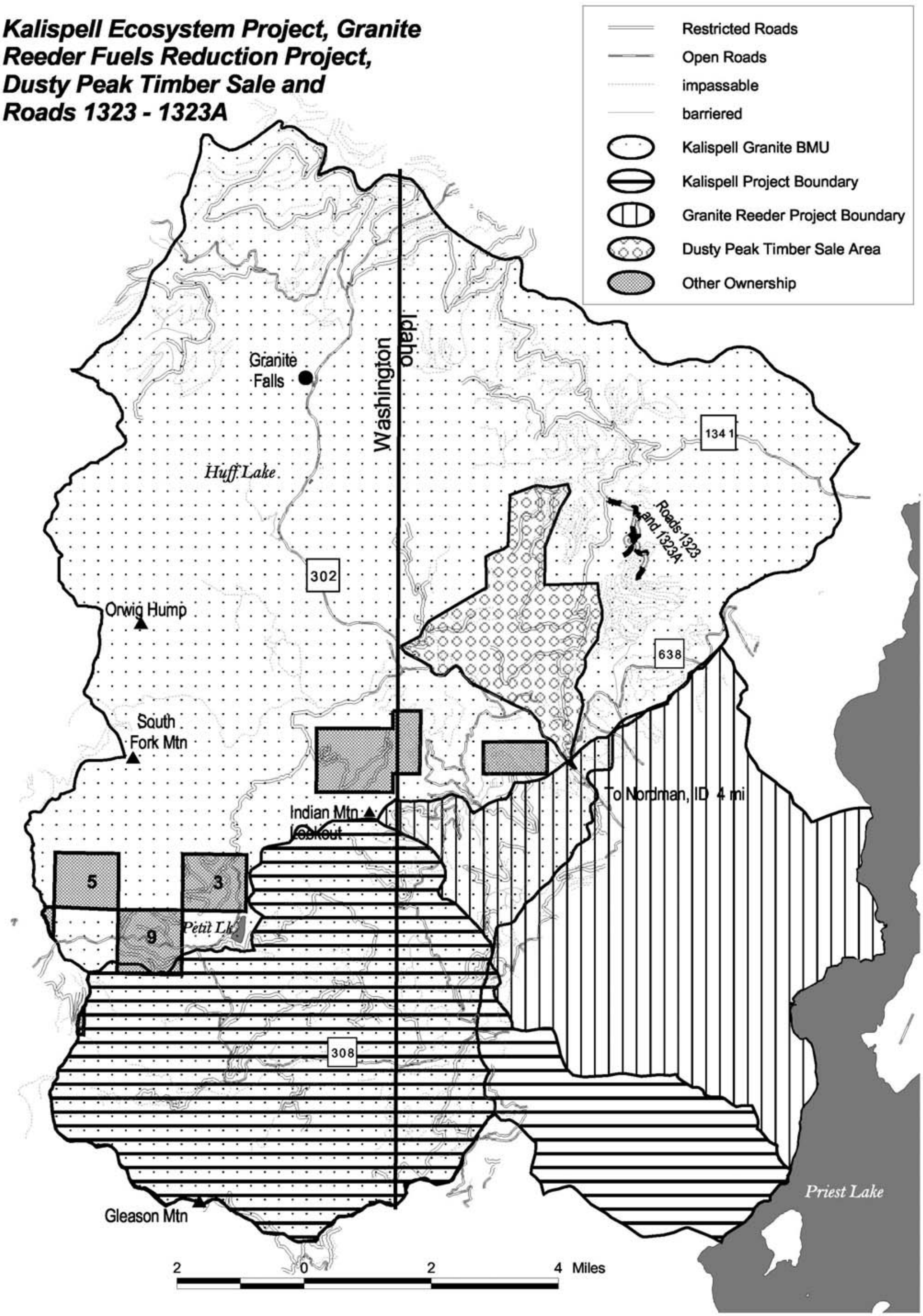
SK = Spotted Knapweed
MH = Meadow Hawkweed
OH = Orange Hawkweed
DT = Dalmatian Toadflax
SJ = St. John's Wort

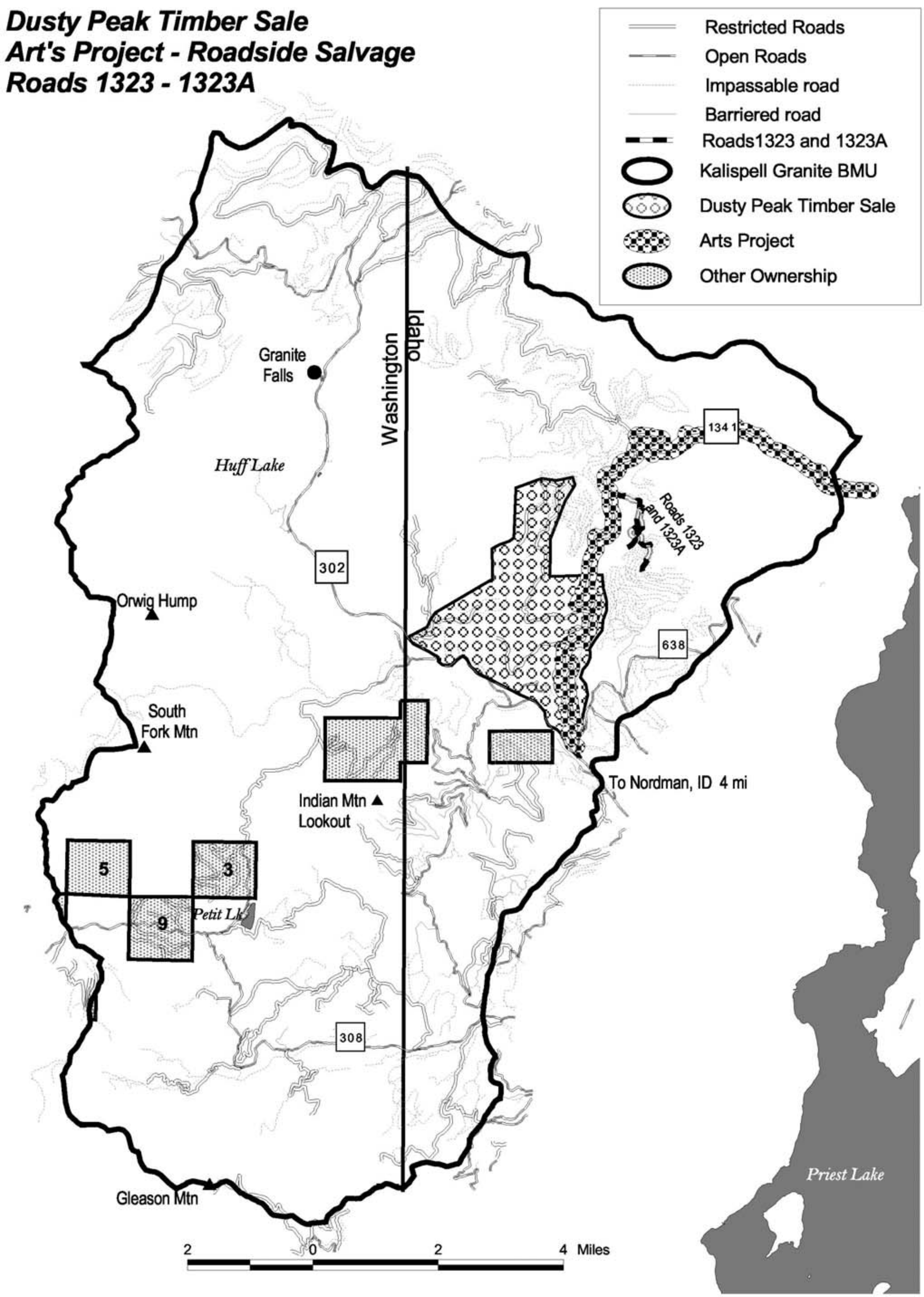
TH = Thistle
CT = Common Tansy
HT = Hound's Tongue
OD = Oxeye Daisy
?? = *

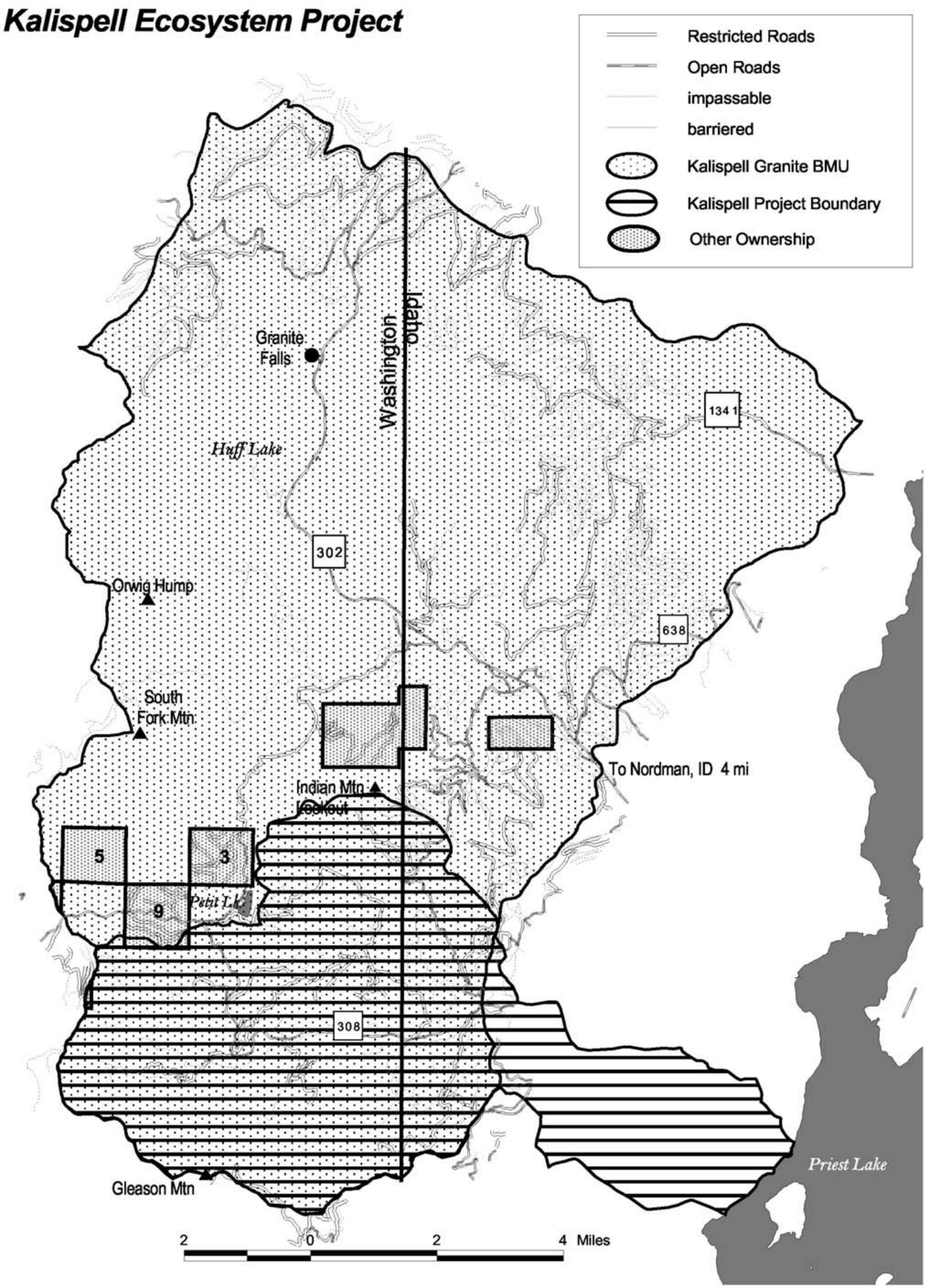
*New Invaders: Leafy Spurge, Diffuse Knapweed, Russian Knapweed, Purple Loosestrife, Scotch Broom, Yellow Starthistle, or other

# Appendix C – Maps Supporting Cumulative Effects Analyses

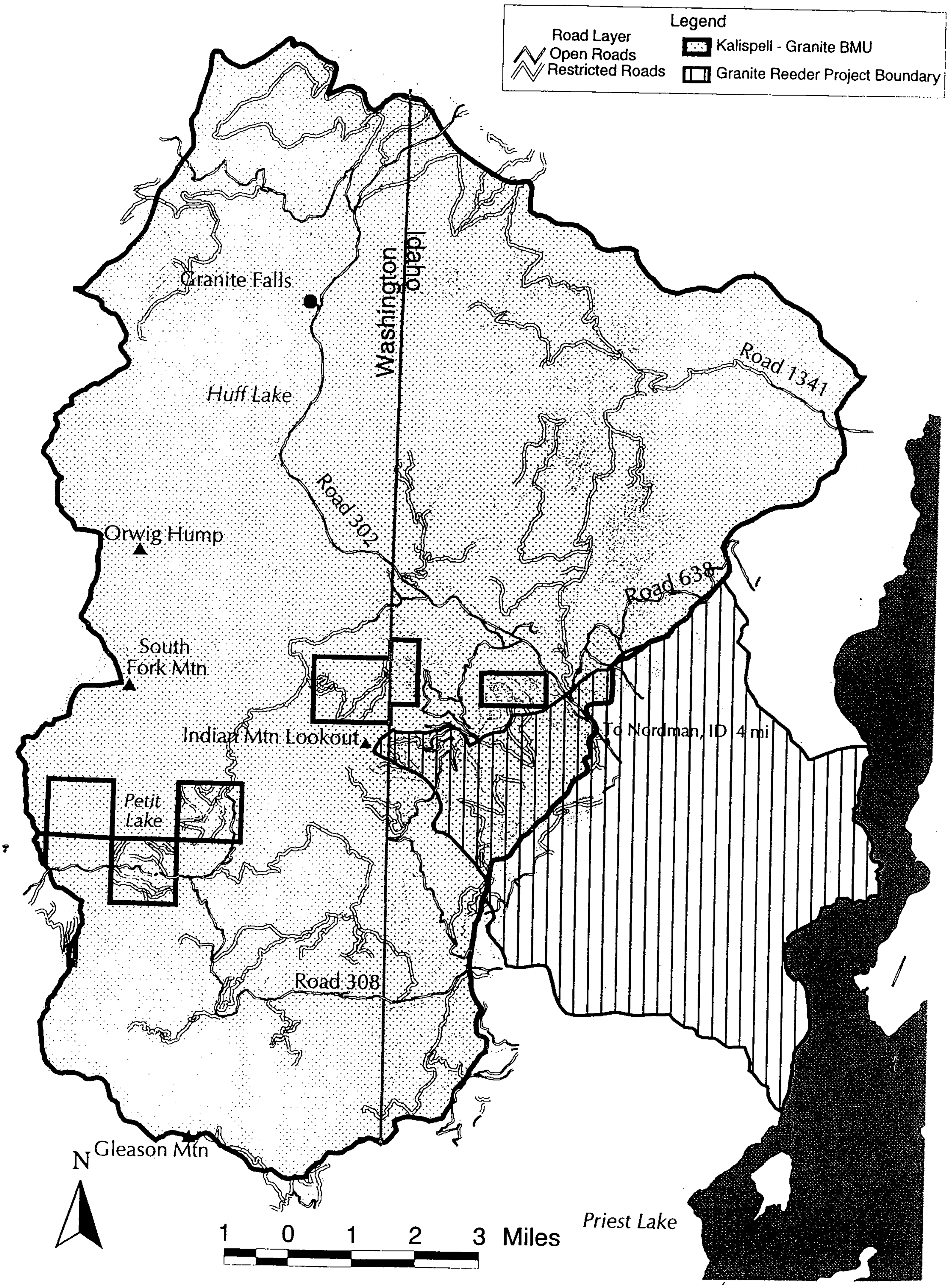
# Kalispell Ecosystem Project, Granite Reeder Fuels Reduction Project, Dusty Peak Timber Sale and Roads 1323 - 1323A




Dusty Peak Timber Sale
Art's Project - Roadside Salvage
Roads 1323 - 1323A
Restricted Roads
Open Roads
Impassable road
Barriered road
Roads1323 and 1323A
Kalispell Granite BMU
Dusty Peak Timber Sale
Arts Project
Other Ownership
Granite Falls
Washington
Idaho
Huff Lake
1341
Roads 1323 and 1323A
302
638
Orwig Hump
South Fork Mtn
To Nordman, ID 4 mi
Indian Mtn Lookout
5
3
9
Petit Lk
308
Priest Lake
Gleason Mtn
2
0
2
4 Miles


Kalispell Ecosystem Project
Restricted Roads
Open Roads
impassable
barriered
Kalispell Granite BMU
Kalispell Project Boundary
Other Ownership
Washington
Idaho
Granite Falls
Huff Lake
1341
302
Orwig Hump
638
South Fork Mtn
To Nordman, ID 4 mi
Indian Mtn Lookout
5
3
9
Petit Lk
308
Priest Lake
Gleason Mtn
2
0
2
4 Miles

# Granite Reeder Fuels Reduction Project



**STIMSON LUMBER COMPANY**
Inland Fee Resources
P.O. Box 1499
Newport, WA 99156
(509) 447-3686
Fax: (509) 447-2765

April 15, 2002

Ms. Debbie A. Butler
Priest Lake Ranger District
32203 Highway 57
Priest Lake, ID 83856

Dear Debbie,

SUBJECT: STIMSON EIS

Enclosed are updated maps for recent activity and proposed future activity on Stimson's land within the South Fork Granite Creek area. This is our current best estimate of what management activity might occur and is subject to change based on forest health issues, market conditions, and the business needs of Stimson Lumber Company. No maps are included for Sections 31 & 33, T62N, R5W, B.M., since I don't believe they were included in previous analysis; they have a history of older harvests and no imminent management activity for a couple of decades. None of the information provided with this letter is intended to dictate what area the Forest Service should use to assess the effects of the action.

Also, enclosed is another copy of Stimson's grizzly bear best management practices (BMP's) identified as Attachment E in the LeClerc Creek Conservation Agreement with the Colville Forest. As discussed at our January 17, 2001, meeting it is Stimson's policy to apply these specific BMP's to all of its timberlands within the grizzly bear recovery zone, however, it should not be construed that Stimson will apply all of the other requirements from the LeClerc Conservation Agreement to the South Fork Granite Creek area.

Please contact me if there are any questions on this. I continue to look forward to the timely completion of the EIS and the issuance of the easement documents.

Sincerely,

Dwight C Opp

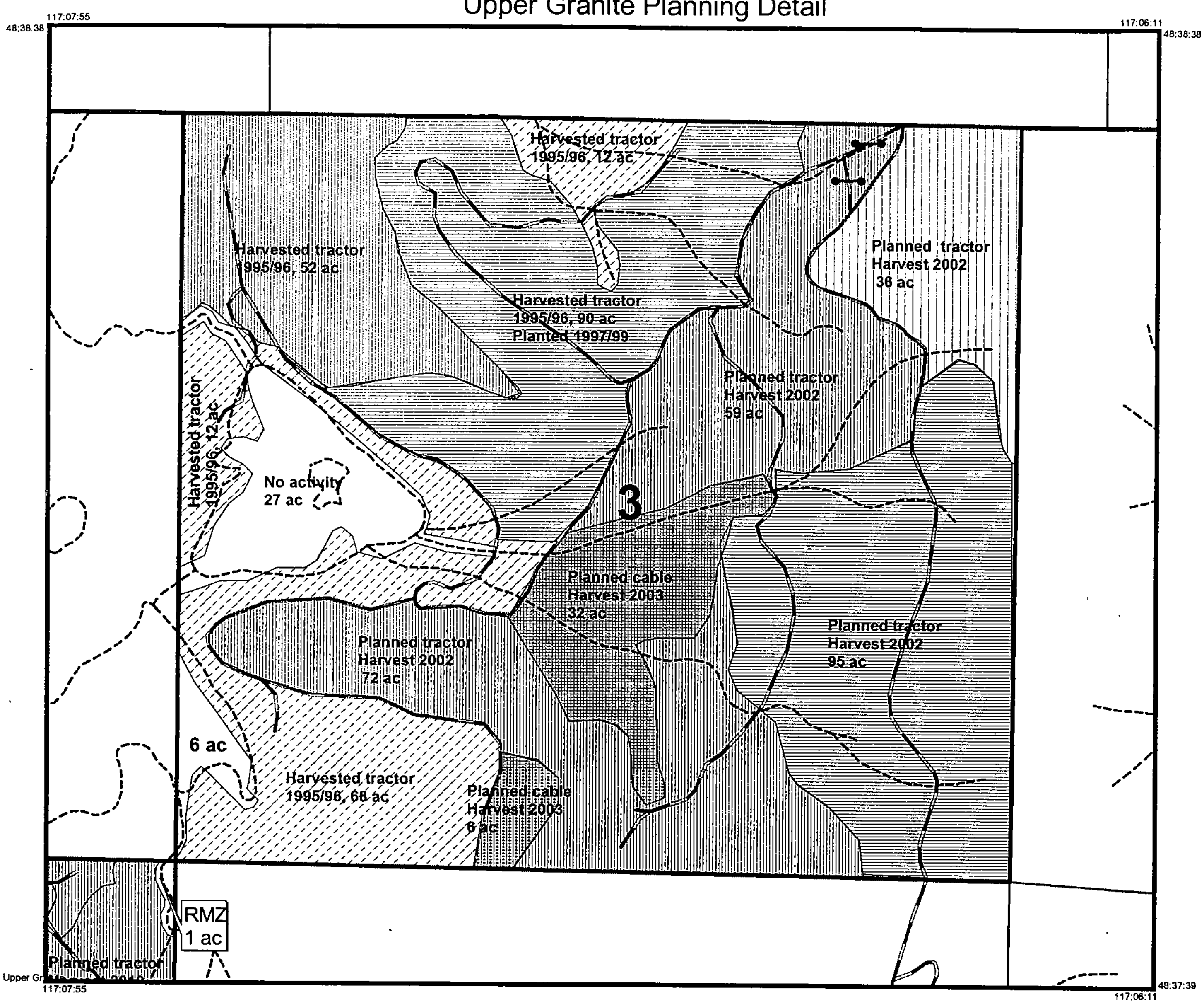
Dwight C. Opp
Fee Land Manager

DCO/do
cc: J H McGhehey
Scott Horngren

STIMSON LUMBER COMPANY

# Pend Oreille Unit
## Sec 3- T36N- R45E, W.M.
## Upper Granite Planning Detail

Exhibit A




| Harvest Type | % BA Removal | Past | Planned | Total |
|---|---|---|---|---|
| No Activity Planned | 0% | N/A | N/A | 33 ac |
| RMZ | 25% | 00 | 38 | 38 ac |
| Partial Cut | 50% | 92 | 00 | 92 ac |
| Selective | 60% | 00 | 36 | 36 ac |
| Overstory Removal | 70% | 00 | 00 | 00 ac |
| Shelterwood | 85% | 52 | 131 | 183 ac |
| Seedtree/Clearcut | 95% | 90 | 95 | 185 ac |

Stimson
Section Lines
Existing Roads
Proposed Roads
Creeks
Boundary Edge

Wetland/Core Zones (0%)
RMZ (25%)
Partial (50%)
OSR (70%)
Selective (60%)
Shelterwood (85%)
Seedtree/Clearcut (95%)

Gates

Scale: 1:12000
Date: 4/11/02
Map Type: Harvest
County: Pend Oreille
Prepared By: T. F. Carlson

N

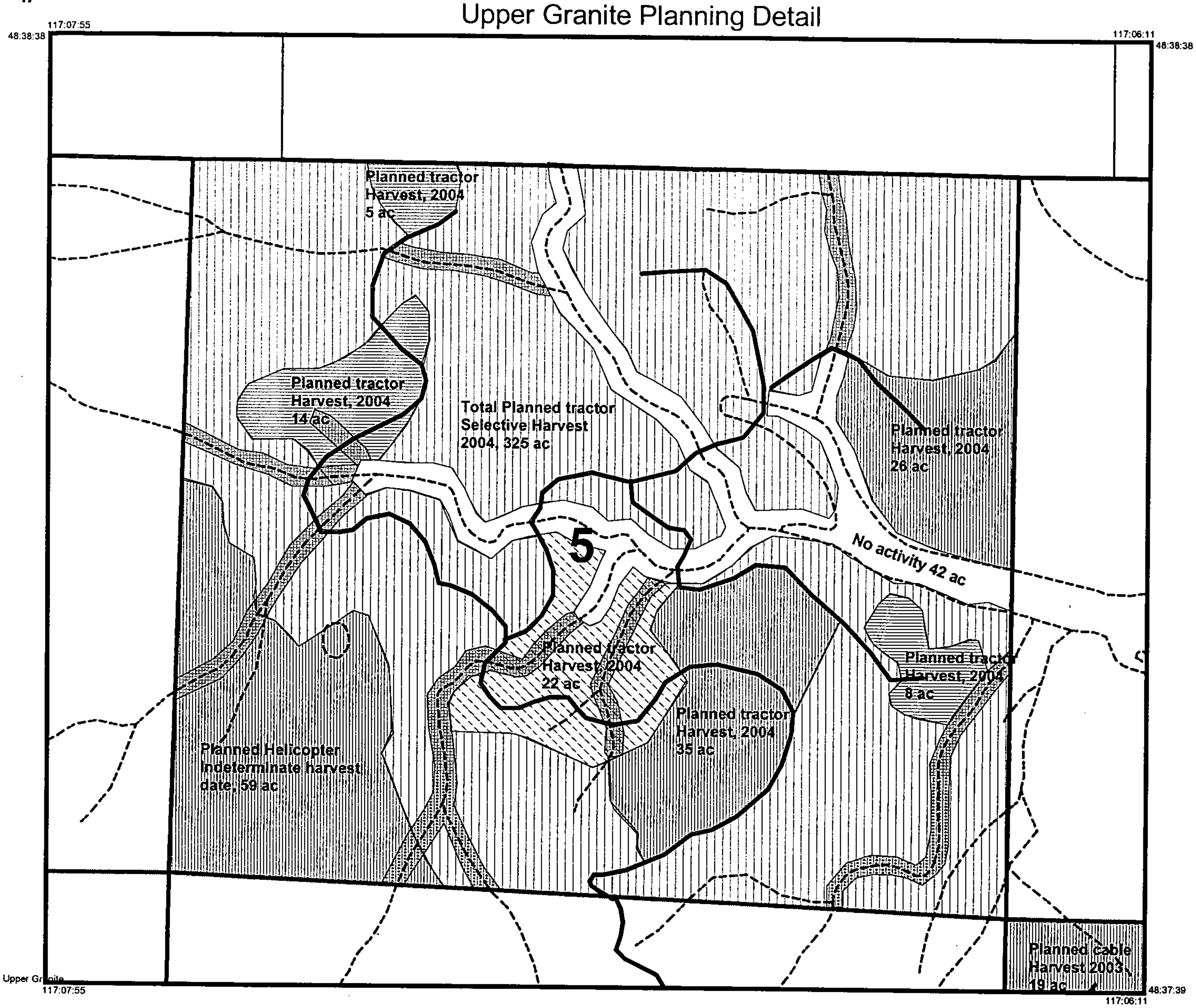
Remark:

Sec:

STIMSON LUMBER COMPANY

# Pend Oreille Unit
# Sec 5- T36N- R45E, W.M.
# Upper Granite Planning Detail

Exhibit A




| Harvest Type | % BA Removal | Past | Planned | Total |
|---|---|---|---|---|
| No Activity Planned | 0% | N/A | N/A | 42 ac |
| RMZ | 25% | 00 | 28 | 28 ac |
| Partial Cut | 50% | 00 | 00 | 00 ac |
| Selective | 60% | 00 | 325 | 325 ac |
| Overstory Removal | 70% | 00 | 22 | 22 ac |
| Shelterwood | 85% | 00 | 120 | 120 ac |
| Seedtree/Clearcut | 95% | 00 | 27 | 27 ac |

Stimson
Section Lines
Existing Roads
Proposed Roads
Creeks
Boundary Edge

Wetland/Core Zones (0%)
RMZ (25%)
Partial (50%)
OSR (70%)
Selective (60%)
Shelterwood (85%)
Seedtree/Clearcut (95%)

Gates

Scale: 1:12000
Date: 4/11/02
Map Type: Harvest
County: Pend Oreille
Prepared By: T. F. Carlson

N

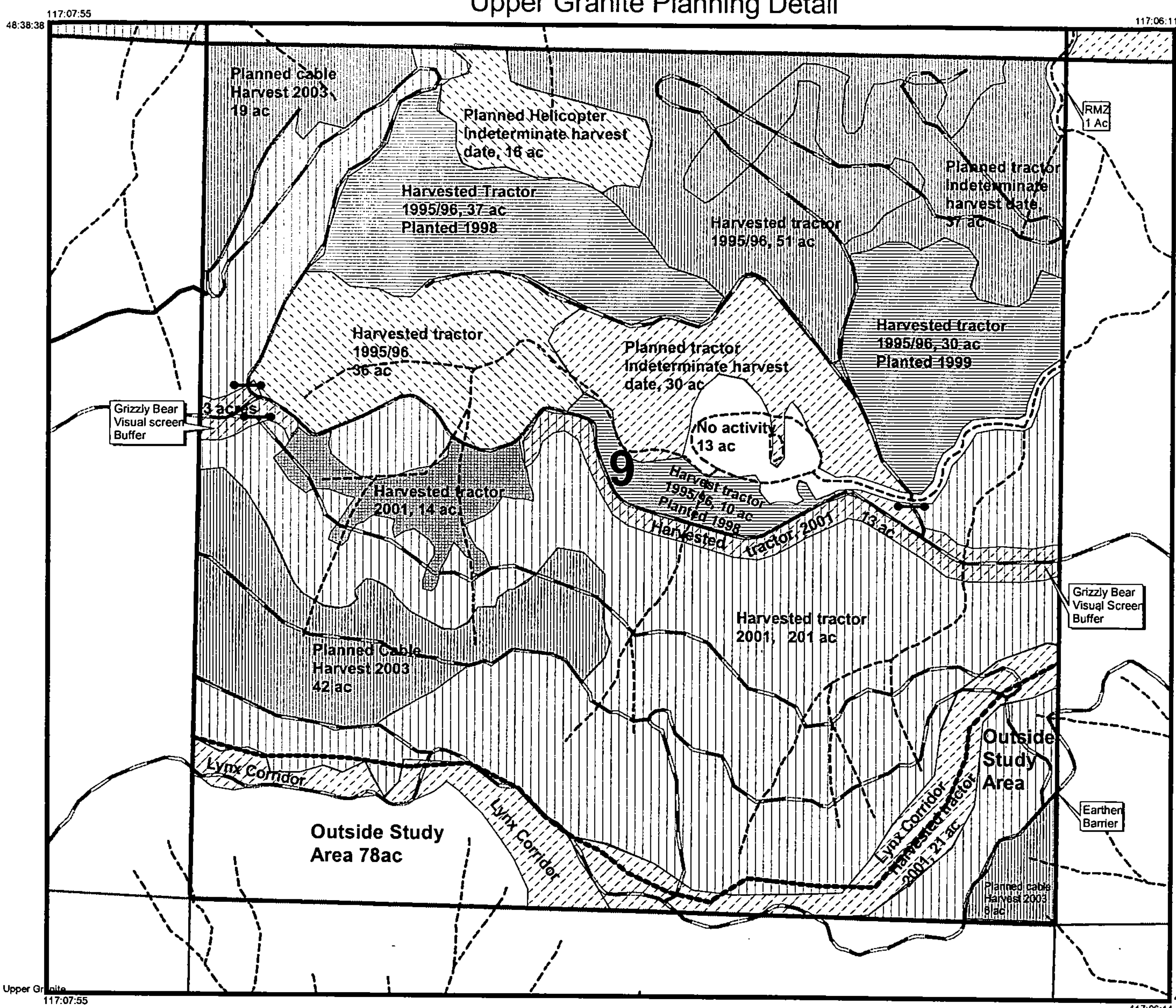
Remark:

Sec:

STIMSON LUMBER COMPANY

# Pend Oreille Unit
# Sec 9- T36N- R45E, W.M.
# Upper Granite Planning Detail

Exhibit A




| Harvest Type | % BA Removal | Past | Planned | Total |
|---|---|---|---|---|
| No Activity Planned | 0% | N/A | N/A | 14 ac |
| RMZ | 25% | 14 | 00 | 14 ac |
| Partial Cut | 50% | 25 | 30 | 55 ac |
| Selective | 60% | 201 | 00 | 201 ac |
| Overstory Removal | 70% | 36 | 16 | 52 ac |
| Shelterwood | 85% | 51 | 98 | 149 ac |
| Seedtree/Clearcut | 95% | 77 | 00 | 77 ac |

Stimson
Section Lines
Existing Roads
Proposed Roads
Creeks
Boundary Edge

Wetland/Core Zones (0%)
RMZ (25%)
Partial (50%)
OSR (70%)
Selective (60%)
Shelterwood (85%)
Seedtree/Clearcut (95%)

Gates

Scale: 1:12000
Date: 4/11/02
Map Type: Harvest
County: Pend Oreille
Prepared By: T. F. Carlson

N

Remark:

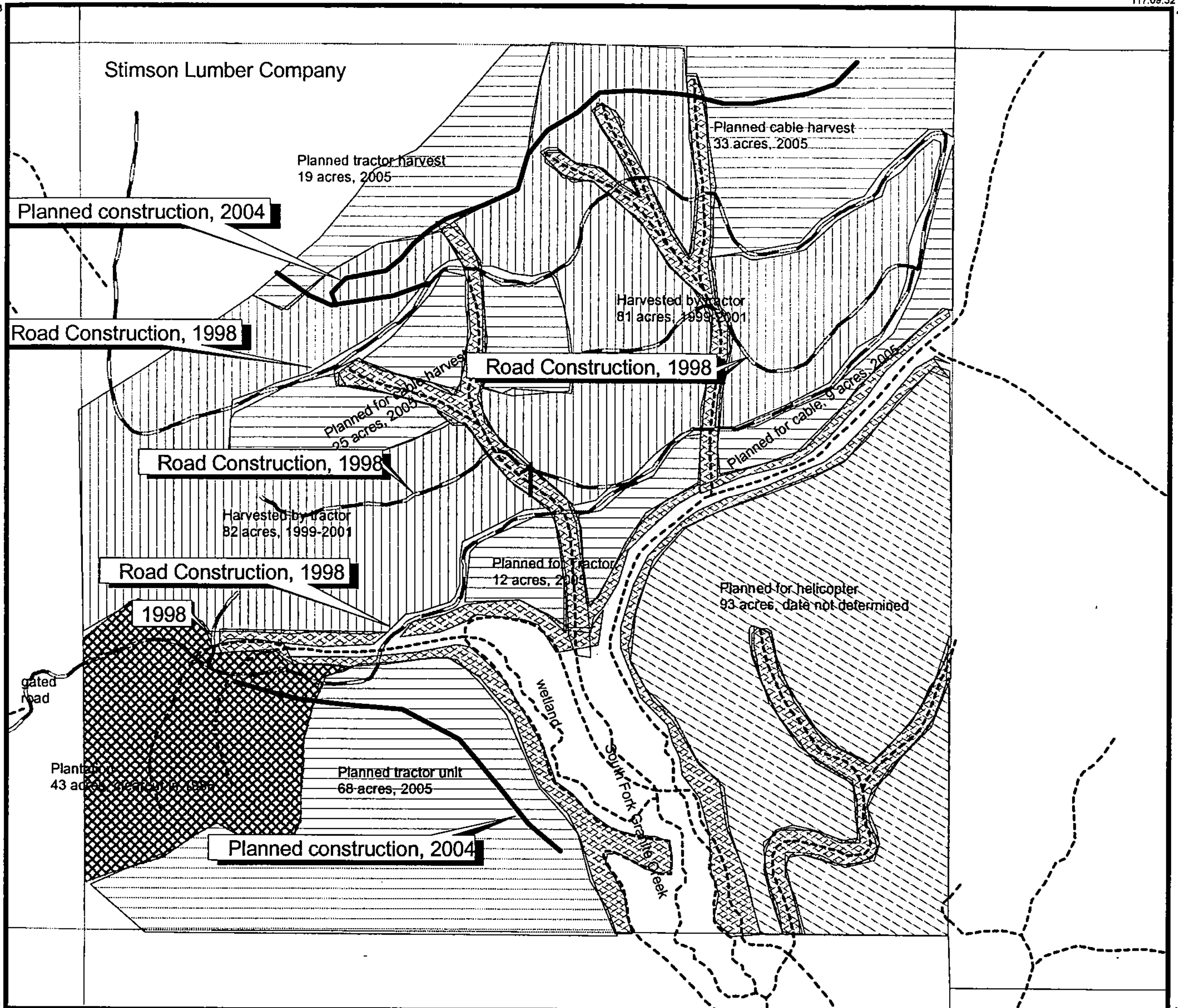
Sec:

STIMSON LUMBER COMPANY

# LeClerc Unit
# Sec 1, T37N, R44E, WM
# Upper Granite Creek Planning Detail

Exhibit A

117:11:36
48:44:38
117:09:52
48:44:39




48:43:39
117:11:36
48:43:39
117:09:51

| Harvest Type | % BA Removed | Past Acres | Planned Acres |
|---|---|---|---|
| Selective/Comm. Thin | 60% | 163 | 164 |
| Clearcut | 100% | 43 | 0 |
| Overstory Removal | 60% | 0 | 93 |
| Selective (RMZ) | 10% | 18 | 60 |
| Roads | 100% | 14 | 5 |
| Wetland/Core Zones | n/a | 0 | 32 |
| Riparian/ Wetland Management Zones | 20% | 22 | 33 |

Lines:
- Road Construction
- Ck37n44e
- Roads

Polygons:
- Plantation
- Harvested Selective (60%)
- Planned Selective (60%)
- OSR (60%)
- RMZ/WMZ (20%)
- Wetland/Core Zone (0%)

Symbols:

Scale: 1:12000
Date: 4/10/02
Map Type: Harvest Plan
County: Pend Oreille
Prepared By: Doug Smith

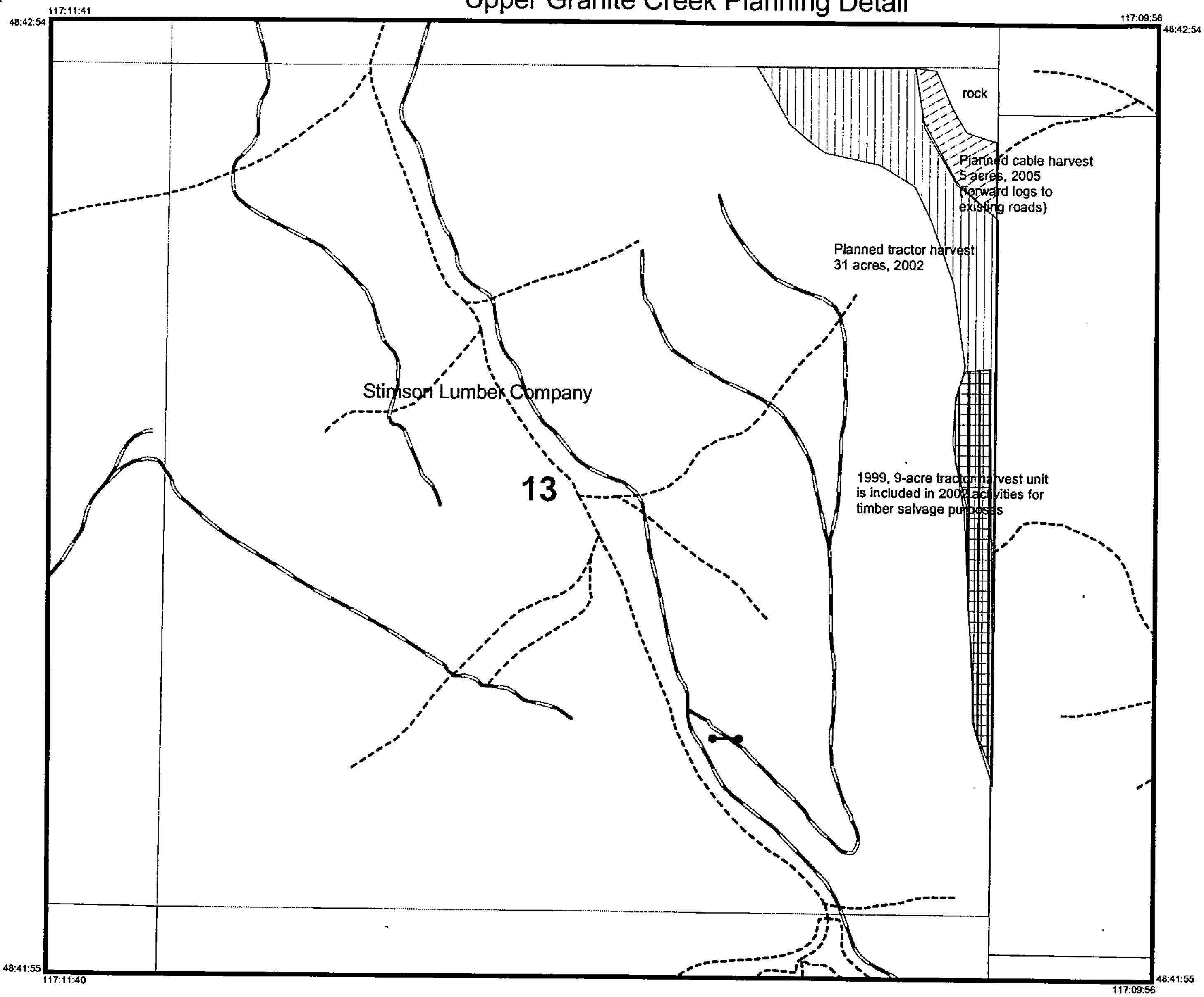
N

Remark: 70 acres in Section 1 are outside the hydrological boundary of Granite Creek

STIMSON LUMBER COMPANY

LeClerc Unit
Sec 13, T37N, R44E, WM
Upper Granite Creek Planning Detail

Exhibit B




| Harvest Type | % BA Removed | Past Acres | Planned Acres |
|---|---|---|---|
| Selective | 10% | 9 | 9 |
| | 25% | 0 | 22 |
| Overstory Removal | 60% | 0 | 5 |

Lines:
- Ck37n44e
- Roads

Polygons:
- Selective (25%)
- Selective (10%)
- OSR (60%)

Symbols:
- Gate

Scale: 1:12000
Date: 4/10/02
Map Type: Harvest Plan
County: Pend Oreille
Prepared By: Doug Smith

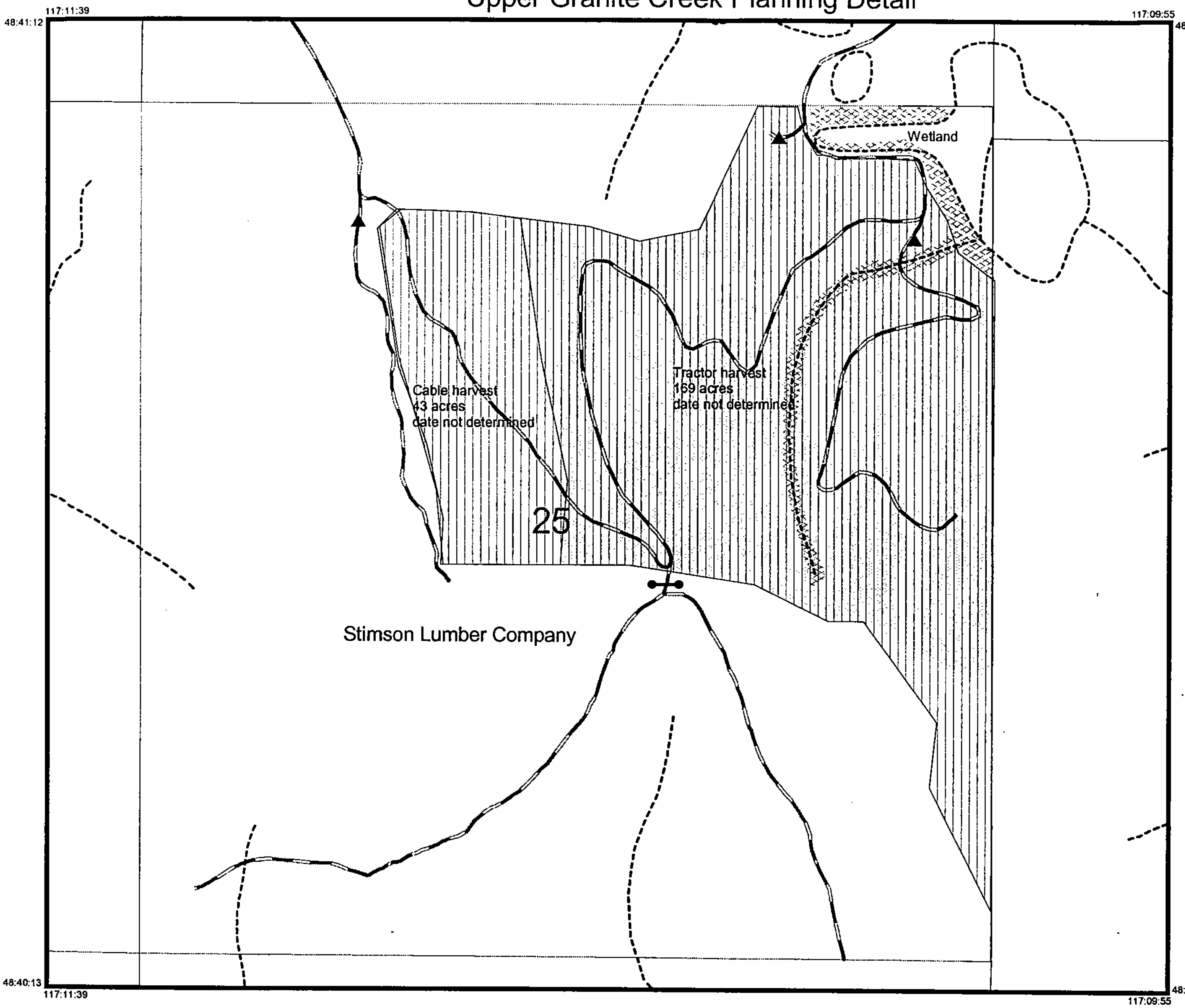
N

Remark: 601 acres in Section 13 are outside the hydrological boundary of Granite Creek

STIMSON LUMBER COMPANY

LeClerc Unit
Sec 25, T37N, R44E, WM
Upper Granite Creek Planning Detail

Exhibit C




| Harvest Type | % BA Removed | Past Acres | Planned Acres |
|---|---|---|---|
| Selective | 40% | 162 | 212 |
| Riparian/Wetland Management Zones | 20% | 0 | 10 |

162 acres was selectively tractor logged in 1996.
That harvest plan was for the removal of 27% of stand volume.

Lines:
- Ck37n44e
- Roads

Polygons:
- RMZ/WMZ (20%)
- Selective (40%)
- Selective 1996

Symbols:
- Barricade
- Gate

Scale: 1:12000
Date: 4/10/02
Map Type: Harvest Plan
County: Pend Oreille
Prepared By: Doug Smith

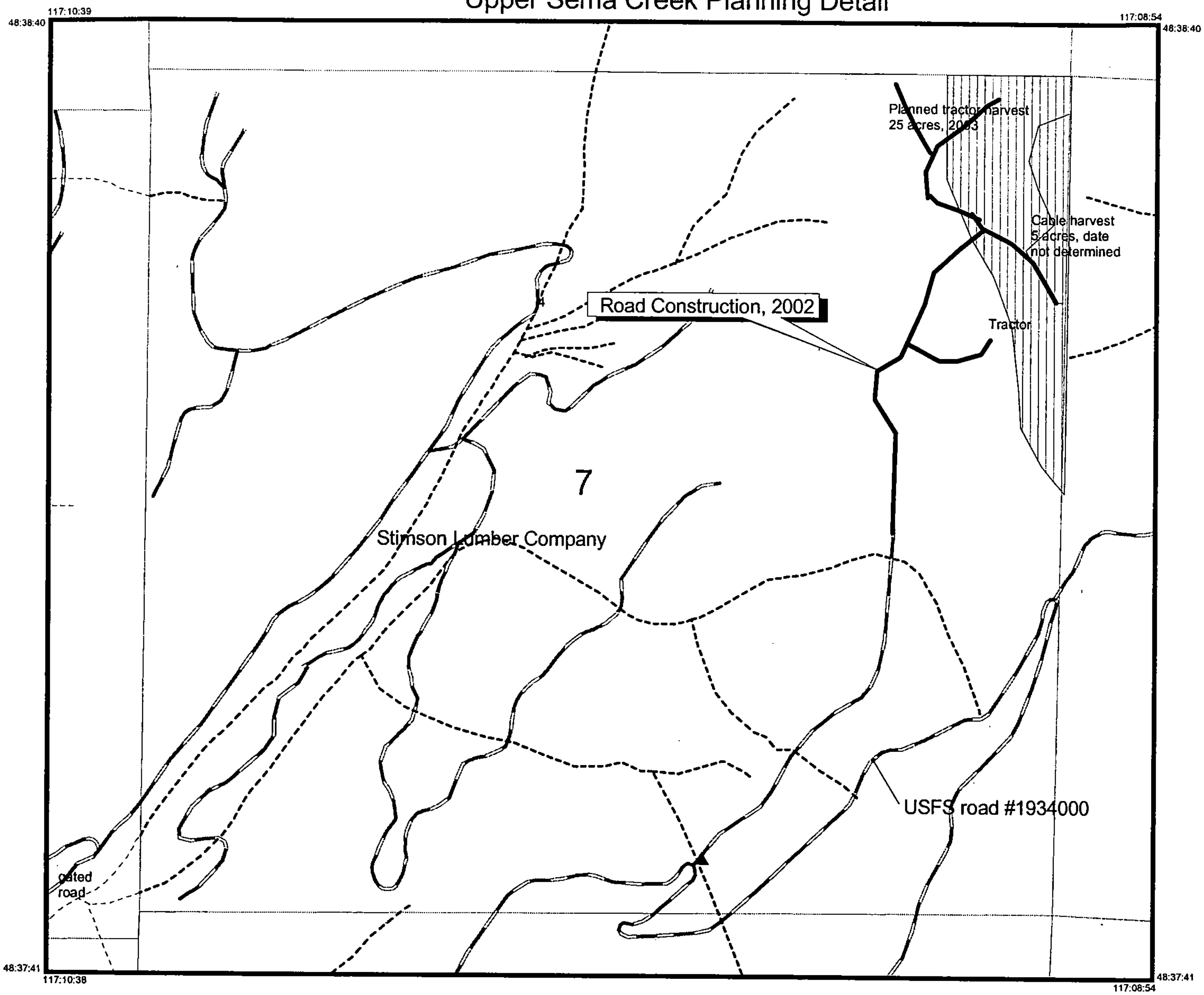
N

Remark: 412 acres in Section 25 are outside the hydrological boundary of Granite Creek

STIMSON LUMBER COMPANY

# LeClerc Unit
## Sec 7, T36N, R45E, WM
## Upper Sema Creek Planning Detail

Exhibit D




| Harvest Type | % BA Removed | Past Acres | Planned Acres |
|---|---|---|---|
| Selective | 50% | 0 | 29 |
| Road Construction | 100% | 0 | 1 |

Lines:
- Streams
- Roads
- Road construction

Polygons:
- Section lines
- Selective (50%)

Symbols:
- ▲ Barricade

Scale: 1:12000
Date: 4/10/02
Map Type: Harvest Plan
County: Pend Oreille
Prepared By: Doug Smith

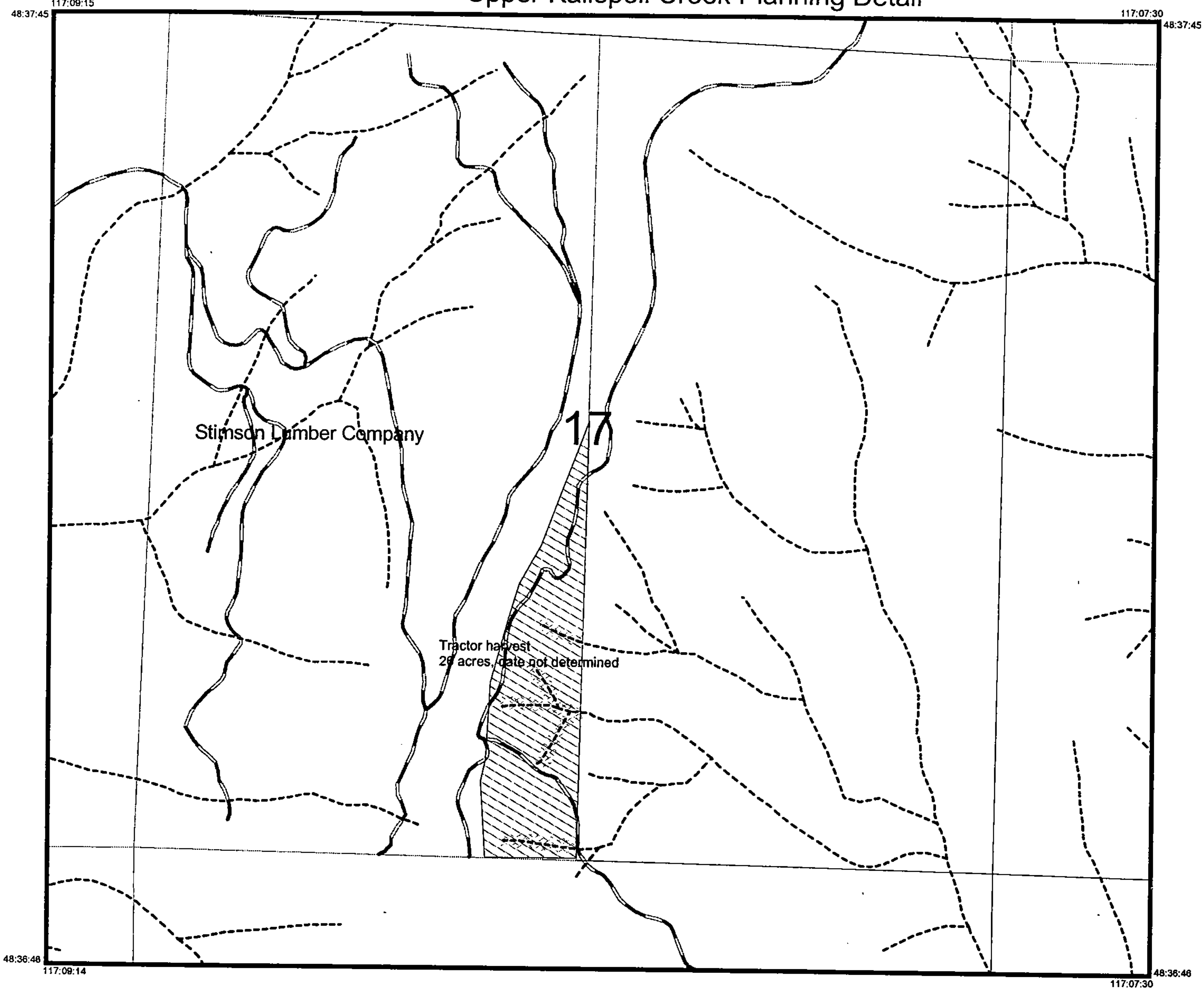
N

Remark: 663 acres in Section 7 are outside the hydrological boundary of Sema Creek

STIMSON LUMBER COMPANY

# LeClerc Unit
# Sec 17, T36N, R44E, WM
# Upper Kalispell Creek Planning Detail

Exhibit E




| Harvest Type | % BA Removed | Past Acres | Planned Acres |
|---|---|---|---|
| Overstory Removal | 60% | 0 | 26 |

Lines:

Streams
Roads

Polygons:

Stream buffer
OSR (60%)

Symbols:

Scale: 1:12000
Date: 4/10/02
Map Type: Harvest Plan
County: Pend Oreille
Prepared By: Doug Smith

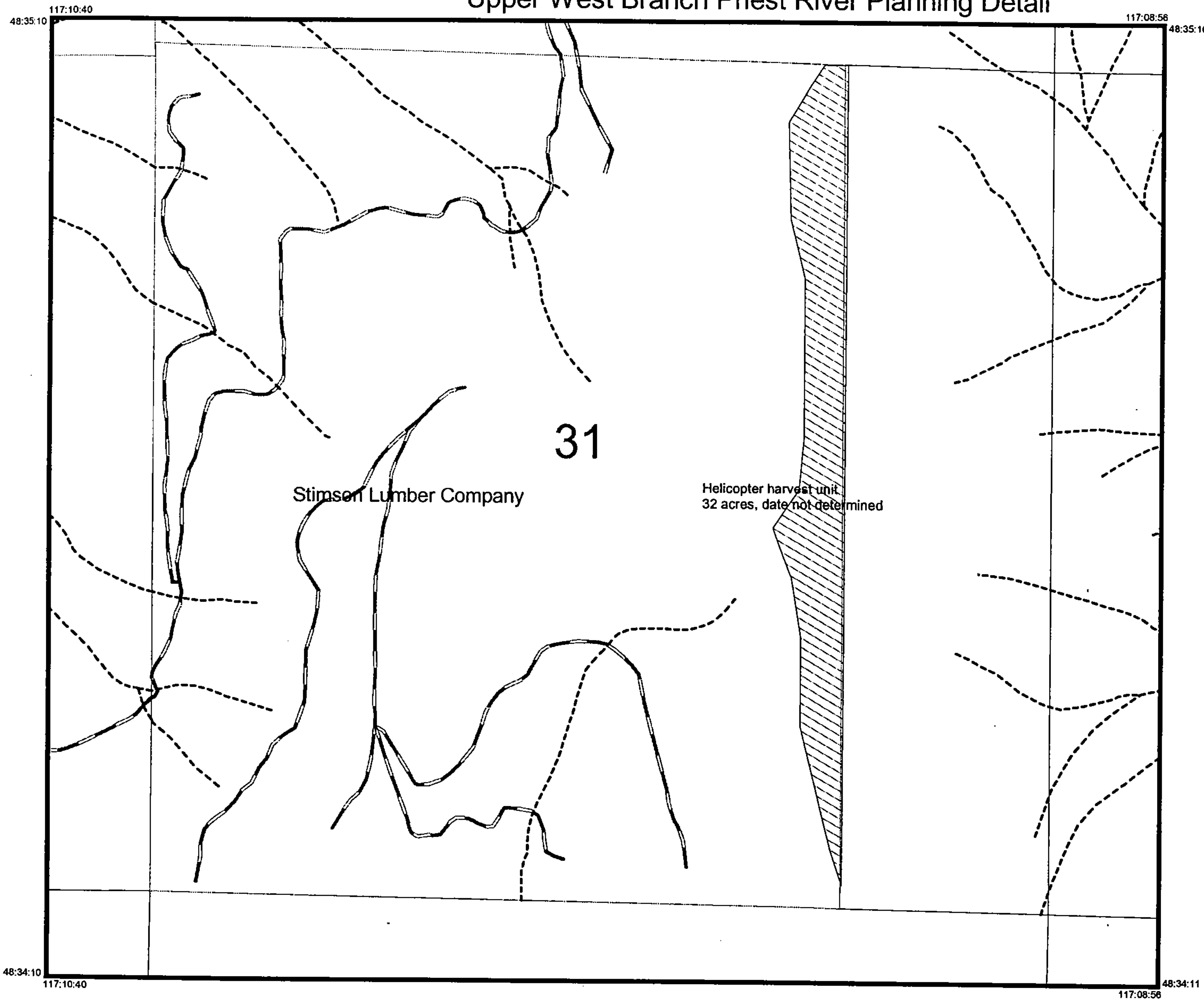
N

Remark: 294 acres of Section 17 are outside the hydrological boundary of Kalispell Creek.

STIMSON LUMBER COMPANY

LeClerc Unit
Sec 31, T36N, R45E, WM
Upper West Branch Priest River Planning Detail

Exhibit F




| Harvest Type | % BA Removed | Past Acres | Planned Acres |
|---|---|---|---|
| Selective | 50% | 0 | 32 |

Lines:

Streams
Roads

Polygons:

OSR (40%)

Symbols:

Scale: 1:12000
Date: 4/10/02
Map Type: Harvest Plan
County: pend Oreille
Prepared By: Doug Smith

N

Remark: 494 acres in Section 31 are outside of the hydrological boundary of the Upper West Branch of Priest River.

# Appendix D – Literature Cited, List of Preparers and Mailing List

## Introduction

This chapter lists the preparers of the document, literature cited, the agencies, organizations, and individuals that have been sent a copy of the Final Environmental Impact Statement.

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# List of Preparers

## Stimson Access Project Interdisciplinary Team

| Name | Title | Area of Expertise | Qualifications | Office |
|---|---|---|---|---|
| David Asleson | NEPA Coordinator | Document Review Environmental Justice Analysis; NEPA Consultation EIS Document Editor, EIS | B.S. History, MA Geography, MA Forestry USDA FS, 32 years | Formerly Priest Lake Ranger District, currently retired |
| Debbie Butler | Resource Forester | Project Team Leader, (2001) Roadless Area Recreation Scenery, Special Uses | B.S. Forestry; Graduate Studies Recreation USDA FS, 24 years | Priest Lake Ranger District |
| Camilla Cary | Writer-Editor | Public Involvement Content Analysis Document Editor EIS | Kinman Business University USDA FS, 11 years | Priest Lake Ranger District |
| Jill Cobb | Hydrologist | Water Resources Soils | B.A. Geography & Ecosystems Analysis, M.S. Watershed Mgmt., USDA FS, 19 years | Priest Lake Ranger District |
| Shanda Dekome | Fisheries Biologist | Fisheries | B.S. Wildlife M.S. Fisheries USDA FS, 15 years | Formerly Sandpoint Ranger District, currently Supervisor's Office, Idaho Panhandle N.F. |
| Anna E. Hammet | Botanist | TES and Rare Plants Noxious Weeds | B.A. Biology (Botany); USDA FS, 26 years | Sandpoint Ranger District |
| Tim Layser | Wildlife Biologist | TES and Other Wildlife | B.S. Wildlife Biology, M.S. Environmental Science-Nat Res Mgmt; USDA FS, 25 years | Priest Lake Ranger District |
| Brett Roper | Fisheries Biologist | Fisheries EA | B.S. Environmental Studies; M.S. Forestry; Ph.D. Fisheries; USDA FS, 9 years | Formerly Supervisor's Office, Idaho Panhandle N.F.; currently WO, based at Logan, UT |
| Tom Sandberg | Archaeologist | Heritage and Cultural Resources | B.A. Archaeology/ Anthropology USDA FS, 11 years | Sandpoint Ranger District |
| Gianna Vaccaro | Realty Specialist | Project Team Leader Special Uses Land Exchanges | B.S. Environmental Planning and Management, BLM & FS Land Academy, USDA FS, 4 years USDI BLM, 6 years | Sandpoint Ranger District |

**Support Team Members – The following individuals provided technical or other support to the analysis.**

| Name | Title | Area of Support | Office |
|---|---|---|---|
| Teresa Asleson | Archaeology Asst. | Heritage Resources Inventory | Priest Lake Ranger District |
| John Chatel | Fisheries Biologist | Preliminary Fisheries Analysis | Formerly Sandpoint Ranger District; currently Umpqua NF, Oregon |
| Karl Dekome | NEPA Coordinator | NEPA Consultation and Document Review | Supervisor's Office, Idaho Panhandle National Forest |
| Jim Dvoracek | Lands Forester | Lands/ Easement Consultation | Formerly Supervisor's Office, Idaho Panhandle N.F., currently retired |
| Jim Langdon | Engineer | Road Design and Costs | Supervisor's Office, Idaho Panhandle National Forests |
| Brett Lyndaker | Biological Technician | Grizzly Bear Analysis | Formerly Sandpoint R.D., presently Bonners Ferry R.D. |
| Jerry Niehoff | Soil Scientist | Soils Analysis | Supervisor's Office, Idaho Panhandle National Forests; currently retired |
| Dave O'Brien | Project Coordinator | Project Coordinator<br>Lands | Supervisor's Office, Idaho Panhandle N.F. |
| Rick Patten | Hydrologist | Water Resources Analysis | Supervisor's Office, Idaho Panhandle N.F. |
| Diane Penny | Biological Technician | GIS Mapping for Wildlife Analysis<br>TES Plant Surveys | Formerly Priest Lake Ranger District, currently retired |
| Sabrina DeRusseau | Biological Technician<br>Temporary Worker | GIS Mapping for Wildlife Analysis<br>Data Gathering | Priest Lake Ranger District - former employee |
| Linda Bernhardt | Biological Technician | GIS Mapping for Wildlife Analysis | Sandpoint Ranger District |
| Chris Savage | Hydrologist | Water Resources Analysis | Sandpoint Ranger District |
| Cindi Sayler | Recreation Forestry Technician<br>Temporary Worker | Project File | Priest Lake Ranger District - former employee |
| Deb Scribner | Database Coordinator | GIS Mapping | Sandpoint Ranger District |
| Roger Steerman | Fuel Management Officer | Preliminary fire/fuels analysis | Jefferson Ranger District Beaverhead/Deerlodge |
| Earl Sutton | RO NEPA Coordinator | Regional Review | Regional Office Missoula |
| Gary Weber | Assistant Fuel Management Officer | Preliminary fire/fuels analysis | Priest Lake Ranger District |

# Mailing List

The following agencies, organizations, businesses and individuals were sent a copy of the Final Environmental Impact Statement:

### Federal Agencies

US Army Corps of Engineers
US Environmental Protection Agency
Washington, DC
USDA Forest Service
Ecosystem Management Coordinator
Washington D.C.
Office of the General Council
Campbell, Alan
Missoula, MT
Supervisor's Office
Ford, Gary
Johnson, Steve
O'Brien, Dave
Coeur d'Alene, ID
Boise National Forest
Rittenhouse, Dave
Colville National Forest
Smith, Connie
Baxter, Diane
USDA Office of Civil Rights
Policy & Planning Division,
Washington, DC
USDA, National Agricultural Library
Beltsville, MD
USDI Fish and Wildlife Service
Spokane, WA
USDI Office of Environmental Affairs
Washington, DC,

### Tribes

Coeur d'Alene Tribe, Plummer, ID
Kalispel Tribal Office, Usk, WA
Kalispel Tribe of Indians, Usk, WA
Kootenai Tribe of Idaho, Bonners Ferry, ID

### State Agencies

**Idaho**
Idaho Dept of Environmental Quality
Boise, ID
Coeur d' Alene, ID
Idaho Department of Fish and Game,
Coeur d' Alene, ID
State Historic Preservation Office,
Boise, ID
Idaho Parks and Recreation,
Boise, ID

**Washington**
Washington State Dept of Fish and Wildlife
Spokane, WA

### Cities

Priest River Chamber of Commerce

### Counties

Bonner County Commissioners
Sandpoint, ID
Panhandle Health District
Sandpoint, ID

### *Businesses and Organizations*

Alliance For The Wild Rockies
American Wildlands
Bonner County Daily Bee
Center for Biological Diversity
Conservation Biology Center
Forest Conservation Council
Ecology Center
Friends of the Clearwater
Friends of the King's Pond
Idaho Conservation League
Idaho Sporting Congress
Kettle Range Conservation Group
Kootenai Environmental Alliance
KPND Radio
Lands Council
National Forest Protection Alliance
Newport Miner
Selkirk Conservation Alliance
Selkirk-Priest Basin Association
Spokesman-Review
Stimson Lumber Co.
Trinity Cnty Prop Owners Protective Assoc.
Upper Columbia River Group Sierra Club
Victory Family Heritage Partnership

### *Individuals*

Bovee, Kristen
Ford-Maloney, Julie
Galley, John
Horejsi, Dr. Brian
Horngren, Scott
Kinnard, Keith
Larson, John
Lowrey, Mark
Maloney, Ken
McDonald, John
McDonald, Ron and Shirley
Nelson, David
Phelps, Randy
Preso, Tim
Rhoads, Norm
Robinson, Dwight
Rosenberg, Barry
Sedler, Liz
Shields, Jr. Royal
Soumas, Rob
Sprengel, Mark
Stockton, John
Sudnikovich, Mike
Thomas, Rachel
Ulrich, Roberta
Wilson, Jack and Gladys
Wilson, Steve
Yocum, Don

# Appendix E – Supporting Documentation for the Wildlife Analysis

This appendix contains a copy of the February 2000 Conservation Agreement among Stimson Lumber Company, the Colville National Forest, and the U.S. Fish and Wildlife Service for the LeClerc Grizzly Bear Management Unit.

CONSERVATION AGREEMENT
AMONG
STIMSON LUMBER COMPANY
AND
U.S.D.A. FOREST SERVICE, COLVILLE NATIONAL FOREST
AND
UNITED STATES FISH AND WILDLIFE SERVICE
DATED AS OF
February 1, 2000

Conservation Agreement (the "Agreement" or "Conservation Agreement") dated as of February 1, 2000 among Stimson Lumber Company ("Stimson"), the Colville National Forest ("Forest Service") and United States Fish and Wildlife Service (the "Service") (collectively referred to as the "parties" or the "Parties").

## RECITALS

WHEREAS, the Service and the Forest Service are committed to the conservation of the grizzly bear, woodland caribou, gray wolf and bull trout ("listed species") throughout their respective ranges;

WHEREAS, Stimson wishes to obtain access to its lands across Forest Service lands and to comply with the Endangered Species Act as amended (as so amended, the "Act") and to cooperate in the conservation of these species;

WHEREAS, the LeClerc Creek Bear Management Unit ("BMU") presents a unique situation because of the intermingled pattern of ownership;

WHEREAS, an adaptive management approach to management of the integrated pattern of ownership and management in the BMU has the best chance of success; and

WHEREAS, after consulting on the current scientific understanding of these species and the requirements of the Act, the Parties hereto have agreed upon a set of conservation and management practices for implementation on certain of Stimson and Forest Service lands that reduce the impact of their activities on these listed species in the BMU;

WHEREAS, the Parties have agreed to conservation measures for listed species.

NOW THEREFORE, the Parties hereto agree:

"Winter Logging Areas" shall mean those winter logging areas set forth on Attachment A, as the same may be amended from time to time which are subject to certain Commercial Use restrictions during the Non-Denning period as more fully set forth in the Guidelines.

2. Stated Purposes

a) Integrated Management Objectives

It is the objective of the Parties to address the primary concerns relating to Bear use of the BMU. Specifically, this agreement is intended to minimize displacement of Bears from Preferred Habitats in Spring Range, to maintain functional female Bear home range in the BMU, and to reduce the potential for human caused mortality while maintaining management opportunities on the Land Managers' lands. The agreement establishes an ecosystem-based management plan throughout the BMU which allows the Land Managers to realize the economic and recreational benefits of their ownership while helping conserve the Bear and other species. The basic purpose of the Conservation Agreement is to outline and begin implementation of a strategy through which multi-jurisdictional land owners can comply with the Act as it regards the Bear, while allowing the Land Managers to continue to practice forestry in the BMU. Through the implementation of this strategy, the Land Managers intend to integrate timber management and listed species management practices in a manner that is both ecologically and economically sound in a mixed ownership environment. Further, it is the objective of the Land Managers to use an adaptive management approach to accomplish listed species conservation.

b) Consultation and Avoidance of Take

While incidental take of listed species in specific cases is a possibility, it is the intent of the Parties that adherence to the Guidelines should reduce the possibility of incidental take and not jeopardize the continued existence of listed species. The level of incidental take, along with terms and conditions to avoid/minimize this take will be set forth in a biological opinion for this Conservation Agreement and the Forest Service's final environment impact statement.

The Biological Opinion will incorporate and include terms and conditions that adopt the Guidelines of the Conservation Agreement. The Parties will follow the terms and conditions in the Biological Opinion. The definition of take, as defined under the Endangered Species Act of 1973, as amended, and further defined in 50 CFR, Part 17.3, must be applied if it becomes necessary to determine whether a Section 9 violation has occurred.

3. Management Guidelines

The Land Managers agree to carry out forest management practices within the BMU during the term of this Conservation Agreement, as the term may be extended, according to the practices and procedures that follow. To the extent not specifically addressed herein, Stimson agrees to manage its land in the BMU in accordance with the Bear best management practices (BMPS) set forth in Attachment E. If there is a conflict between the BMPs and this Agreement, this Agreement shall govern.

This Agreement is consistent with the Colville National Forest Land and Resource Management Plan (LRMP). The Forest Service is bound by and/ or accepts existing definitions found within the LRMP. The Forest Service will utilize existing definitions found or referred to in the LRMP, unless definitions found in this Agreement are more conservative in regard to the Bear, in which case definitions found in this Agreement will be utilized.

Principles inherent in all of these Management Guidelines include: (1) the notion that while this Agreement relies on the best scientific and commercial information available on the date hereof, the strategies set forth in Section 3 may need to be revised as new information about the Bear in the BMU becomes available; (2) in recognition of (1), above, the Parties acknowledge the need for flexibility in the Agreement and they expect to consult periodically, pursuant to the terms of Section 4 of the Agreement, to consider such needs; (3) the need to engage in additional monitoring and coordination in addition to that specified under Section 4 and the Monitoring Framework (Attachment H) will be principally governed by the needs of the listed species involved, and insofar as possible, the Parties will endeavor to jointly agree on such needs; (4) while no Land Manager should be forced to mitigate for the shortfall of any other Land Manager, voluntary cooperation for Bear management is a goal of this Conservation Agreement.

(a) Open Road Densities

i. To minimize the risk of death or injury to Bears, the Land Managers will manage roads that they control throughout the BMU so that Open Road density on their respective lands will not exceed one mile per square mile during the Non-Denning Period. There will be no net increase in roads open to public motorized use, except where such increase will result in additional available habitats for grizzly bear. Open Road densities will be quantified with a moving windows analysis. Stimson will work cooperatively with the Forest Service to minimize site-specific areas within the BMU where Open Road density exceeds the one mile per square mile standard.

(b) Operations and Uses

i. Pending refinement of an acceptable administrative use level within grizzly bear habitat, see Monitoring Framework #2 (Thresholds of vehicles), the Parties will limit management activities to 12 round trips of administrative use during the Spring Period on each of the following gated road segments listed in the table below of Forest Service Roads 1933125 and 1933105 and 1935011 and 1935080 and 1935112. The restrictions on management activities shall not apply if action is needed to respond to emergencies or catastrophes. Unless otherwise agreed to by the Parties, Salvage Harvest will not occur during the Spring Period in the areas identified in this paragraph.

| Road Segment | Affected Party | Section |
|---|---|---|
| 1934080 | Stimson | Section 35, T37N,R44E, W.M. |
| 1934080 | Stimson | Section 1, T36N, R44E, W.M. |
| 1934080 | Forest Service | Section 12, T36N, R44E, W.M. |
| 1935011/1935013 | Stimson | Section 35, T37N,R44E, W.M. |
| 1935011/1935013 | Stimson | Section 2, 10, T36N, R44E, W.M. |
| 1935011/1935013 | Forest Service | Section 7, 18, T36N, R44E, W.M. |
| 1933112/1933110 | Stimson/Forest Service | Section 18, 19, T36N,R44E, W.M. |
| 1933105/1933125 | Stimson/Forest Service | Section 1, T36N, R44E, W.M. |

ii. In order to provide more secure low elevation habitat within the BMU, Stimson shall not conduct any Commercial Use in any Winter Logging Area during the Non-Denning Period, except that Stimson may construct spur roads on its lands as identified in Attachment D during the months of August through October, and Stimson may make Commercial Use of the access roads identified on Attachment D to access lands outside of the Winter Logging Areas. The Forest Service shall manage the Effective Security Areas to the standards set forth in the Bear recovery plan, as the same may be amended from time to time. Effective Security Areas and Winter Logging Areas shall remain as such for a minimum of three consecutive years. At any time after the end of the three year period, the parties may amend Attachment A hereto pursuant to the procedures set forth in Section 8. Such amendments may be needed from time to time to substitute new areas as Effective Security Areas or Winter Logging Areas to replace old Effective Security Areas or Winter Logging Areas with areas of at least equal quantity and quality in order to accommodate the commercial needs of the Land Managers.

iii. For Forest Service actions completely on National Forest lands, the Forest Service agrees not to take management actions that will increase net total road density or will decrease net Core areas on its ownership..Thus, the Forest Service may take actions that may increase total road density or decrease Core, so long as offsetting actions are also taken that decrease total road density or increase Core such that the effect after giving effect to both actions is that there is no net change to road density or Core, as the case may be.

(c) Road Locations

i. The Parties recognize the importance of Preferred Habitat to Bear security and the Service and the Forest Service recognize Stimson's need to access its lands. Accordingly, Stimson will limit the construction of new roads in Preferred Habitat to those roads that are essential to forest management. In addition, any roads built in these areas will be constructed in such a manner as to minimize the density/mileage of roads in such areas. Existing roads will be analyzed by Stimson and those not required for short term management will be reclaimed, and those roads needed for ongoing primary access will be relocated when reasonable. This analysis will be completed by January 1, 2001 and at that time the Parties will meet to develop a timetable for implementation of road restoration activities.

ii. Within the BMU, harvest or new road construction will leave Visual Screening between roads that are adjacent to Even Age Cutting Units and the Unit itself, although exceptions may be required to accommodate some cable yarding harvest.

(d) Cover

i. The Land Managers will evaluate Cover across all ownerships within the BMU, and will manage their lands so that a minimum of 40% of all land in the BMU is maintained in Cover. To the extent feasible, Cover will be distributed evenly throughout the BMU. Each Land Manager will be responsible for maintaining Cover at a level adequate to meet the 40% objective in proportion to its ownership within the BMU.

ii. Visual Screening retention will be the management objective in areas adjacent to all Open Roads. The Land Managers will leave Visual Screening adjacent to Open Roads, although exceptions may be required for such situations as cable yarding harvest and in some exceptional cases of insects, disease, or blow down.

iii. The Land Managers will lay out harvest units in the BMU so that no point in the unit is more than 600 feet from Cover. The Land Managers will leave Cover around natural open areas so that no point of such openings is more than 600 feet from Cover. Catastrophic events will be dealt with on a case-by-case basis.

(e) Riparian Zones

The Land Managers will use selective, uneven-aged forest management practices in riparian zones located in the BMU.

(f) Security

i. The Land Managers acknowledge that Reclaimed Roads and Restricted Roads are important for providing security for Bears. Stimson may voluntarily elect to contribute to Bear security by reclaiming or restricting some roads that are not essential to its management. The Land Managers will cooperate in identifying roads on their lands within the BMU that are grown-in and/or unnecessary for management and will make such roads Reclaimed Roads during the Non-Denning Period in order to increase security for Bears. The Land Managers agree not to reclaim existing roads accessing the other Land Manager's lands without first ensuring that reasonable alternative access exists. These roads will be identified by January 1, 2001 and the information provided during the annual monitoring meeting in February 2001. At that time the Parties will develop a timetable for implementation of road restoration activities.

ii. Stimson will prohibit its contractors from carrying firearms while on duty.

iii. Stimson will not be subject to a total road density standard.

iv. Nothing in this Section 3(f) shall be construed to change the obligation of the Forest Service to maintain existing easements and permits or to provide reasonable access to non-federal lands within the boundaries of the national forest, as required by law.

4. Monitoring and Coordination

a) The Parties acknowledge that the principles of "adaptive management" should govern management within the BMU. As such, new information gained from monitoring and research, conducted either within or outside the BMU, will be reviewed on an annual or more frequent basis, as necessary, to determine if changes in management direction are appropriate. In particular, the Parties will cooperatively establish a monitoring program that will investigate the current vehicle use level of Restricted Roads. This program will be designed to identify areas where there are opportunities for improved closure effectiveness, whereupon the Parties will work cooperatively to address these issues and improve Bear security. These issues may be addressed through a combination of management actions, including, but not limited to, more effective closure measures, increased education and information efforts, and increased enforcement efforts.

b) The Land Managers will cooperatively monitor the application and effectiveness of the Guidelines on an ongoing basis and provide the Service with the results thereof on an annual basis. Monitoring will include an analysis of (i) road densities, (ii) levels of vehicular use, (iii) Seclusion Habitat; (iv) riparian buffers; (v) temperature; and (vi) sediment.

c) The monitoring results and the Guidelines will be reviewed by the Parties annually no later than February 1 of each year and the Guidelines will be appropriately revised pursuant to the procedures set forth in Section 8 hereof. Revisions will be commensurate with new research findings concerning Bear conservation practices and experience with the practicability of the strategies agreed to here.

d) The Parties agree to develop strategies to inform the public about the needs of the Bear.

e) The Parties may choose to support additional Bear research and monitoring by contributing to ongoing or future proposed Bear research projects.

f) The Parties agree to follow the monitoring framework in Attachment H for specific monitoring actions in the BMU for grizzly bears and for actions associated with access to the six parcels for bull trout.

5. Application

a) The provisions of this Conservation Agreement have been tailored to protect Bears under the special conditions present within the BMU. The terms of this agreement apply only to the BMU.

b) This instrument in no way restricts the Parties from participating in similar activities with other public or private agencies, organizations, and individuals.

c) Pursuant to Section 22, Title 4 1, United States Code, no Member or Delegate to Congress shall be admitted to any share or part of this instrument, or any benefits that may arise there from.

6. Bull Trout

The Parties agree to follow the monitoring framework in Attachment H and conservation measures contained in Attachment G to minimize impacts to bull trout in the following sections: Section 3, T36N, R44E, W.M.; Section 35, T37N,R44E, W.M.; Section 1, T36N, R44E, W.M.; Section 12, T36N, R44E, W.M.; Section 2, 10, T36N, R44E, W.M.; Section 7, T36N, R44E, W.M.; and Sections 18 and 19, T36N,R44E, W.M.

7. Caribou

In any woodland caribou early winter habitat that may exist within Section 35 T37N R44E, Sections 1 and 3 T36N R44E, Stimson through forest practices application with Washington Department of Natural Resources will convene an interdisciplinary team to include representatives from the Washington Department of Fish and Wildlife and the Service to develop and ensure implementation of harvest prescriptions that would maintain woodland caribou early winter habitat.

8. Amendments

The Parties acknowledge that advances in the scientific understanding of the Bear may occur as a result of the monitoring hereunder or due to other scientific studies that could necessitate changes in this Conservation Agreement. Moreover, Open Road density exceedance levels, Effective Security Areas and Winter Logging Areas may need to be amended from time to time as set forth in the Guidelines. To the extent such changes are consistent with statutory authority, the Parties will negotiate such changes in good faith and may agree to enter into mutually acceptable dispute resolution, if necessary. If such changes cannot be agreed upon, then any of the Parties may declare this Conservation Agreement null and void, effective immediately upon notification to the other Parties. All amendments to this Conservation Agreement shall be in writing and signed by all Parties hereto.

9. Effective Date

This Conservation Agreement shall be effective upon the date (the "Effective Date") when the following events have occurred: (i) execution of the Agreement by all the Parties, (ii) issuance of a biological opinion evaluating the effects of this Conservation Agreement and the Cost-Share Road Easements, together with an incidental take statement as contemplated by Section 2(b) hereof, and (iii) completion of the Forest Service decision on the Cost-Share Road Easements and this Agreement, including any required NEPA compliance.

10. Term

a) This Conservation Agreement shall remain in effect for five years, commencing on the Effective Date, and shall thereafter self-renew for successive one year periods unless otherwise terminated pursuant to the terms hereof.

b) Any Party may cancel this Conservation Agreement upon (30) thirty days written notice to the other Parties.

c) Cancellation of the Agreement will invalidate the legal protection against a potential section 9 violation, will eliminate Stimson's obligations under the Agreement, and the Forest Service will reinitiate section 7 consultation at that point.

11. Resources

Nothing in this Conservation Agreement shall require the Service or the Forest Service to expend funds that have not been lawfully appropriated and administratively allocated for such use.

12. Notices

Notices hereunder shall be sent to, and all contacts regarding this Conservation Agreement should be made through:

John H. McGhehey
Vice President of Resources
Stimson Lumber Company
520 SW Yamhill Suite 700
Portland, OR 97204
Tel: (503) 222-1676
Fax: (503) 222-2682

George T. Buckingham
Acting Forest Supervisor
Colville National Forest
765 South Main
Colville, WA 99114
Tel: (509) 684-7000
Fax: (509) 684-7280

Robert J. Hallock
Acting Field Supervisor
U.S. Fish and Wildlife Service
11103 East Montgomery Drive
Spokane, WA 99206
Tel: (509) 891-6839
Fax: (509) 891-6748

<u>Attachments</u>

A - Winter Logging Areas and Effective Security Areas
B - Preferred Habitat
C - Spring Range
D - Spur Roads and Identified Access Roads
E - Stimson BMPs
F - LeClerc Creek BMU
G - Bull Trout Conservation Measures
H - Monitoring Framework
I - Detail A-2 Map
J - Cooperative Agreement
K - Sign
L- Vicinity Map for Stimson Cost-Share Roads Project

IN WITNESS WHEREOF, duly authorized representatives of the Parties hereto have duly executed this Conservation Agreement on the date set forth below.

U.S.D.A. Forest Service,
Colville National Forest

By George T. Buckingham

Date 2/1/00

United States Fish and Wildlife Service

By Robert J Hallock

Date 02/01/00

Stimson Lumber Company

By John H. McGhee

Date 02/01/00

1. Definitions

"Administrative Use" shall mean use associated with all land and resource management activities including, without limitation, timber sale layout, road location, road maintenance, tree planting, slash disposal and Salvage Harvest, but shall not include Commercial Use.

"Bear" shall mean the grizzly bear *(Ursus arctos horribilis)*

"BMU" shall mean the LeClerc Creek Bear management unit as set forth in Attachment F.

"Commercial Use" shall mean major forest management activities including, without limitation, road construction, road reconstruction and timber harvest, but does not include Salvage harvest.

"Core" shall mean an area of high quality habitat within a BMU that contains no motorized travel routes or high use trails. Core areas do not include any gated or restricted roads, but may contain roads that are impassable due to vegetation or barriers.

"Cover" shall mean areas having a minimum diameter of at least three Sight Distances (calculated in July); provided, however, that if the relevant Sight distance exceeds 600 feet, then the area does not qualify as Cover.

"Denning Period" shall mean the period between November 16 and March 31.

"Effective Date" shall have the meaning set forth in Section 6 hereof

"Effective Security Areas" shall mean areas (i) without active roads or high levels of human activity, and (ii) with blocks of habitat of 2500 acres or more, or areas added to existing blocks of Core to make 2500 acres or more, as set forth on Attachment A, as the same may be amended from time to time. The Forest Service will manage the Effective Security Areas on Forest Service lands consistent with the direction set forth in the Grizzly Bear Recovery Plan.

"Even Age Cutting Unit" shall mean a harvest unit in which either a clearcut or seedtree silvicultural prescription is used or any other treatment that would result in openings of more than 600 feet.

"Forest and Fish" shall mean the Forest and Fish Agreement approved by the Washington State Legislature.

"Guidelines" shall mean the principles and guidelines for forest management set forth in Section 3 hereof, as the same may be amended from time to time.

"Land Managers" shall mean the Forest Service and Stimson.

"Non-Denning Period" shall mean the non-denning period which runs between April 1 and November 15.

"Open Road" shall be any road on which there are no use restrictions. Open Road shall not mean Restricted Roads or highways, county roads, administrative site access roads and private residence access roads.

"Preferred Habitat" shall mean areas such as significant berry producing areas, riparian zones and wetlands, and snowchutes or avalanche chutes that are set out on the map in Attachment B.

"Reclaimed Road" shall mean a road which (i) has been "put to bed" to address Bear security or to address watershed concerns by pulling culverts and revegetating with trees or grass; and (ii) is unusable for 4-wheeled vehicles due to physical obstructions such as "kelly humps" or other physical obstructions, rather than gates, with the objective that these roads not receive motorized use during the Non-Denning Period. Reclaimed Road shall also mean roads that are physically blocked using large cement blocks or equivalent barriers.

"Restricted Road" shall mean a gated or barriered road, which is closed for all uses except Administrative Use and Commercial Use.

"Riparian Zone" shall mean those terrestrial areas where the vegetation complex and microclimate conditions are products of the combined presence and influence of perennial and/or intermittent water (including rivers, streams, lakes, ponds, reservoirs, springs, marshes, seeps, bogs and wet meadows), associated high water tables, and the soils exhibit some wetness characteristics.

"Salvage Harvest" shall mean short term activities to harvest dead or dying trees resulting from fire, disease, blowdown or the like and shall not continue for periods of more than two consecutive weeks or for more than 30 days in the aggregate during a given calendar year in the Non-Denning Period. Salvage activities that result from catastrophic fire or blowdown and that require more than two consecutive weeks to complete, will require special management considerations.

"Seclusion Habitat" shall have the meaning set forth in the Colville National Forest Land and Resource Management Plan.

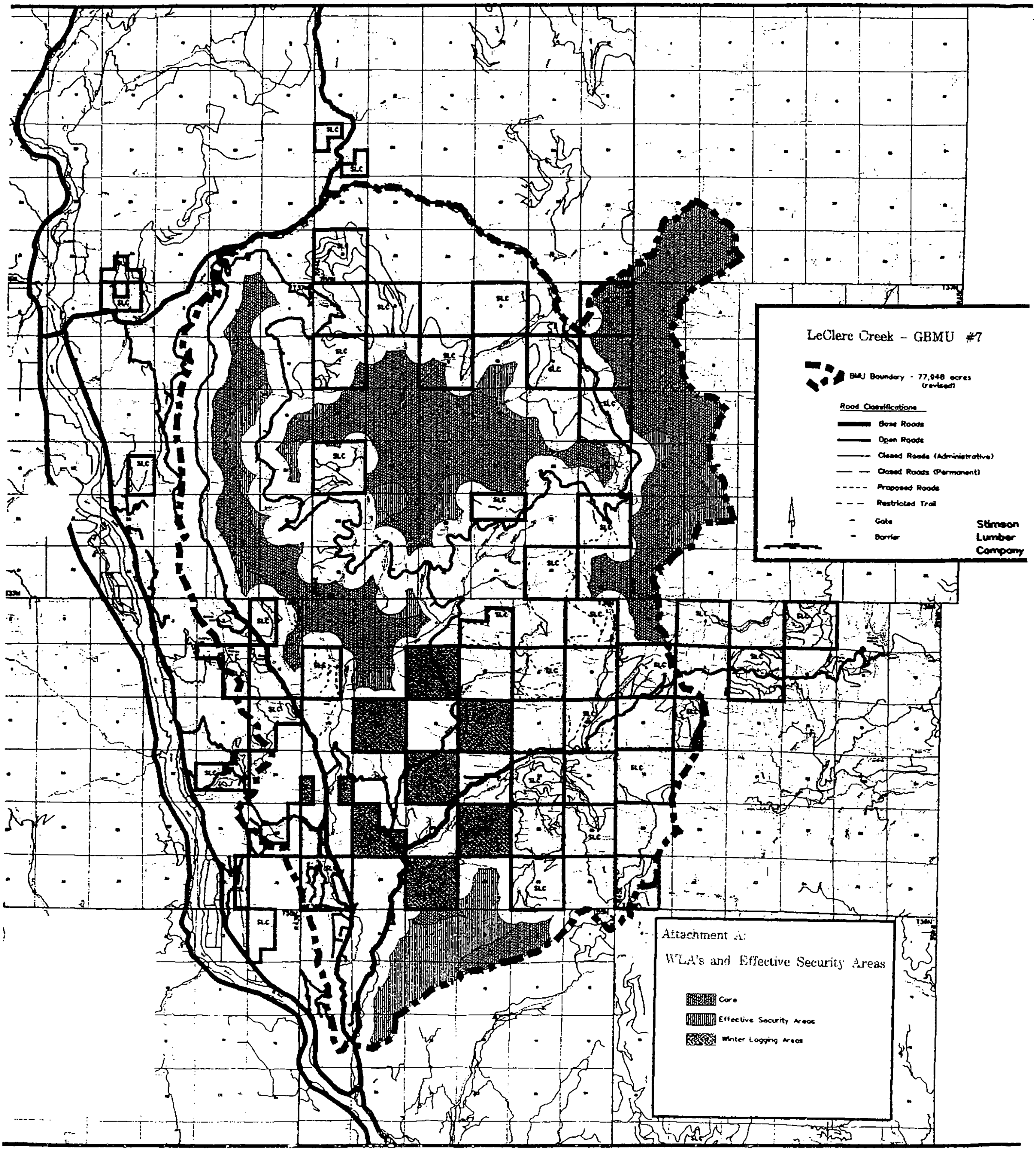
"Sight Distance" shall mean the distance at which 90% of a Bear is hidden from view, which is approximately 100 to 200 feet depending on the type of cover and topography available.

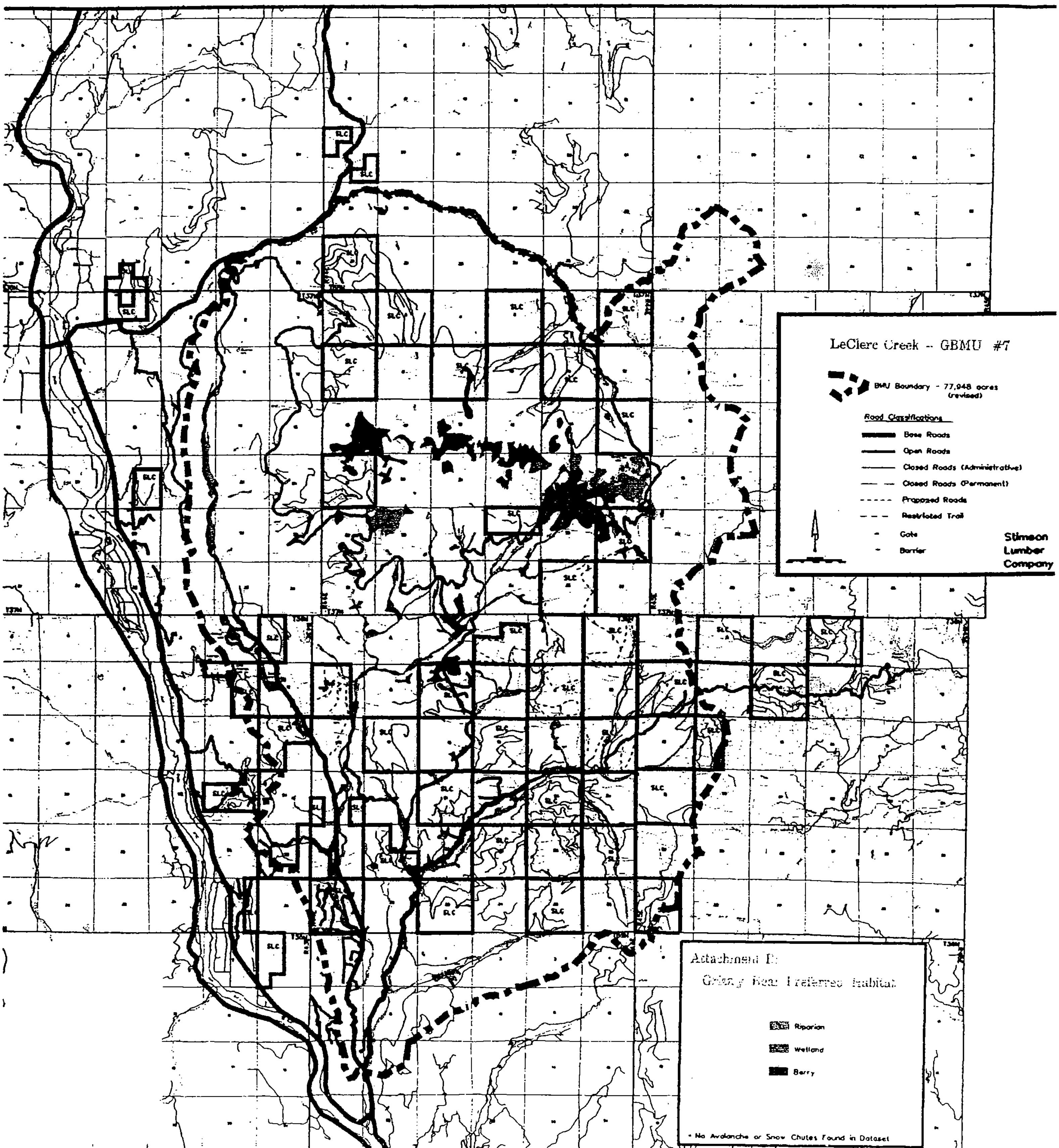
"Spring Range" shall mean the areas of spring Bear habitat set forth on Attachment C.

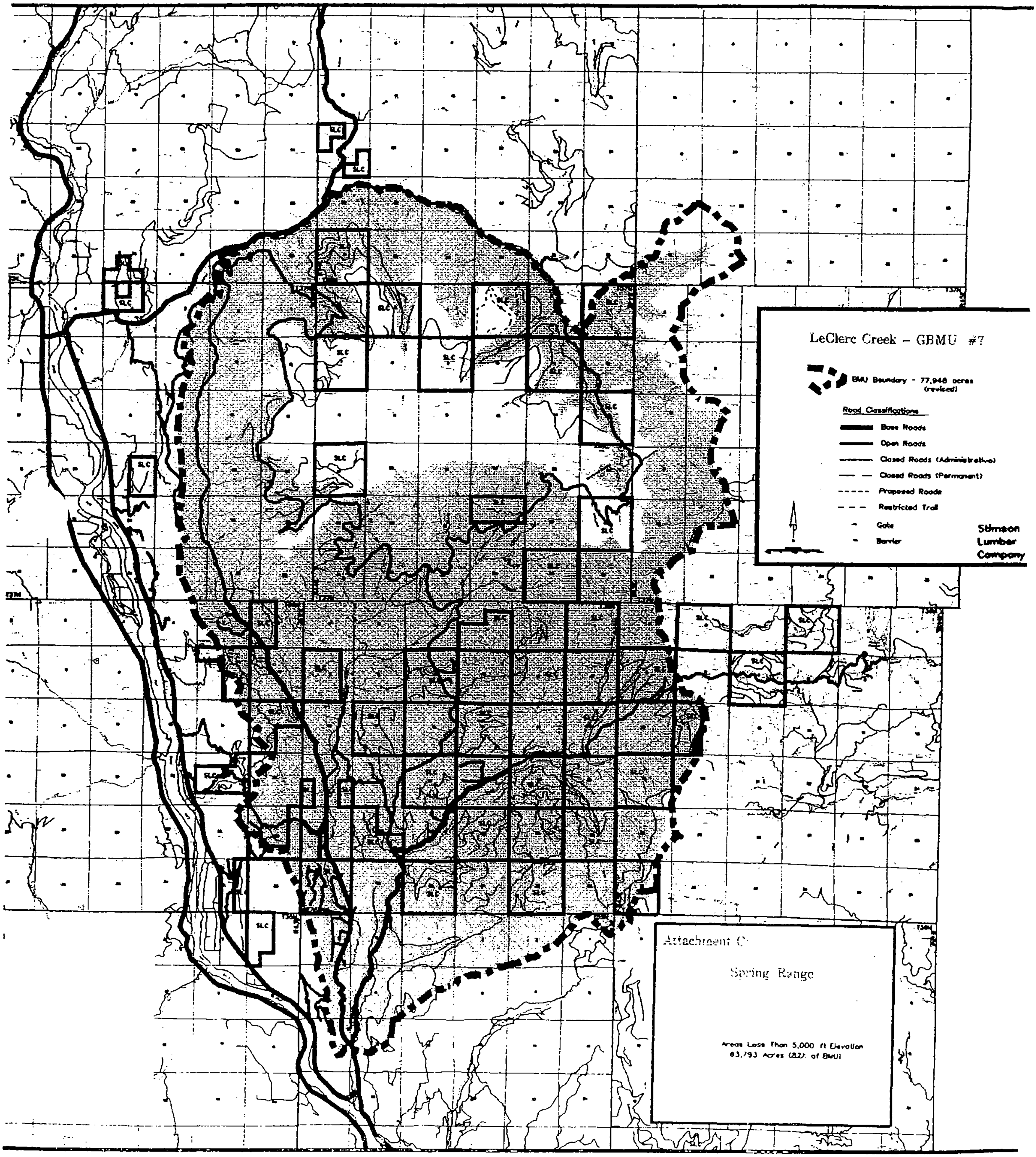
"Spring Period" shall mean the period running from April 1 through June 15, inclusive.

"Take" shall mean take of a species as contemplated under Section 9 of the Act.

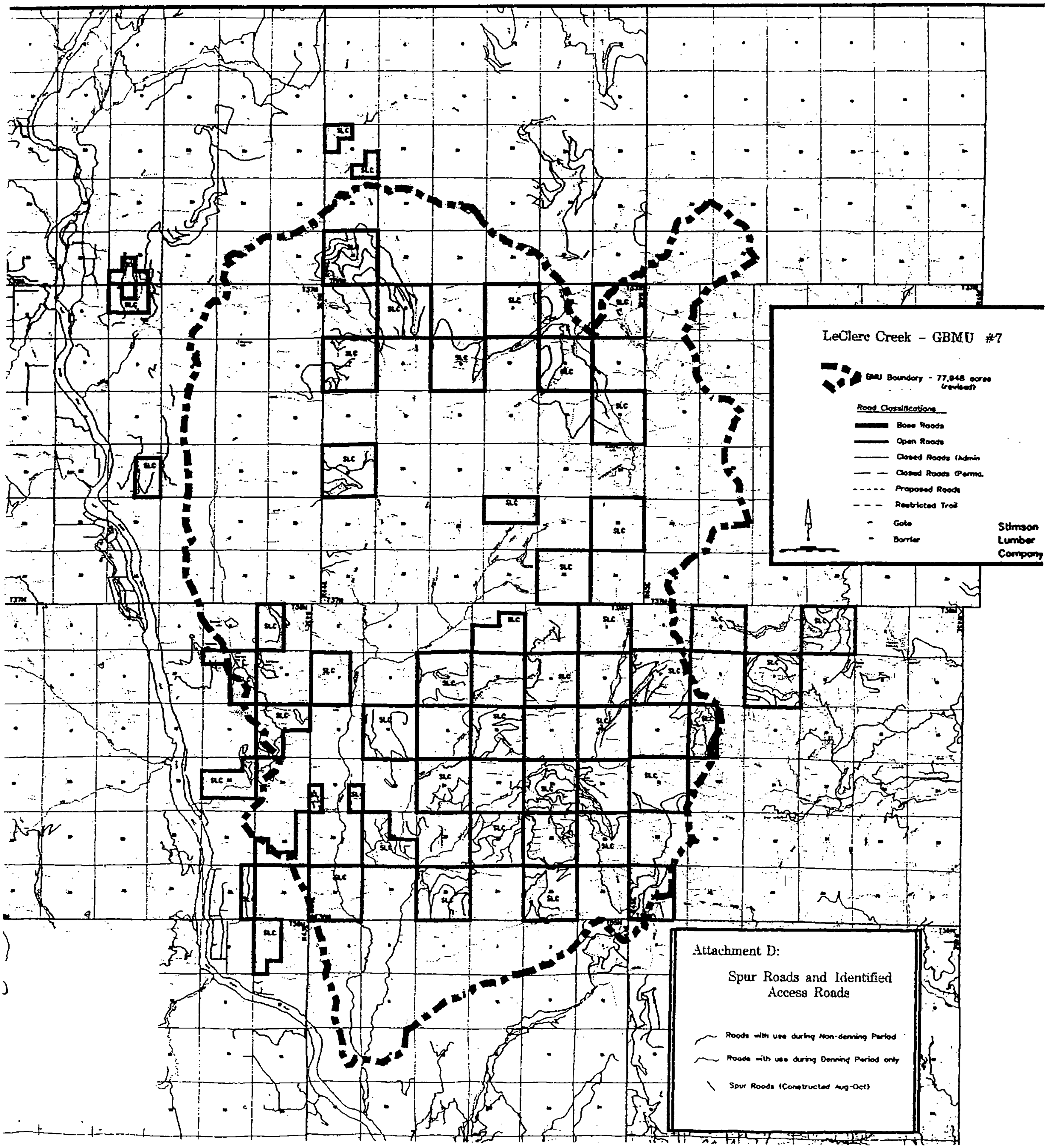
"Visual Screening" shall mean vegetation or topographical features that provide screening to a minimum of one Sight Distance.


LeClerc Creek - GBMU #7
BMU Boundary - 77,948 acres (revised)
Road Classifications
Base Roads
Open Roads
Closed Roads (Administrative)
Closed Roads (Permanent)
Proposed Roads
Restricted Trail
Gate
Barrier
Stimson Lumber Company
Attachment A:
WLA's and Effective Security Areas
Core
Effective Security Areas
Winter Logging Areas


LeClerc Creek -- GBMU #7
BMU Boundary - 77,948 acres (revised)
Road Classifications
Base Roads
Open Roads
Closed Roads (Administrative)
Closed Roads (Permanent)
Proposed Roads
Restricted Trail
Gate
Barrier
Stimson Lumber Company
Attachment
Grizzly Bear Preferred Habitat
Riparian
Wetland
Berry
* No Avalanche or Snow Chutes Found in Dataset
SLC



LeClerc Creek – GBMU #7
BMU Boundary - 77,948 acres (revised)
Road Classifications
Base Roads
Open Roads
Closed Roads (Administrative)
Closed Roads (Permanent)
Proposed Roads
Restricted Trail
Gate
Barrier
Stimson Lumber Company
SLC
Attachment C
Spring Range
Areas Less Than 5,000 ft Elevation
63,793 Acres (82% of BMU)


LeClerc Creek - GBMU #7
BMU Boundary - 77,848 acres (revised)
Road Classifications
Base Roads
Open Roads
Closed Roads (Admin
Closed Roads (Perma.
Proposed Roads
Restricted Trail
Gate
Barrier
Stimson Lumber Company
SLC
Attachment D:
Spur Roads and Identified Access Roads
Roads with use during Non-denning Period
Roads with use during Denning Period only
Spur Roads (Constructed Aug-Oct)

# ATTACHMENT E

**Stimson Lumber Company**
**Grizzly Bear Best Management Practices (BMP)**
**For the LeClerc Conservation Agreement Area**

**1. Open Road Density**

Research suggests that grizzlies are displaced from habitat adjacent to open roads and that roads increase grizzly bear mortality risk due to legal and illegal harvest from or close to open roads. The intent of road closures is to minimize or preclude bear displacement and reduce human-caused mortality. Stimson will maintain an open road density (ORD) of 1 mile per square mile or less on our lands. A road is considered "open" if it does not have any use restrictions and ORD should be calculated using the BMU sub-unit as the analysis area.

**2. Road Location**

Roads should not be constructed so that they pass through or near preferred bear habitat types. These preferred habitat types are as follows: a) riparian and wetland habitats, b) areas that produce significant amounts of huckleberries and buffalo berries, and c) snowchutes and avalanche chutes. Main haul roads or roads that are to remain open should not pass through the center of clearcut or seedtree harvest units. Roads should dog-leg upon entry into harvest units.

**3. Cover**

Cover is an important habitat consideration for grizzly bears in areas where recreational and/or administrative use is substantial. Research indicates that effective cover provides for movement between foraging areas and seasonal ranges, provides security for habitat utilization, reduces mortality risk, and provides for thermal regulation. A minimum of 40% of the BMU sub-unit will be maintained in vegetative cover which can effectively conceal bears. Minimum diameter of cover blocks adjacent to openings will be three sight distances (sight distance is the distance at which 90% of an adult grizzly is hidden from view - this will vary depending on vegetative structure and topography - in most of our timber types sight distance is 200 feet or less) in order to facilitate bear movement around clearcuts as well as use of feeding areas within openings. Optimally, cover should be provided in and adjacent to preferred habitats (see (2) above) and adjacent to open roads. Cover should be distributed throughout the watershed and calculations for cover should be based on all ownerships within the basin.

**4. Size of Openings**

Grizzly research indicates that bears select for edge or cover/no-cover interfaces. This is attributed to high forage values and proximity to escape cover. However, bear use of open areas has been found to decrease as distance to cover increases. Clearcut and seedtree units will be laid out so that no point in the unit is more than 600 feet from effective hiding cover. Generally, biologists agree that the shape of a cutting unit is more important than its size. The intent of the BMP is to increase edge, maintain bear habitat effectiveness, and allow bears to take maximum advantage of adjacent cover.

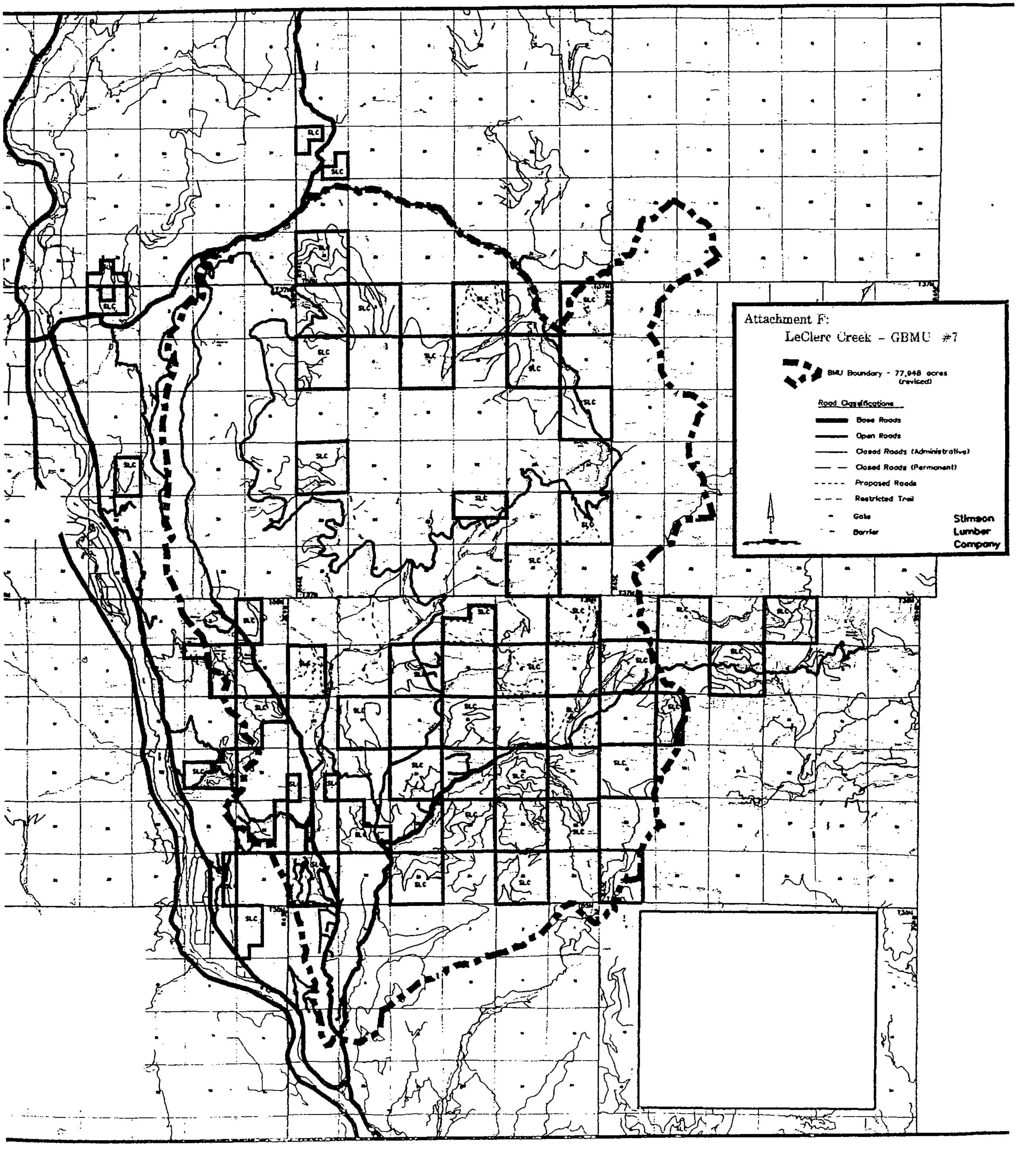
**5. Timing of Operations**

Seasonal timing of operations is an effective tool to minimize bear/human confrontations and maximize the effectiveness of important habitat, especially spring range. Our activities will be coordinated in time and space so that activities occur at a time when the area has the least biological importance to grizzly bears.

**6. Riparian Habitats**

Riparian areas are extremely important to grizzly bears for foraging opportunities and cover/movement corridors. Stimson will utilize silvicultural prescriptions that maintain forage values for bears while retaining cover values. Hence, selective, uneven-age harvest techniques should be used in or near riparian zones.

These management guidelines are based on the best information currently available and are subject to modification based on new scientific findings. We will continue to evaluate current research on grizzly bear needs so that management practices may be modified as necessary.


Attachment F:
LeClerc Creek - GBMU #7
BMU Boundary - 77,948 acres (revised)
Road Classifications
Base Roads
Open Roads
Closed Roads (Administrative)
Closed Roads (Permanent)
Proposed Roads
Restricted Trail
Gate
Barrier
Stimson Lumber Company

Attachment G: Bull Trout Conservation Measures and Management Guidelines

In order to be exempt from the prohibitions of section 9 of the ESA, Stimson shall comply with the following conservation measures and management guidelines and these will be the terms and conditions of the Biological Opinion.

1.a. Minimize sediment introduction resulting from cattle grazing in riparian areas by blocking cattle access to all new stream crossings using extensive slash piles, and/or fencing, and/or cattleguards.

1.b. In the project area of the Upper East Branch, Middle East Branch, and Lower West Branch Sub-basins (Attachment L), the following interim prescriptions shall be implemented. These interim prescriptions shall remain in effect until Washington Department of Natural Resources completes new Forest Practices Act rules for the protection of bull trout, provided that: (1) the Service determines that such rules are adequate for the protection of bull trout on private land; and (2) those portions of the current DNR Watershed Analysis for LeClerc Creek addressing riparian protection measures within the project area are not "grandfathered" into the new rules by WDNR.)

On fish bearing streams, implement a riparian management area of one site potential tree (approximately 140 feet in LeClerc watershed) on each side of the stream. This riparian management area, measured horizontally from the edge of the channel migration zone (CMZ), will consist of three zones:

- Zone 1 is a 50-foot area from the edge of the CMZ measured horizontally 50 feet. This zone will be managed as a 50-foot no-harvest buffer immediately adjacent to the stream.
- Zone 2 is a 25-foot area between 50 and 75 feet from the edge of the CMZ. This zone will be managed as follows: no harvest of trees in this zone unless unless an evenly spaced conifer density exceeds 120 trees per acre greater than 12"dbh on each side of the stream or unless a tree has a substantial lean away from the stream.
- Zone 3 is a 65-foot area between 75 and 140 feet from the edge of the CMZ. This zone will be managed to maintain a 30% basal area of trees greater than 8"dbh, those trees being representative of the existing stand.
- No ground-based equipment may operate within 50 horizontal feet of the CMZ.

- On non-fish bearing perennial streams, implement a riparian management area of 2/3 site potential tree (94 feet), measured horizontally from the edge of the CMZ, on each side of the stream. This riparian management area will consist of three zones:

- Zone 1 consists of a 25-foot no-harvest buffer immediately adjacent to the stream, measured horizontally from the edge of the CMZ.
- Zone 2 is the area between 25 and 50 feet from the edge of the CMZ. This zone will be managed as follows: no harvest of trees in this zone unless a evenly spaced conifer density exceeds 120 trees per acre greater than 6"dbh on each side of the stream or unless a tree has a substantial lean away from the stream..
- Zone 3, the area between 50 and 94 feet from the edge of the CMZ, will be managed to

maintain a 30% basal area of trees greater than 8"dbh, those trees being representative of the existing stand.

- No ground-based equipment may operate within 25 horizontal feet of the CMZ.

- On non-fish bearing seasonal or intermittent streams equal to or greater than two feet in width between the ordinary high water marks, implement a 50-foot riparian managment area, measured horizontally from the edge of the CMZ, on each side of the stream. This riparian management area will consist of two zones.

- Zone 1 will be a 25-foot no-harvest buffer immediately adjacent to the stream.
- Zone 2, the area between 25 and 50 feet from the edge of the CMZ, will be managed to maintain a density of 120 trees per acre greater than 6"dbh.
- No ground-based equipment is allowed within the 25-foot no-harvest buffer except to accommodate necessary stream crossings.

  - Rationale: The Upper East, Middle East, and Lower West sub-basins have harvest units and road construction planned which could have downstream effects on the known bull trout locations in the LeClerc Creek watershed. Due to poor existing baseline conditions in the LeClerc watershed, conservative management is needed to protect and restore habitat for the bull trout. The main issue in this area for bull trout is existing and future sedimentation levels in the aquatic system, existing and future high stream temperatures, and minimal quantities of large woody debris. No harvest and managed buffers totaling the height of a site potential tree will assist in minimizing sediment entry into the aquatic system, and contribute to shade requirements. Silvicultural techniques can be used to more quickly develop the large trees necessary for future recruitment of large woody debris. The 140 foot site potential tree height in the LeClerc Watershed Analysis Unit is estimated using a 120 year site potential tree age and an 80-50 year site index (DNR Watershed Analysis, Prescription 7). One site potential tree should provide 100 percent of shading and large woody debris contribution to the stream, and should maintain the microclimate through maintenance of 100 percent of the soil moisture and radiation, and a significant portion of soil temperature, air temperature, wind speed, and relative humidity (Chen 1991). Two thirds of a site potential tree accounts for at least 80% of the source distance of natural LWD recruitment (McDade et al 1990). The 50' no-harvest buffer on fish-bearing streams, and the 25' no-harvest buffer on non-fish-bearing streams are consistent with DNR Watershed Analysis no-harvest buffers for high risk LWD areas.

2.a. Design and implement a water temperature monitoring plan with the intent of identifying groundwater upwelling areas within the project area. This monitoring plan will be developed prior to and implemented concurrent with project initiation. Incorporate this monitoring into the monitoring proposal required by the Conservation Agreement. Implement this monitoring over 3 years. Report results of the monitoring at the annual monitoring meeting, as required in the Conservation Agreement. Use adaptive management to address any problems.

> Rationale: Any groundwater upwelling areas will be important for bull trout, and their protection and/or enhancement requires knowing their location.

2.b. Monitor road use and maintenance. Ensure no public use occurs on gated or barriered roads. This is especially important during wet seasons when 4-wheel drive use can cause severe damage and increased sedimentation. Incorporate this monitoring into the monitoring proposal required by the Conservation Agreement. Implement this monitoring over the life of the Conservation Agreement. Report results of the monitoring at the annual monitoring meeting, as required in the Conservation Agreement. Use adaptive management to address any problems.

> Rationale: Limiting road use will minimize maintenance problems. Gates do not always stop hunters in 4-wheel drives, who tend to use roads in the wet fall season and damage the soft roads. Damage carries into the wet spring season before being repaired.

2.c. Design and implement a sediment monitoring plan to monitor sources of point and non-point sediment movement occurring as a result of proposed activities in the LeClerc Creek watershed. This monitoring plan will be developed prior to and implemented concurrent with project initiation. Incorporate this monitoring into the monitoring proposal required by the Conservation Agreement. Implement this monitoring over the life of the Conservation Agreement. Report results of the monitoring at the annual monitoring meeting, as required in the Conservation Agreement. Use adaptive management to address any problems.

> Rationale: Best management practices, mitigations, DNR Watershed Analysis Prescriptions and these terms and conditions should be all help to minimize sediment introduction into the aquatic system. Monitoring will ensure effectiveness of the measures. The focus of this monitoring would be to document progress in the reduction and/or elimination of sediment sources.

2.d. Monitor compliance with required terms and conditions. Begin monitoring upon implementation of the Conservation Agreement. Report results of the monitoring at the annual monitoring meeting, as required in the Conservation Agreement. Use adaptive management to address any problems.

2.e. Design and implement a plan to monitor cattle use in harvested riparian areas and at stream crossings resulting from this project. This plan shall be developed prior to and implemented concurrent with project initiation. Adjust riparian and stream crossing barriers where use increases. Incorporate this monitoring into the monitoring proposal required by the Conservation Agreement. Implement this monitoring over the life of the Conservation Agreement. Report results of the monitoring at the annual monitoring meeting, as required in the Conservation Agreement. Use adaptive management to address any problems.

Rationale: Cattle grazing in riparian areas can degrade riparian habitats, decreasing shade and temperatures, and increasing sediment entry into the aquatic system. It is also difficult to predict all behaviors of a herd in a particular area, making monitoring a necessary part of determining effects.

2.f. The Service shall have the option to accompany Stimson on quarterly field trips to review the status of the proposed actions and implementation of the Terms and Conditions listed herein.

**Reporting Requirements**

1. Upon locating dead, injured, or sick bull trout during project implementation, or upon observing destruction of redds, notification must be made within 24 hours to the Service's Division of Law Enforcement Special Agent (11103 E. Montgomery Drive, Suite 2, Spokane, WA 99206; Phone: 509-928-6050). Instructions for proper handling and disposition of such specimens will be issued by the Division of Law Enforcement. Care must be taken in handling sick or injured fish to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. In conjunction with the care of sick or injured bull trout, or the preservation of biological materials from a dead trout, the Forest Service and the applicant have the responsibility to ensure that information relative to the date, time, and location of the fish when found, and possible cause of injury or death of each fish be recorded and provided to the Service. Dead, injured, or sick bull trout should also be reported to the Service's Spokane Field Office (509-891-6839).

2. During project implementation, the Forest Service and/or Stimson shall promptly notify the Service of any emergency or unanticipated situations arising during project implementation that may be detrimental for bull trout. In this event, the habitat shall be restored to pre-emergency condition in a timely manner. Unusual occurrences such as interruptions of instream flow shall be documented and brought to the immediate attention of the Service.

The conservation measures and management guidelines are designed to minimize incidental take that might otherwise result from the proposed action.

Attachment H - Monitoring Framework for Stimson Conservation Agreement

As required by the Conservation Agreement, the Forest Service and Stimson will monitor as follows on their respective lands in the Grizzly Bear Management Unit:

1. Monitor effectiveness of Conservation Agreement Guidelines:

   - The effectiveness of the guidelines will depend on the results of monitoring outlined below.
   - Joint field reviews by all three parties of various projects in the LeClerc BMU shall be conducted to assist in analysis of the effectiveness of the guidelines to mitigate effects.

2. Vehicle use level on restricted roads (permitted and non-permitted): The goal is to minimize unauthorized use and poaching, to measure trend of vehicle use, and to assess effectiveness of the management guidelines outlined in Section 3 of the Conservation Agreement in maintaining adequate levels of grizzly bear habitat.

   - Log system. The Land Managers will maintain a log of company/agency use on restricted roads. Log will include: Who, date, road number, trip number, reason for access, and number of trips and vehicles.

   - Vehicle counters. Existing vehicle counters are maintained by the Forest Service. Counters are located at the beginning of restricted road systems. Most of the blocks of road systems are already covered by counters. An additional 2 or 3 counters may be necessary to gain nearly complete coverage of large restricted road systems. A vehicle counter costs approximately $400.00 plus the use of a ditch witch. Stimson will acquire and place additional counters to get nearly complete coverage. The Forest Service checks the counters every 2 weeks.

   - Thresholds of vehicles: In effective security areas the Forest Service will be required to restrict their use to one or two periods that together shall not exceed 14 days during the time the grizzly bears are out of the den. The effective security areas are mapped. In other restricted roads within the BMU, the Forest Service is limited to one round trip per week. The Land Managers shall monitor their administrative trips on all restricted roads within the LeClerc BMU for the 2000 spring period. By February 1, 2001, the parties will address whether a specific administrative trip limit should be established for the effective security areas based upon the Grizzly Bear Task Force recommendations and the trip monitoring results for 2000.

   - Seclusion habitat analysis: Using Stimson's vehicle log data, the Forest Service will analyze seclusion habitat for the entire GBMU.

   - Cameras: Cameras may be used in areas where we perceive problems, to gather more information on consistent use of a restricted road. Remote alarms are also a possibility.

3. Road densities (TRD and ORD using moving windows) should be measured using U.S. Forest Service parameters and software.

- The Forest Service will get road layer updates for the LeClerc BMU from Stimson. The Forest Service will do the analysis updates, and coordinate with Stimson. The updates are necessary because it will quantify effects and levels of take. The information can be used to prioritize additional closures or obliterations of roads.

4. Monitor open road densities using a moving windows analysis to ensure that densities do not exceed for 1mi/mi$^2$ during the non-denning period for each land ownership:

   - Each landowner will annually update open road densities for their ownerships. This is not expected to change much, except possibly for new roads on other private or state land.

5. 70 mi$^2$ seclusion habitat: The Colville National Forest Land and Resource Management Plan includes a standard to maintain a minimum of 70 square miles of seclusion habitat within each BMU. Seclusion habitat is defined in the Colville National Forest Land and Resource Management Plan. While Stimson is not required to help maintain 70 square miles of seclusion habitat within the BMU, they may support this goal where feasible.

   - The Forest Service will take the lead on this analysis and will coordinate with Stimson.
   - The Land Managers will meet annually to determine if/how Stimson may contribute to this goal.

6. 40% cover by ownership: The Land Managers have agreed to maintain a minimum of 40% cover across ownerships within the BMU in proportion to their ownership within the BMU. The Forest Service will take the lead on the cover analysis for the BMU using GIS and vegetation layers. Failure to meet this guideline may require additional consultation among the Parties to develop and implement a corrective course of action. The Forest Service will take the lead on this analysis using GIS and vegetation layers.

7. Review proposed annual harvest and other activities in the BMU:

   - Analysis will require: Travel log, counter data, harvest location/type, habitat types (including woodland caribou habitat), result of harvest (cover/non-cover).
   - The timing of this harvest analysis will be important-will need data to do road habitat analysis approximately one month before annual coordination meeting.
   - The data gathering cut-off should be November 30.
   - Analysis will be complete and the annual monitoring meeting will occur by February 1 each year.
   - Harvest proposals and other activities for the upcoming year will be identified at the annual monitoring meeting and will include identifying harvest in caribou early winter habitat, to allow Service participation in the ID teams.

As required by the bull trout biological opinion, as incorporated into the Conservation Agreement, the Forest Service and Stimson will monitor as follows on their respective lands directly affected by the granted access:

8. Monitor compliance with riparian buffers established in the Agreement (Attachment G) to address concerns about stream temperatures, bank stabilization, sediment increases and large woody debris supply:

- The Watershed Analysis approved by the Washington Department of Natural Resources was used to develop specific riparian prescriptions to be applied on this project. These prescriptions are described in Attachment G of the Conservation Agreement.
- Stimson will mark buffers on the ground before harvest.
- For each stream and wetland on the six parcels accessed by Stimson, the Fish and Wildlife Service may review buffers before and after harvest.

9. Monitor stream temperatures:

- Monitoring sites would be located within the area shown on the map attached as Detail A-2 in the vicinity of T36N R44E, Section 1, WM.
- Measure canopy density in riparian areas before and after the proposed harvest.
- Measure water temperatures continuously at several sites before, during, and after the proposed harvest.
- Measure air temperature at two sites adjacent to the streams before, during, and after the proposed harvest.
- Measure stream velocity, gradient, channel, width, and wetted width once during summer.
- The Parties agree to an interim June through September water temperature threshold of a 0.3 degree C increase in maximum weekly maximum temperature directly attributable to timber harvest and road construction. If the interim temperature threshold is exceeded, then the Parties will either make appropriate revisions to the interim threshold or revise the Guidelines or both, if needed.
- This interim threshold will apply pending adoption of permanent rules for Forest and Fish.
- If the threshold is exceeded it will not be considered a violation of the agreement.
- Monitoring shall begin as soon as practicable following execution of the conservation agreement and shall continue for the life of the agreement.
- Monitoring results would be considered applicable to the following sections: Section 3, T36N, R44E, W.M.; Section 35, T37N,R44E, W.M.; Section 1, T36N, R44E, W.M.; Section 12, T36N, R44E, W.M.; Sections 2 and 10, T36N, R44E, W.M.; Section 7, T36N, R44E, W.M.; and Sections 18 and 19, T36N, R44E, W.M.
- Use adaptive management to respond to monitoring results.

10. Monitor sediment changes from the approved road construction and timber harvest.
- Monitoring sites would be located within the area shown on the map attached as Detail A-2 in the vicinity of T36N R44E, Section 1, WM.
- Measure percent fines before, during, and after the proposed harvest and road construction.
- Measure streambed substrate characteristics on intermittent, perennial fish bearing and non-fish bearing streams using the Wolman pebble count or other acceptable method before, during, and after the proposed harvest and road construction.
- The Parties agree to an interim threshold of a maximum 10% increase in percent fines part of the substrate directly attributable to timber harvest and road construction. If the interim

threshold is exceeded, then the Parties will either make appropriate revisions to the interim threshold or revise the Guidelines or both, if needed.

- This interim threshold will apply pending adoption of permanent rules for Forest and Fish.
- If the threshold is exceeded it will not be considered a violation of the agreement.
- Monitoring should occur once a year (approximately October 1) and after intense storm events between June 15 and October 1 and shall begin as soon as practicable following execution of the conservation agreement and shall continue for the life of the agreement.
- Monitoring results would be considered applicable to the following sections: Section 3, T36N, R44E, W.M.; Section 35, T37N,R44E, W.M.; Section 1, T36N, R44E, W.M.; Section 12, T36N, R44E, W.M.; Section 2, 10, T36N, R44E, W.M.; Section 7, T36N, R44E, W.M.; and Sections 18 and 19, T36N,R44E, W.M.
- Use adaptive management to respond to monitoring results.

11. Monitor unauthorized motorized use of restricted roads:

- Stimson's road closures will be implemented according to the cooperative closure program with other private landowners, the Forest Service, and the Washington Department of Fish and Wildlife. A copy of the Cooperative Agreement is attached as Attachment J. Under the program, Washington Department of Fish and Wildlife has statutory authority to enforce the road closures through citations and other means. Stimson will post the roads to the six parcels informing the public of the cooperative closure program. A copy of the sign to be posted is attached as Attachment K.
- Monitoring shall begin as soon as practicable following execution of the conservation agreement and shall continue for the life of the agreement.
- Use adaptive management to respond to monitoring results.

12. Monitor cattle use especially in harvested riparian areas and at stream crossings to determine if harvest units and stream crossings are providing increased cattle access to streams/riparian areas:

- Forest Service is already conducting allotment monitoring on National Forest System Lands as part of their consultation for the LeClerc Creek Allotment. This will provide the information required by the Forest Service. Part of the allotment on Stimson land occurs only in Sections 3 and 35 of the project area. The county has open range which makes enforcement difficult. Forest Service will notify Stimson each year regarding the grazing schedule for each pasture within this allotment.
- Stimson will incorporate the Forest Service grazing permit requirements into the grazing permit Stimson uses.
- Modify riparian and stream crossing barriers where significant increases in cattle use and/or damage to riparian/stream habitats occur.
- Use adaptive management to respond to monitoring results.

Schedule:

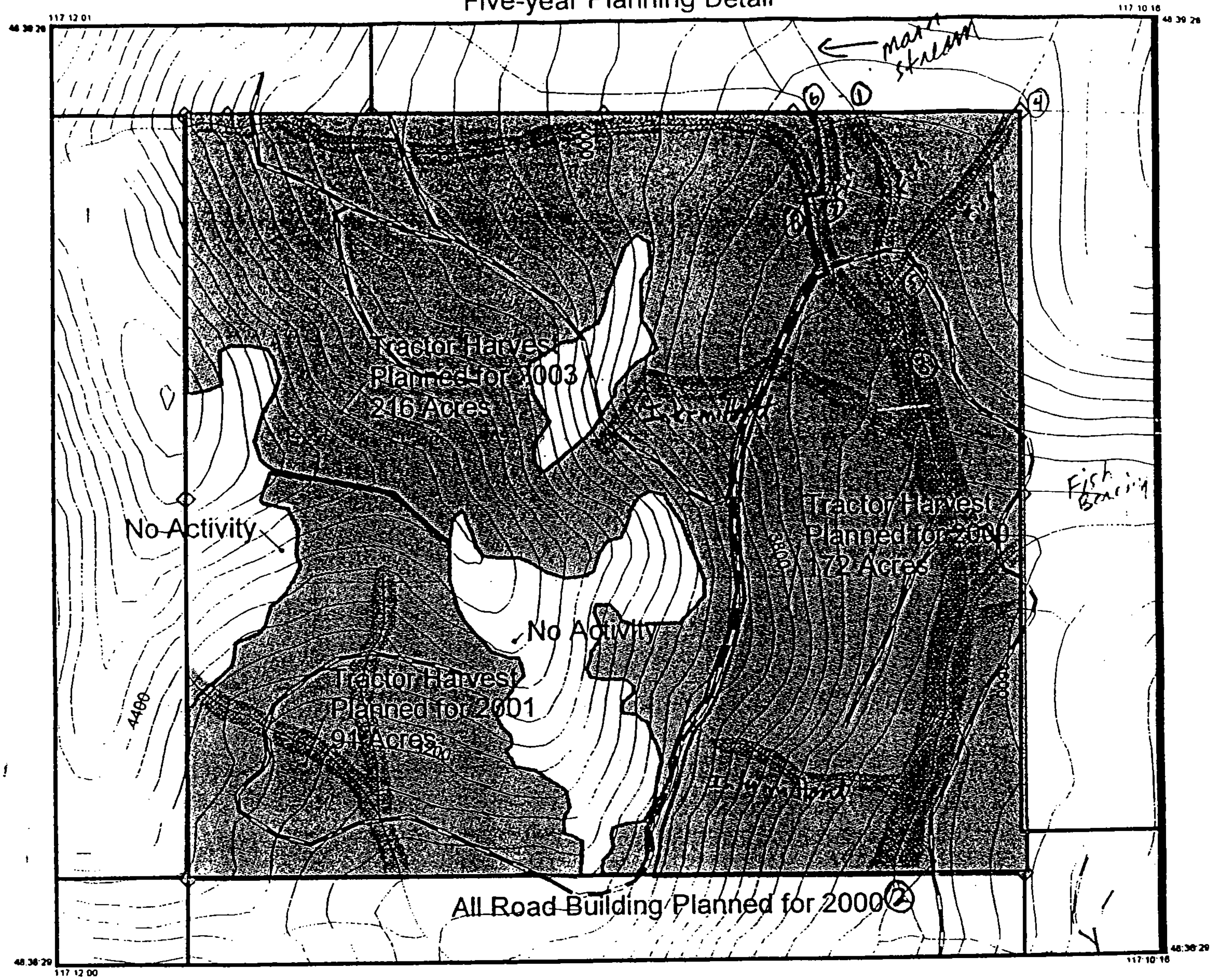
- Forest Service and Stimson will begin vehicle use monitoring of roads upon implementation (signing) of the Conservation Agreement.

- Before November 15 of year of implementation- the Forest Service needs to receive LeClerc BMU roads layer from Stimson.
- November 30 - Stimson will provide monitoring data to the Forest Service to begin analysis of road densities, cover, seclusion habitat, etc.
- By February 1 of year of implementation - attend annual Conservation Agreement monitoring meeting.
- Before grizzly bear den emergence, develop plans to address issues brought up in monitoring meeting. Implement plans.
- Upon den emergence, continue monitoring.

STIMSON LUMBER COMPANY

LeClerc Unit
36N 44E Sec 1, WM
Five-year Planning Detail

Detail A-2




| CUT TYPE | ACRES | % BA Removed |
|---|---|---|
| Sheltrwood | 468 | 57% |
| Selective | 17 | 71% |
| CC-R/W | 27 | 100% |
| No Activty | 76 | 0% |

Attachment I

RD CONST

New 4.50 Miles

Reconstruction

Lines

Cn36n44e
Ck36n44e
Road_construction.shp
Rd36n44e

Polygons

Harvest_unit_boundary01.shp
Owner
Selective01.shp
Riparian_management_zone01.shp
Shelterwood01.shp

Symbols:

Knownpts

Scale: 1:12000
Date: 4/21/99
Map Type: Harvest Plan
County: Pend Oreille
Prepared By: Doug Smith

N

Remark:

Sec:

COPY

Attachment J

Date: September 1, 1995

**FINAL DRAFT**

# WASHINGTON ROAD MANAGEMENT PLANNING COOPERATIVE

## Memorandum of Understanding

A. Mission Statement

The purpose of the Washington Road Management Planning Cooperative (the "Cooperative) is to develop and implement a program to coordinate forest road management activities across mixed ownerships within the Washington Department of Fish and Wildlife's Region One in Ferry, Stevens, Pend Oreille, Lincoln and Spokane counties and limited to the areas of jurisdiction of each signing member. The public agencies and private landowners, signatories to this agreement, shall automatically become members of the Cooperative (the "Member(s)"), as described herein.

B. Policy

Each Member shares a mutual desire to cooperatively manage roads and road uses in order to minimize road maintenance costs; protect water quality; provide fisheries and wildlife habitat security; and provide appropriate access to lands and resources. The Members agree that coordinated road management planning is a process for assisting in making decisions in areas with multiple land ownerships and various management goals. Such planning incorporates the following elements.

1. cooperation, with equitable and voluntary participation of all effected interests using a "team approach;"
2. open communication among all participants;
3. sharing of technical expertise and data;
4. strong and effective local leadership; and
5. commitment to complete agreed upon projects; ensure projects are met; update data bases where they have been established; and revise road management plans as necessary.
6. commitment to on-going effective public notification and education of road management plans and their benefits.

The respective participation of each Member will vary depending upon its land ownership, specific road concerns and wildlife and habitat protection objectives. As appropriate, other state and local agencies and private landowners may be asked to participate and become members of the Cooperative by signing a counterpart of this Memorandum of Understanding (the "Memorandum"). Nothing herein shall be construed as obligating any Member to any expenditure of funds or for the future payment of money in excess of appropriations or budgets established by each Member for such purposes.

C. Objectives

The objectives of the Cooperative are as follows:

1. to practice efficient management of forest road uses so that landowner objectives are realized, road maintenance and construction is minimized, water quality is protected and fisheries and wildlife are provided with secure habitat;

2. to gather, maintain, and distribute information on road management, existing road uses, and transportation systems;

3. to develop management plans concerning maintenance activities, road restrictions, and long term transportation system planning;

4. to coordinate, implement, and administer management plans and projects developed by the Cooperative;

5. to provide access for the public to public lands in accordance with management plans; however, this does not obligate a Member to grant right-of-way across their lands to provide public access to another party's lands;

6. to provide information and maps to the general public on access availability and provide published information on benefits of road management;

7. to develop, install and maintain a uniform system of signage to designate road management uses and their current status, including but not limited to timber harvesting and road construction operations; and

8. to enforce road restrictions within legal and budgetary limits.

D. Organizational Structure and Enforcement Authority

1. Steering Committee. The Members shall establish a Steering Committee (the

"Committee") to coordinate planning and management of Cooperative projects. The Committee will consist of at least one representative from each Member. Committee members should possess necessary technical expertise and administrative authority in order to implement projects and programs consistent with the intent and policy of the Cooperative as set forth herein. The Committee shall establish plans and procedures and shall further pursue objectives and exchange information. In addition, the Committee will evaluate the effectiveness of completed projects of the Cooperative. The Committee may from time to time establish subcommittees on as "as needed" basis to resolve technical problems of Cooperative projects.

2. <u>Enforcement Authority.</u> In order to enforce the objectives of the Cooperative, the Members hereby agree:

a. to authorize the Washington State Department of Fish & Wildlife (the "Department") to enforce road closures, at the request of the Committee, pursuant to WAC 232-12-177 attached hereto as Exhibit A and by this reference made a part hereof, on lands in the State of Washington;

b. that other than Department vehicles, only those vehicles authorized by the Members or their respective agents may travel on closed roads; and vehicles will be confined to a direct route to and from the designated area; provided that nothing in this agreement is intended to limit vehicle use by the Members for management of their respective land and resources under their care;

c. to specifically mark or designate vehicles authorized by the Member or its agents to use closed roads;

d. to comply with the following restrictions pertaining to the operations of authorized vehicles: i) no firearms or weapons shall be allowed in motorized vehicles on closed roads, ii) no wildlife will be transported in motorized vehicles on closed roads, iii)no persons not on official business of the Member or its agents shall be transported in vehicles on closed roads.

The above section (i)(ii)(iii) are all applicable except as necessary according to member agencies authorizations, management obligations and policy requirements.

e. to allow necessary sign posting and/or display installation;

f. that upon termination of this Memorandum, the Department may remove any installations of value or signs provided by the Department under this Memorandum;

g. that the Department has authority to post and maintain signs as necessary; and

h. that none of the above restrictions shall replace any existing rights or permitted uses granted by Member landowners to other non-member parties over roads included in this agreement.

Pursuant to the foregoing, the Department agrees:

a. to print maps and publicize road management areas;

b. to patrol said road management areas at such times and on such roads as may be necessary or desirable at the discretion of the Committee, to enforce rules and regulations of the Department, including appropriate hunting regulations and road closures;

c. that Department vehicles will enter closed roads only on official business or law enforcement action;

d. that it will not provide a key to gate lock (s) to anyone other than its personnel and the respective Member and will not provide keys to adjoining property owners for such lock(s).

E. <u>Omnibus</u>

1. <u>Term.</u> This Memorandum shall become effective upon the date subscribed by the last signatory and shall remain in full force and effect until terminated by the majority vote of the Members. Notwithstanding the foregoing, any Member may terminate its involvement in the Cooperative by giving ninety (90) days written notice to the current Chairperson of the Cooperative.

2. <u>Chairperson.</u> The committee will elect a Chair and Vice-Chair at their annual meeting who will serve for a period of one year.

3. <u>Amendments to Memorandum of Understanding.</u> This Memorandum may be amended at any time by the written consent of all Members.

4. <u>Authority.</u> Each Member represents and warrants to the other that each has the full right, power and authority to execute this Memorandum and perform their respective obligations under this Memorandum.

5. <u>Entire Memorandum.</u> All understandings and agreements previously existing between the Members, if any, are merged into this Memorandum, which alone fully and completely expresses their agreement, and the same is entered into after full investigation, neither party relying upon any statement or representation made by the other not embodied herein.

DATE

9/29/95

MEMBER

PLUM CREEK TIMBER COMPANY, L.P.

BY: James K. Lehner

Title: Manager

DATE

10/3/95

MEMBER

WASHINGTON STATE
DEPARTMENT OF FISH AND WILDLIFE

BY: Bruce R Smith

Title: Regional Director

DATE

10/3/95

MEMBER

ARDEN TREE FARMS, INC.

BY: [illegible]

Title: Asst. Manager

DATE

MEMBER

BOISE CASCADE CORPORATION

BY: James W Hurlbert

Title: Timberland Mgr

DATE

MEMBER

VAAGEN BROTHERS LUMBER, INC.

BY: [illegible]

Title: President

DATE

1/26/96

MEMBER

U.S. BUREAU OF LAND MANAGEMENT
SPOKANE DISTRICT

BY: Joe Buesing
Title: District Manager

DATE

1/11/96

MEMBER

DEPARTMENT OF INTERIOR
U.S. FISH & WILDLIFE SERVICE

BY: Richard A. Coleman
Title: ACTING REGIONAL DIRECTOR

DATE

2-6-96

MEMBER

KALISPEL TRIBE OF INDIANS

BY: William T. Towey
Title: Director, Natural Resource Department

DATE

12-8-95

MEMBER

USDA - FOREST SERVICE
COLVILLE NATIONAL FOREST

BY: Edward L. Schultz
Title: Forest Supervisor

DATE

12/22/95

MEMBER

WASHINGTON STATE DEPARTMENT
OF NATURAL RESOURCES

BY: Wes Cooper
Title: N.E. Region Manager

DATE

Feb 12, 1996

MEMBER

IDAHO FOREST INDUSTRIES, INC.

BY: [illegible]

Title: Vice Pres - Resources

DATE

8/19/96

MEMBER

INLAND EMPIRE PAPER COMPANY

BY: D. R. Parent

Title: FOREST OPERATIONS MGR.

DATE

MEMBER

USFS, OKANOGAN NATIONAL FOREST

BY:

Title:

DATE

March 14, 1996

MEMBER

COLVILLE CONFEDERATED TRIBE

BY: Joe Peone

Title: Director of Fish Wildlife

DATE

3/19/97

MEMBER

STIMSON LUMBER COMPANY

BY: Dwight C. Opp

Title: Fee Land Manager

EXHIBIT A

**WAC 232-12-177 Vehicles using department lands.** (1) It is unlawful to operate a motor driven vehicle on lands owned, controlled or managed by the department except on such land or roads as may be authorized by the director.

(2) It is unlawful to operate a motor driven vehicle on a road controlled or managed by the department pursuant to road management agreement in a manner or for a purpose contrary to posted signs or notices except as authorized by the director. [Statutory Authority: RCW 77.12.210 and 77.12.320. 90-11-050 (Order 438), § 232-12-177, filed 5/11/90, effective 6/11/90. Statutory Authority: RCW 77.12.040. 82-04-034 (Order 177), § 232-12-177, filed 1/28/82; 81-12-029 (Order 165), § 232-12-177, filed 6/1/81. Formerly WAC 232-12-400.]

Mike Whorton
WA Department of Fish & Wildlife
N. 8702 Division Street
Spokane, WA 99218
509-456-4082

Jeff Pitts
Arden Tree Farms
P.O. Box 391
Colville, WA 99114
509-684-2507

Steve Tveit
Dave Whitwell
Boise Cascade
S. 110 Boise Road
Kettle Falls, WA 99141
509-738-3200

Duane Vaagen
Vaagen Brothers
P.O. Box 515
Colville, WA 99114
509-684-5071

Gary Yeager
Bureau of Land Management
N. 1103 Fancher
Spokane, WA 99212
509-536-1200

Steve Fowler
USFWS
1310 Bear Creek Road
Colville, WA 99114
509-684-8384

~~Ron Torrelli~~ Bill Towey
~~Manager~~, Natural Resources Dept.
Kalispel Tribe of Indians
P.O. Box 39
Usk, WA 99180
509-445-1147

Jerry Coleman
USFS
Colville National Forest
Federal Building
Colville, WA 99114
509-684-3711

Dale Danell/Gary Walker
Washington State DNR
P.O. Box 190
Colville, WA 99114-0190
509-684-7474

Mike Welling
Idaho Forest Industries
C-6600
Coeur d'Alene, ID 83814
208-756-1414

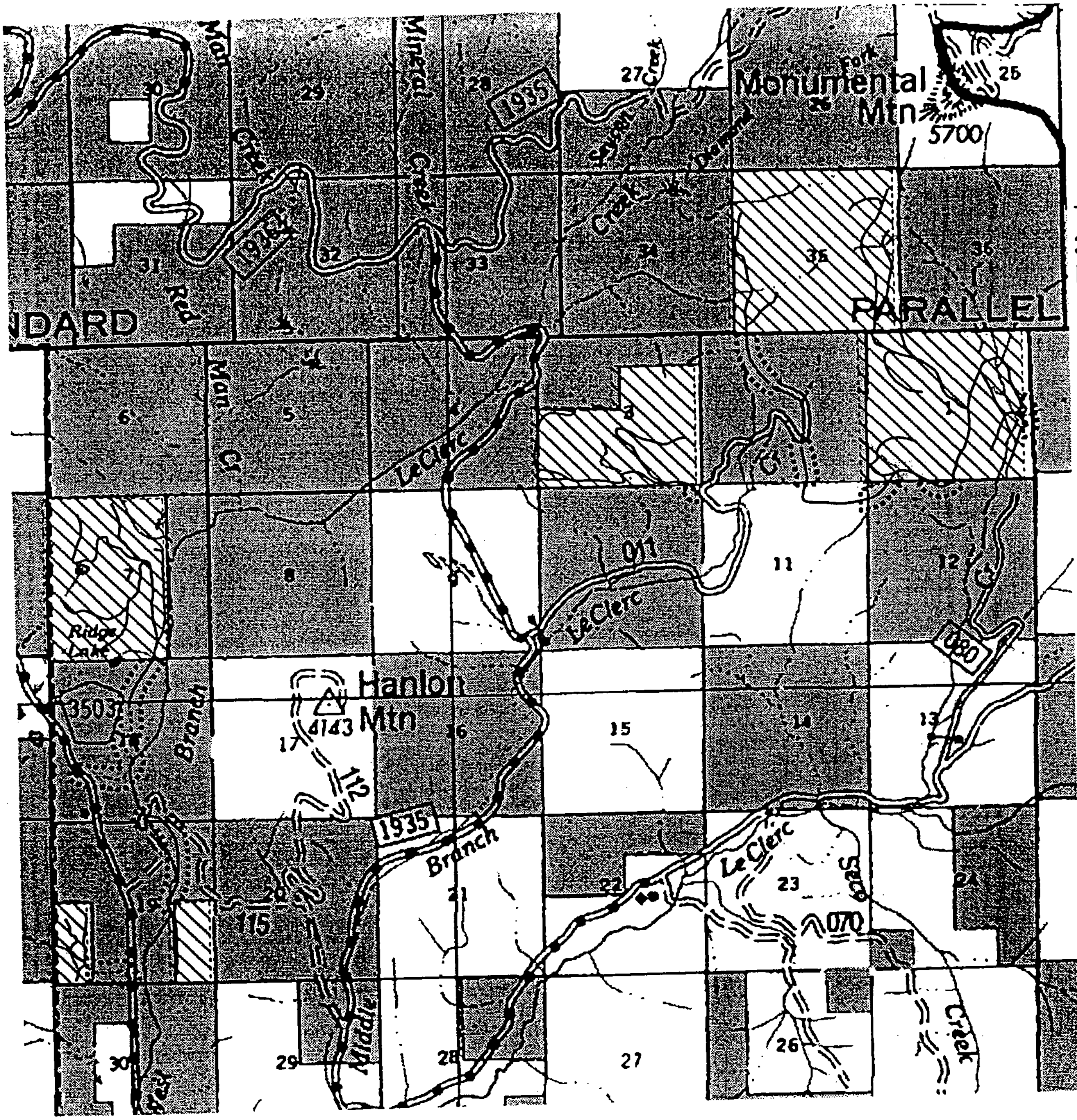
Dennis Parent
Inland Empire Paper Co.
N. 3320 Argonne Road
Spokane, WA 99212

Sam Gehr
USFS
Okanogan National Forest
1240 S. 2nd Avenue
Okanogan, WA 98840-9723
509-826-3565

Joe Peone
Colville Confederated Tribe
P.O. Box 150
Nespelem, WA 99155
509-634-4711

Dwight Opp
Stimson Lumber Company
P O Box 1499
Newport, WA 99156
509-447-3686

R 44 E




# Vicinity Map for Stimson Cost-Share Roads Project Attachment L

Colville National Forest
Sullivan Lake Ranger District
2/25/2000

## Project Areas Map Legend

Lands Project Area - Stimson Lands Accessed by Proposed Roads

Roads Project Area

Proposed Roads

New

Reconstruction

1 0 1 Miles

N

Example


Attachment K

# Appendix F – Biological Opinion, Assessments and Evaluations

This appendix contains the U.S. Fish and Wildlife Service Biological Opinion on Grizzly Bear and Lynx, letters of concurrence from them resulting from informal consultation, and the Biological Assessments and Evaluations written by Forest Service specialists for endangered, threatened, and sensitive species of wildlife, fish and plants. Each document is placed in chronological order, with the most recent documents first.

**Sensitive Species Biological Evaluation for Fisheries**
**Summary of Conclusion of Effects****

**Project Name: Stimson Access**

**Preferred Alternative: Alternative B (effects to NFS lands)**

| Species | No Effect | May Impact Individuals, but Will Not Likely Result in a Trend Toward Federal Listing or Reduced Viability for the Population or Species | Likely to Impact Individuals or Habitat with a Consequence that the Action May Contribute Towards Federal Listing or Reduced Viability for the Population or Species** | Beneficial Effect |
|---|---|---|---|---|
| Burbot<br>*Lota lota* | X | | | |
| Interior redband trout<br>*Oncorhynchus mykiss gairdneri* | X | | | |
| Westslope cutthroat trout<br>*Oncorhynchus clarki lewisi* | X | | | |
| Torrent sculpin<br>*Cottus rhotheus* | X | | | |

Comments: determinations are based on the known distribution of the species, the habitat conditions required of the species, and the current habitat conditions within the evaluation area.

/s/Shanda Fallau Dekome
Fisheries Biologist

Date: March 10, 2004

* Considered a significant action in NEPA
** The rationale for the conclusion of effects is contained in the EIS document and Project File

United States Department of Agriculture
Forest Service
Idaho Panhandle National Forests
Sandpoint Ranger District
1500 Highway No. 2
Suite 110
Sandpoint, ID 83864-9509
(208) 263-5111

**File Code: 2670** **Date: March 9, 2004**

**Subject:** Biological Assessment, Threatened and Endangered Plants
Stimson Access Project Environmental Impact Statement
Priest lake Ranger District

**To:** District Ranger

## I. Introduction

The purpose of this assessment is to evaluate and describe potential effects of Alternative B (the preferred alternative) of the Stimson Access Project Environmental Impact Statement (EIS) on threatened or endangered plant species, and to determine whether any such species or habitat is likely to be affected by the proposed action. This assessment was prepared in accordance with USDA Forest Service policy (FSM 2672.4).

On June 4, 2003 the US Fish and Wildlife Service (USFWS) provided the Idaho Panhandle National Forests with a listing of species (FWS 1-9-03-SP-365) (USDI 2003) that may be present in the Priest Lake Ranger District. The threatened species water howellia (*Howellia aquatilis* A. Gray), Ute ladies'-tresses (*Spiranthes diluvialis* Sheviak) and Spalding's catchfly (*Silene spaldingii* Wats.) are suspected to occur in the district. There are no endangered plant species known or suspected to occur in the district.

## II. Preferred Alternative

The USDA Forest Service proposes road construction activities on National Forest lands in the Priest Lake Ranger District. The road construction will provide access to Stimson Lumber Company lands pursuant to the access provisions of the Alaska National Interest Lands Conservation Act (ANILCA).

Maps showing the location of proposed treatment units are included in the Stimson Access Project EIS. **A copy of the EIS accompanies the Biological Assessment.**

This alternative will grant SLC a road authorization for a long term road access of about 4,000 feet (0.76 mile) in length by approximately 66 feet in width on NFS lands across Section 8, T36 N., R45 E., Willamette Meridian in the State of Washington.. This access will allow Stimson to construct a road that will be an extension of an existing road on Stimson property in Section 9. The road will be constructed in accordance with plans, specifications, and written stipulations approved by the Forest Service prior to the beginning of construction work. These design standards provide for the protection of soil and water as well as other resource concerns.

## III. Listed Threatened Plant Species

Water howellia (*Howellia aquatilis*) - a member of the family Campanulaceae, is suspected to occur in the Priest River sub-basin ecosystem. According to the Conservation Strategy for *Howellia aquatilis* -

Flathead National Forest (USDA 1994), there are currently 110 known occurrences of the species; most occurrences are in Montana and Washington, with only one known occurrence in Idaho.

Water howellia is an annual aquatic species restricted to small pothole ponds or the quiet water of abandoned river oxbows. It occurs at elevations from 10 feet in Washington to 4,420 feet in Montana. The species reproduces only by seed; germination occurs in October, presuming the plant's habitat has dried sufficiently to expose the seeds to oxygen. Because of this restrictive habitat requirement, population numbers in a given year are directly influenced by the extent of pond drawdown at the end of the previous growing season (USDA 1994).

Botanists from the US Forest Service, State of Idaho Department of Lands and Idaho Fish and Game Conservation Data Center have conducted floristic surveys of many wetlands in the Priest River subbasin ecosystem over the past decade, but have not located any occurrences of the species. An 1892 sighting approximately 42 miles southeast of the Decision Area has not been relocated (Shelly and Moseley 1988).

Ute ladies'-tresses (*Spiranthes diluvialis*) - a member of the plant family Orchidaceae, is a Great Basin species. In north Idaho, the steppe zone of the Palouse Prairie, Rathdrum Prairie and canyon grasslands are considered potentially suitable habitat (Moseley 1999, Jankovsky-Jones and Graham 2001). Although the Decision Area is in northeastern Washington, Palouse Prairie and Rathdrum prairie in north Idaho are the closest suitable habitats for the species. Montane coniferous forest, subalpine coniferous forest and alpine zones are not likely places to find Ute ladies'-tresses (Moseley 1999). Its potential habitat in the Priest River sub-basin is considered restricted to low-elevation, low-gradient streams and rivers and open, broad alluvial valleys dominated by mixed conifer/cottonwood, shrub and wet meadow grass and forb communities (Moseley 1999). Any potential habitat in the Priest River ecosystem is under private or other ownership.

Although lower elevation riparian habitats in the Decision Area may possess some geophysical characteristics considered to represent high potential habitat for the species, these habitats are generally characterized by conifer-dominated plant communities, which have low potential to support the species. In addition, as elevation within the Decision Area increases, most streams generally become moderate- to high-gradient. They have narrow riparian influence and abrupt transition from riparian to upland plant communities. Such conditions generally hold low potential to support Ute ladies'-tresses (Moseley 1999).

Ute ladies'-tresses, a perennial terrestrial species, is currently known from Colorado, Idaho, Montana, Nebraska, Utah, Washington and Wyoming; total population for the species is approximately 25,000 to 30,000 individuals (Moseley 1999).

Spalding's catchfly – a member of the plant family Caryophyllaceae, occurs in dry grassland habitats and grassland inclusions in ponderosa pine and Douglas-fir forest. Suitable habitat for this species is typically dominated by fescues (*Festuca* species) and other bunchgrasses, but also has a high density of forbs. Soil types on which it has been found include loam, silty loam, granitic, loamy basaltic and loess (USDI 2000).

This long-lived perennial forb often exhibits periods of dormancy (both within a growing season and over several growing seasons), which can render habitat clearance surveys problematic (Lesica 1997). Periodic dormancy may allow individuals to persist below ground during drought years (Lesica 1997).

Potential threats to its habitat include conversion to agricultural, residential or other uses; overgrazing; soil compaction and other ground disturbance; exotic species invasion; herbicide use; and activities that would negatively impact the species' pollinators (Lichthardt 1997). Wildfire and prescribed fire may also be detrimental to individualss, although fires may benefit the species by burning off heavy accumulations of duff and litter which impede germination and seedling growth (Lesica 1999).

Because habitat for Spalding’s catchfly cannot be accurately determined using Timber Stand Database information, a Forest-wide habitat analysis was conducted using Satellite Imagery Landtype Classification (SILC). This reflection of the species’ habitat occurrence and distribution is an approximation and serves as a coarse filter for habitat suitability. Further review of areas identified by SILC, such as aerial photograph interpretation and field verification, is necessary to determine the true extent of suitable habitat for Spalding’s catchfly.

Based on evaluation of SILC and aerial photographs of the Decision Area, the potential for occurrence of habitat for Spalding’s catchfly in the Decision Area is low.

## IV. On-site Inspection

Floristic surveys of the Decision Area were conducted in 1995 and 1997, with additional field review in 2001. All plant species encountered were recorded during the surveys. The surveys targeted areas proposed for harvest activities. No listed plant species were identified, and the Decision Area was confirmed as having no suitable habitat for any listed plant species.

## V. Analysis of Effects

Water howellia - There is no suitable habitat for water howellia in the Decision Area. No direct, indirect or cumulative effects would occur from project implementation.

Ute ladies'-tresses - Habitat potential for Ute ladies'-tresses in the Decision Area was determined to be low. This species has yet to be found in the Priest River subbasin ecosystem. No direct, indirect or cumulative effects would occur from project implementation.

Spalding's catchfly – No suitable habitat for this species occurs in the Decision Area. There is low potential for occurrence of Spalding’s catchfly in the Priest River subbasin. No direct, indirect or cumulative effects to the species or suitable habitat would occur from project implementation.

## VI. Determination of Effects

No sightings of water howellia, Ute ladies'-tresses or Spalding’s catchfly have been documented in the Decision Area. The Decision Area has no suitable habitat for these species.

Based on the above considerations, implementation of Alternative B would have **no effect** on water howellia, Ute ladies'-tresses or Spalding's catchfly or their habitats.

Prepared by:

Anna E. Hammet
IPNF North Zone Botanist

## Literature Cited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Lesica, Peter. 1997. Demography of the endangered plant *Silene spaldingii* (Caryophyllaceae) in northwest Montana. Madrono 44(4):347-358.

Lesica, Peter. 1999. Effects of fire on the demography of the endangered, geophytic herb *Silene spaldingii* (Caryophyllaceae). American Journal of Botany 86(7): 996-1002.

Lichthardt, J. 1997. Revised report on the conservation status of *Silene spaldingii* in Idaho. Idaho Department of Fish and Game Conservation Data Center. Boise, Idaho. Unpublished technical report.

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Shelly, J. Steven and Robert K. Moseley. 1988. Report on the Conservation Status of *Howellia aquatilis*, a Candidate Threatened Species. Montana Natural Heritage Program. Helena, MT. Pages 29-30.

USDA. 1994. Conservation Strategy for *Howellia aquatilis*. Flathead National Forest. USDA Forest Service Northern Region. Missoula, Montana. April, 1994; updated November 17, 1994.

USDI Fish and Wildlife Service. 2000. Section 7 guidelines - *Silene spaldingii* Spalding's catchfly (proposed Threatened). United States Fish and Wildlife Service Snake River Basin Office. Boise, Idaho.

USDI Fish and Wildlife Service. 2003. Update of Forest- and District-wide species list, Endangered, Threatened, Candidate and Species of Concern within the Idaho Panhandle National Forests. SP# 1-9-03-SP-365. June 4, 2003. Spokane, Washington.

United States Department of Agriculture

Forest Service

Idaho Panhandle National Forests

Sandpoint Ranger District
1500 Highway No. 2
Suite 110
Sandpoint, ID 83864-9509
(208) 263-5111

**File Code: 2670** **Date: March 9, 2004**

**Subject:** Biological Assessment, Threatened and Endangered Plants
Stimson Access Project Environmental Impact Statement
Priest lake Ranger District

**To:** District Ranger

## I. Introduction

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On June 4, 2003 the US Fish and Wildlife Service (USFWS) provided the Idaho Panhandle National Forests with a listing of species (FWS 1-9-03-SP-365) (USDI 2003) that may be present in the Priest Lake Ranger District. The threatened species water howellia (*Howellia aquatilis* A. Gray), Ute ladies'-tresses (*Spiranthes diluvialis* Sheviak) and Spalding's catchfly (*Silene spaldingii* Wats.) are suspected to occur in the district. There are no endangered plant species known or suspected to occur in the district.

## II. Preferred Alternative

The USDA Forest Service proposes road construction activities on National Forest lands in the Priest Lake Ranger District. The road construction will provide access to Stimson Lumber Company lands pursuant to the access provisions of the Alaska National Interest Lands Conservation Act (ANILCA).

Maps showing the location of proposed treatment units are included in the Stimson Access Project EIS. **A copy of the EIS accompanies the Biological Assessment.**

This alternative will grant SLC a road authorization for a long term road access of about 4,000 feet (0.76 mile) in length by approximately 66 feet in width on NFS lands across Section 8, T36 N., R45 E., Willamette Meridian in the State of Washington.. This access will allow Stimson to construct a road that will be an extension of an existing road on Stimson property in Section 9. The road will be constructed in accordance with plans, specifications, and written stipulations approved by the Forest Service prior to the beginning of construction work. These design standards provide for the protection of soil and water as well as other resource concerns.

## III. Listed Threatened Plant Species

Water howellia (*Howellia aquatilis*) - a member of the family Campanulaceae, is suspected to occur in the Priest River sub-basin ecosystem. According to the Conservation Strategy for *Howellia aquatilis* -

Flathead National Forest (USDA 1994), there are currently 110 known occurrences of the species; most occurrences are in Montana and Washington, with only one known occurrence in Idaho.

Water howellia is an annual aquatic species restricted to small pothole ponds or the quiet water of abandoned river oxbows. It occurs at elevations from 10 feet in Washington to 4,420 feet in Montana. The species reproduces only by seed; germination occurs in October, presuming the plant's habitat has dried sufficiently to expose the seeds to oxygen. Because of this restrictive habitat requirement, population numbers in a given year are directly influenced by the extent of pond drawdown at the end of the previous growing season (USDA 1994).

Botanists from the US Forest Service, State of Idaho Department of Lands and Idaho Fish and Game Conservation Data Center have conducted floristic surveys of many wetlands in the Priest River subbasin ecosystem over the past decade, but have not located any occurrences of the species. An 1892 sighting approximately 42 miles southeast of the Decision Area has not been relocated (Shelly and Moseley 1988).

Ute ladies'-tresses (*Spiranthes diluvialis*) - a member of the plant family Orchidaceae, is a Great Basin species. In north Idaho, the steppe zone of the Palouse Prairie, Rathdrum Prairie and canyon grasslands are considered potentially suitable habitat (Moseley 1999, Jankovsky-Jones and Graham 2001). Although the Decision Area is in northeastern Washington, Palouse Prairie and Rathdrum prairie in north Idaho are the closest suitable habitats for the species. Montane coniferous forest, subalpine coniferous forest and alpine zones are not likely places to find Ute ladies'-tresses (Moseley 1999). Its potential habitat in the Priest River sub-basin is considered restricted to low-elevation, low-gradient streams and rivers and open, broad alluvial valleys dominated by mixed conifer/cottonwood, shrub and wet meadow grass and forb communities (Moseley 1999). Any potential habitat in the Priest River ecosystem is under private or other ownership.

Although lower elevation riparian habitats in the Decision Area may possess some geophysical characteristics considered to represent high potential habitat for the species, these habitats are generally characterized by conifer-dominated plant communities, which have low potential to support the species. In addition, as elevation within the Decision Area increases, most streams generally become moderate- to high-gradient. They have narrow riparian influence and abrupt transition from riparian to upland plant communities. Such conditions generally hold low potential to support Ute ladies'-tresses (Moseley 1999).

Ute ladies'-tresses, a perennial terrestrial species, is currently known from Colorado, Idaho, Montana, Nebraska, Utah, Washington and Wyoming; total population for the species is approximately 25,000 to 30,000 individuals (Moseley 1999).

Spalding's catchfly – a member of the plant family Caryophyllaceae, occurs in dry grassland habitats and grassland inclusions in ponderosa pine and Douglas-fir forest. Suitable habitat for this species is typically dominated by fescues (*Festuca* species) and other bunchgrasses, but also has a high density of forbs. Soil types on which it has been found include loam, silty loam, granitic, loamy basaltic and loess (USDI 2000).

This long-lived perennial forb often exhibits periods of dormancy (both within a growing season and over several growing seasons), which can render habitat clearance surveys problematic (Lesica 1997). Periodic dormancy may allow individuals to persist below ground during drought years (Lesica 1997).

Potential threats to its habitat include conversion to agricultural, residential or other uses; overgrazing; soil compaction and other ground disturbance; exotic species invasion; herbicide use; and activities that would negatively impact the species' pollinators (Lichthardt 1997). Wildfire and prescribed fire may also be detrimental to individualss, although fires may benefit the species by burning off heavy accumulations of duff and litter which impede germination and seedling growth (Lesica 1999).

Because habitat for Spalding's catchfly cannot be accurately determined using Timber Stand Database information, a Forest-wide habitat analysis was conducted using Satellite Imagery Landtype Classification (SILC). This reflection of the species' habitat occurrence and distribution is an approximation and serves as a coarse filter for habitat suitability. Further review of areas identified by SILC, such as aerial photograph interpretation and field verification, is necessary to determine the true extent of suitable habitat for Spalding's catchfly.

Based on evaluation of SILC and aerial photographs of the Decision Area, the potential for occurrence of habitat for Spalding's catchfly in the Decision Area is low.

## IV. On-site Inspection

Floristic surveys of the Decision Area were conducted in 1995 and 1997, with additional field review in 2001. All plant species encountered were recorded during the surveys. The surveys targeted areas proposed for harvest activities. No listed plant species were identified, and the Decision Area was confirmed as having no suitable habitat for any listed plant species.

## V. Analysis of Effects

Water howellia - There is no suitable habitat for water howellia in the Decision Area. No direct, indirect or cumulative effects would occur from project implementation.

Ute ladies'-tresses - Habitat potential for Ute ladies'-tresses in the Decision Area was determined to be low. This species has yet to be found in the Priest River subbasin ecosystem. No direct, indirect or cumulative effects would occur from project implementation.

Spalding's catchfly – No suitable habitat for this species occurs in the Decision Area. There is low potential for occurrence of Spalding's catchfly in the Priest River subbasin. No direct, indirect or cumulative effects to the species or suitable habitat would occur from project implementation.

## VI. Determination of Effects

No sightings of water howellia, Ute ladies'-tresses or Spalding's catchfly have been documented in the Decision Area. The Decision Area has no suitable habitat for these species.

Based on the above considerations, implementation of Alternative B would have **no effect** on water howellia, Ute ladies'-tresses or Spalding's catchfly or their habitats.

Prepared by:

Anna E. Hammet
IPNF North Zone Botanist

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# United States Department of the Interior

FISH AND WILDLIFE SERVICE

TAKE PRIDE IN AMERICA

*Upper Columbia Fish and Wildlife Office*
*11103 East Montgomery Drive*
*Spokane, Washington 99206*


December 10, 2003

Ranotta McNair
Forest Supervisor
Idaho Panhandle National Forests
3815 Schreiber Way
Coeur d'Alene, ID 83814-8363

Subject: Biological Opinion for the Stimson ANILCA Access Project
FWS Reference: 1-9-03-F-518 (105.0000)

Dear Ms McNair:

This letter transmits the biological opinion for the Stimson ANILCA Access Project, located on the Idaho Panhandle National Forests (IPNF), in accordance with section 7 of the Endangered Species Act of 1973, as amended. The project involves Stimson Lumber Company's request for access across IPNF lands to their private land in Pend Oreille County, Washington. If you have questions regarding this opinion, please contact me or Bryon Holt in this office at (509) 891-6839.

Sincerely,

Susan B. Martin

Supervisor

Enclosure

OPTIONAL FORM 99 (7-90)

| FAX TRANSMITTAL | # of pages ► 55 |
|---|---|
| To Tim Layser | From Scott Otto |
| Dept./Agency Priest Lake RD | Phone # 509-893-8008 |
| Fax # 208-443-6845 | Fax # 509-891-6748 |
| NSN 7540-01-317-7368 5099-101 | GENERAL SERVICES ADMINISTRATION |

# Biological Opinion for the Stimson ANILCA Access Project Idaho Panhandle National Forests

**FWS Ref. 1-9-03-F-518**

Prepared by:

U.S. Fish and Wildlife Service
Upper Columbia Fish and Wildlife Office
Spokane, Washington

Date: December 10, 2003

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## Introduction

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion (BO) based on the Service's review of the proposed Stimson Lumber Company (Stimson) request, pursuant to the Alaska National Interest Lands Conservation Act (ANILCA), for access across Idaho Panhandle National Forests (IPNF) lands to their ownership, and the potential effects on the threatened grizzly bear (*Ursus arctos*) and threatened Canada lynx (*Lynx canadensis*; lynx), in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act), (16 U.S.C. 1531 et seq.). Your request for formal consultation was received on May 30, 2003.

This biological opinion is based on information provided in the May 29, 2003, biological assessment (BA) (USFS 2003a), field investigations, and other sources of information. A complete administrative record of this consultation is on file in this office.

## Consultation History

Informal consultation for this action was previously completed on June 17, 2002 (FWS Ref. # 1-9-02-I-328), in which the Service concurred with the IPNF's determination that the proposed action "may affect, but is not likely to adversely affect" grizzly bears, Canada lynx, woodland caribou (*Rangifer tarandus caribou*), gray wolves (*Canis lupus*), and bull trout (*Salvelinus confluentus*) (Service 1992a). Subsequent to completion of the informal consultation, minor design modifications were incorporated into the proposed project. The modifications resulted in slight changes to the project's effects upon grizzly bears that were not analyzed under the previous informal consultation, and which warranted additional analysis to determine if they would result in adverse affects to grizzly bears. The project modifications also resulted in very minor changes in the effects to lynx, however, these changes were very slight and did not change the basis of the effect determination for lynx. However, even though the project's modifications did not result in changes to the effect determination for lynx, on December 26, 2002, the District Court for the District of Columbia (Court) issued an order enjoining the Service from issuing any "written concurrence[s]" that actions proposed by any Federal agencies "may affect, but are not likely to adversely affect" the Canada lynx. Until further notice, all consultations concerning effects to Canada lynx must be conducted in accordance with the direction of the Court. Specifically, any actions subject to consultation that may affect Canada lynx require formal consultation as described in 50 CFR 402.14 and preparation of a biological opinion that addresses how the proposed action is expected to affect Canada lynx in order to complete the procedural requirements of section 7. Therefore, upon reinitiating consultation for the proposed action, to comply with the Court's order, the Service advised the IPNF that we could not reaffirm the previously referenced concurrence for lynx and must initiate formal consultation to complete a biological opinion. The design modifications did not result in any change in effects to woodland caribou, gray wolf, or bull trout, therefore the original concurrence of the Service that this action is not likely to adversely affect these species still stands, and they will not be addressed further in this BO.

As described above, subsequent to completing informal consultation on this action, slight modifications were incorporated into the project's design. The IPNF officially advised the

Service of the proposed project's modifications during a Level 1 streamlining consultation meeting on July 11, 2002. The consensus of the Level 1 team at that time was that while the modifications were very minor and may not change the basis of the effects analysis for grizzly bears, the modifications were not thoroughly analyzed and, as such, warranted more thorough review. On May 1, 2003, subsequent to several meetings and telephone conversations between the IPNF and Service, the IPNF provided written notification to the Service of their intention to initiate formal consultation on the proposed project. On May 30, 2003, the IPNF requested initiation of formal consultation. In a September 8, 2003, letter the IPNF clarified to the Service that they were requesting formal consultation regarding the proposed project's modifications only for grizzly bears and Canada lynx.

## BIOLOGICAL OPINION

### I. Description of the Proposed Action

Stimson desires access, pursuant to ANILCA, to their inholding within the boundaries of the IPNF for the purpose of conducting timber management activities on their section of land (Township 36 North, Range 45 East, Section 5, W.M.), which is located in the headwaters of Sema Creek (Figure 1). Providing access to Stimson will require the construction of approximately 0.75 miles of road across IPNF lands at Township 36 North, Range 45 East, Section 8, W.M. The proposed action will involve a road easement of approximately 0.75 miles in length by 66 feet in width. Additionally, once access is granted, Stimson will be responsible for the following actions on IPNF lands:

- Removing all timber located within the clearing limits of the new road construction on IPNF lands.
- Constructing and maintaining a road to IPNF specifications. Stimson will be required to construct the road in a manner that meets all federal requirements relating to public safety and protection of forest resources.
- Installing and maintaining all drainage structures on the access road.
- Keeping the road closed with a gate year-round to restrict motorized access.
- Implementing and complying with the design features and mitigation measures specified below:
    - Proposed, threatened, endangered or sensitive animal species will receive protection on federal land via contract/easement provision.
    - Any proposed, threatened, endangered or sensitive animal species discovered during project activities will be reported as soon as possible. The Forest Service biologist will implement immediate coordination, if necessary, with the Service or District Ranger, as appropriate, to determine any site-specific measures needed to protect the species and/or habitat.

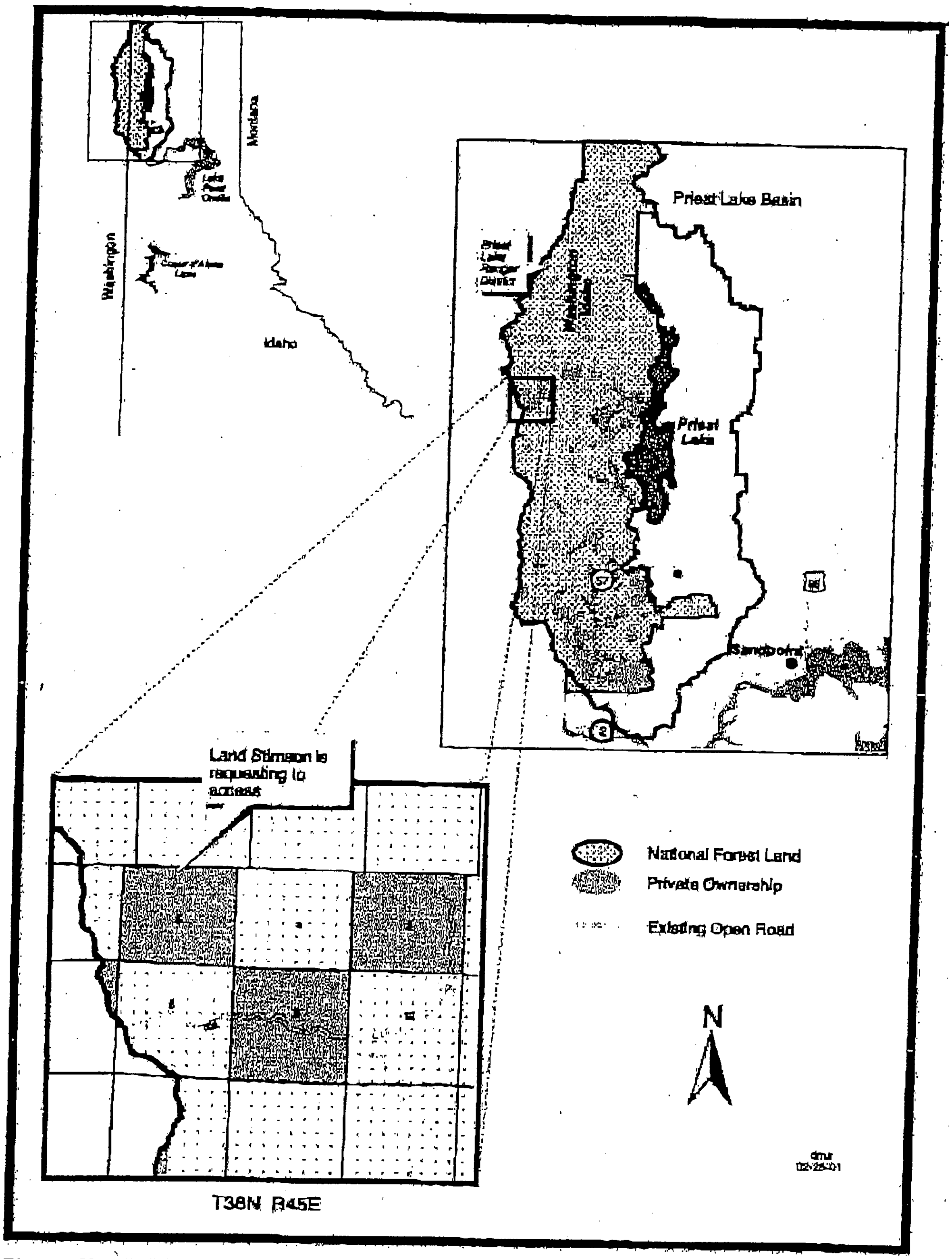


**Figure 1 Vicinity Map of the Project Area**

- The newly constructed road will be closed to all non-authorized motorized vehicle use. Closure orders will include all motorized vehicles, including those less than 40 inches in track width.

- Motorized vehicle access will be restricted on the proposed access road when not being used by Stimson to manage their lands in Section 5. The existing Stimson gate on their road in Section 9 serves this purpose. If the existing gate is opened for Stimson management activities on their lands in Section 9, an additional gate or barrier will be required to effectively maintain this restriction on the proposed access route to Section 5.

- Stimson will provide the IPNF, at the end of each "bear year" (March 15 to November 15), a listing of vehicle trips by date and activity type (i.e., survey, monitoring, maintenance, etc.) on the road systems within the Kalispell-Granite Bear Management Unit (BMU).

- Road construction within lynx denning habitat will not occur during the lynx denning period (April 1 through July 1).

- The Forest Service will obliterate Forest Service Roads 1323 and 1323a when funding becomes available.

## II. Status of the Species

### A. Grizzly Bear

The grizzly bear is one of two subspecies of the brown bear (*Ursus arctos*) which occupy North America. Coloration varies from light brown to almost black. Grizzly bears are generally larger than black bears (*Ursus americanus*), ranging between 200 and 600 pounds (lbs), and can be distinguished from them by longer, curved claws, humped shoulders, and a more concave face. Although relatively long-lived (20-25 years in the wild), the grizzly bear has a low reproductive rate due to the late age of first reproduction (4-7 years), small litter size (two cubs), long intervals between litters (three years), and limited cub survival (less than 50 percent). Grizzly bears are a wide-ranging species with individualistic behavior, although there is little evidence that they are territorial. Home range sizes vary, and the home ranges of adult bears frequently overlap. Most areas currently inhabited by the species are represented by contiguous, relatively undisturbed mountainous habitat exhibiting high topographic and vegetative diversity. Availability of spring habitat is a concern throughout the current range of the species. A more complete discussion of the biology and ecology of this species may be found in the 1993 Grizzly Bear Recovery Plan (Recovery Plan) (Service 1993).

Originally distributed in various habitats throughout North America from central Mexico to the Arctic Ocean, grizzly bears were thought to number approximately 50,000 in the early 1800's. However, westward human expansion and development in the 1800s led to a rapid distributional recession of grizzly bear populations. Bear numbers and distribution in the lower 48 States dropped precipitously during this period, due to a combination of habitat deterioration, commercial trapping, unregulated hunting, and livestock depredation control. On July 28, 1975, the grizzly bear was listed as threatened in the conterminous U.S., at which time the species occupied less than two percent of its former range south of Canada and was distributed in five small populations totaling an estimated 800-1,000 bears (USDI 1975). The five remaining self-perpetuating or remnant populations occur primarily in mountainous regions, national parks, and wilderness areas of Washington, Idaho, Montana, and Wyoming.

A Grizzly Bear Recovery Plan was approved on January 29, 1982, and a revised plan was completed on September 10, 1993 (Service 1993). Recovery needs for the grizzly bear are described in the Recovery Plan, which outlines a series of goals and objectives necessary to provide for conservation and recovery of the grizzly bear in selected areas of the conterminous 48 States. One of these objectives is to recover grizzly bear populations in all of the ecosystems known to have suitable space and habitat. The Recovery Plan identifies six separate recovery zones or ecosystems: 1) the Yellowstone (YRZ); 2) the Northern Continental Divide (NCDRZ); 3) the Cabinet Yaak Recovery Zone (CYRZ); 4) the Selkirk Recovery Zone (SRZ); 5) the North Cascades (NCRZ); and 6 ) the Bitterroot (BRZ) (Figure 2).

The Recovery Plan identifies three indicators of population status, based on reproduction, numbers, and distribution, to be used as the basis for recovery in each ecosystem: (1) sufficient reproduction to offset the existing levels of human-caused mortality; (2) adequate distribution of breeding animals throughout the area; and (3) a limit on total human-caused mortality. Based on these indicators, three specific parameters have been developed to monitor the status of grizzlies in each ecosystem: (1) the number of unduplicated females with cubs seen annually; (2) the distribution of females with young or family groups throughout the ecosystem; and (3) the annual number of known human-caused mortalities. To facilitate population monitoring and habitat evaluation within each ecosystem, the recovery zones are divided into areas designated as bear management units (BMUs). These BMUs, designed to approximate the average home range of a female grizzly (approximately 100 square miles), assist in characterizing grizzly bear numbers and distribution within each ecosystem and in tracking cumulative effects (Christensen and Madel 1982).

In 1991, the Service received petitions to reclassify the five existing grizzly bear populations (YRZ, NCDRZ, CYRZ, SRZ, and NCRZ) from threatened to endangered. On April 20, 1992, the Service issued a "not warranted for reclassification" finding for the YRZ and NCDRZ populations (Service 1992b). On May 17, 1999 (USDI 1999), the Service found that reclassification of grizzly bears in the CYRZ and SRZ from threatened to endangered was warranted but precluded by work on higher priority species. The Service will consider formally recognizing a distinct population segment that would encompass both of these ecosystems at some future date. Until a final determination is made on a distinct population segment, the Service still considers the ecosystems to be separate.

The grizzly bear population within the YRZ continues to increase and expand its range. Currently, the population is estimated to range from 280 - 610 bears and occupy approximately 7,574,244 acres in the Yellowstone Ecosystem (Service 2002). All population recovery parameters were first achieved in 1994. However, for the next three years (1995-97) grizzly bear mortality limits were exceeded. Beginning in 1998 and continuing through 2001, all grizzly bear recovery parameters have been achieved in the YRZ (Service 2002). Habitat based recovery criteria, a conservation strategy, and state management plans are currently in development.

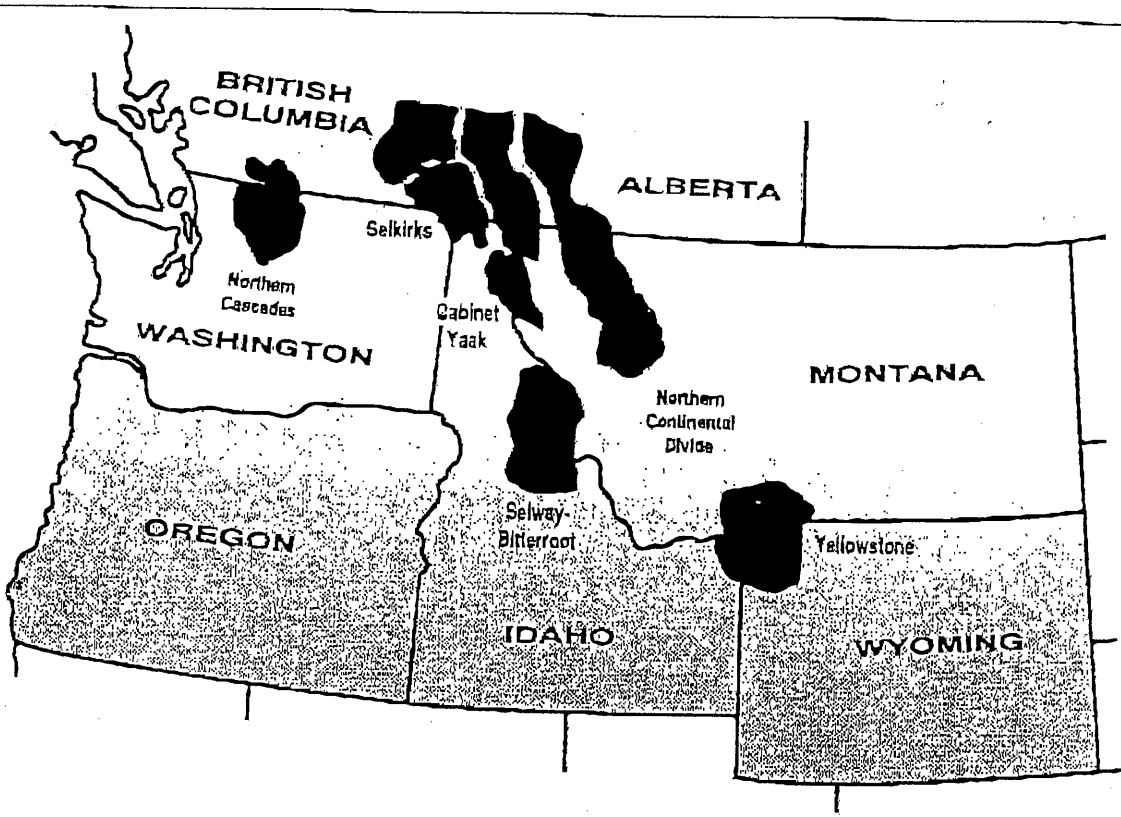


Figure 2. Present grizzly bear ecosystems in the conterminous 48 States, 1990 (the San Juan Mountains area of Colorado is not shown).

Figure 2: Grizzly Bear Recovery Zones

The exact size of the grizzly bear population in the NCDRZ is unknown, but recent data from the northern one third of this ecosystem indicates that there are more bears than previously thought. Grizzly bears occupy approximately 6,128,129 acres within this ecosystem. Monitoring results indicate that through 1999 recovery criteria for several parameters were met, including: 1) numbers of females with cubs; 2) numbers of BMUs with family groups; 3) occupancy requirements for BMUs; and 4) total human-caused grizzly bear mortality. However, the female grizzly bear mortality recovery criterion was not met (Service 2001a).

The status of the NCRZ population is unknown, but bear numbers are suspected to be very low and probably less than 15 grizzly bears. The BRZ is not occupied by grizzly bears at this time, but in 2000 the Service released a final environmental impact statement (FEIS) addressing the restoration of grizzly bears to this ecosystem (Service 2000).

The CYRZ represents approximately eight percent of the total occupied grizzly bear range remaining within the conterminous 48 States. Grizzly bear numbers in this ecosystem are estimated at 30-40 animals. Until recently, the Service believed that this population was stable to increasing. This belief was based on perceptions of grizzly bear researchers familiar with this ecosystem, and population trend analyses. Grizzly bear biologists working in this ecosystem perceived that the population had increased due to more reported grizzly bear sightings, and sightings in areas not previously known to be used by grizzly bears in this ecosystem (Kasworm, pers. comm. 2000). Population trend analyses, using data from 1993 to 1998, although statistically inconclusive, indicated that the grizzly bear population was experiencing annual growth (USDI 1999). To conduct population trend analyses, the Service utilizes the BOOTER computer model developed by Fred Hovey (Hovey and McLellan 1996, Mace and Waller 1998). The BOOTER program utilizes the survival and reproduction of female radio-collared bears to calculate population trend estimates and confidence intervals. In 1999 and 2000, an unusually high number of grizzly bear mortalities were sustained in this population; there were five grizzly bear mortalities in 1999 and four in 2000. Of the nine grizzly bear mortalities in 1999 and 2000, three were females and five were cubs. Thus, due to the mortalities of these females and cubs, upon which the trend estimate is based, the trend analysis incorporating data from 1983 to 2000, although again statistically inconclusive, indicated an annual decline in the grizzly bear population (Service 2001b). Additionally, recovery plan criteria for grizzly bear numbers, reproduction, distribution, and mortality have not been met in this recovery zone (Service 2001b).

The SRZ represents approximately six percent of the total occupied grizzly bear range remaining within the conterminous 48 States and encompasses approximately 1,957 square miles ($mi^2$) in northeastern Washington, northern Idaho, and southern British Columbia. The Selkirk grizzly bear population is contiguous with Canadian populations. This recovery zone is the only one that includes part of Canada because the habitat in the U.S. portion is not of sufficient size to support a minimum population. Approximately 47 percent of the recovery zone lies within British Columbia, where land ownership is 65 percent crown (public) land and 35 percent is private. Land ownership in the U.S. portion of the Selkirk recovery zone is approximately 80 percent Federal, 15 percent State, and 5 percent private lands. Forty-two percent of the entire recovery zone is under Federal ownership and therefore could be subject to management for recovery under the Act. Approximately 53 percent (1,081 $mi^2$) of the recovery area lies within the U.S., and is administered by two national forests: the IPNF and the Colville National Forest (CNF).

On May 17, 1999 (USDI 1999), the Service found that reclassification of grizzly bears in the SRZ from threatened to endangered was warranted but precluded by work on higher priority species. The Service concluded that the lack of current habitat protection stemming from cumulative impacts related to access, mining, recreation, and forestry, both in the U.S. and Canada, poses a significant threat to the grizzly bear population, rendering the population warranted for endangered status (USDI 1999).

- SRZ Population Status

According to the Recovery Plan, the minimum population goal for the SE is 90 bears (Service 1993). Grizzly bears also occur in and use areas outside the SRZ recovery zone and population parameters include bears observed up to 10 miles outside the recovery zone boundary (Service 1993). This biological opinion will use the term SRZ to refer to the SRZ recovery zone and the band of habitat up to 10 miles around the SRZ recovery zone within which Recovery Plan parameters are reported.

The following recovery goals are established in the Recovery Plan (Service 1993):

1. Six unduplicated females with cubs over a running 6-year average both inside the recovery zone and within a 10-mile area immediately surrounding the recovery zone, including Canada;
2. Seven of the 10 BMUs on the U.S. side occupied by females with young on a running 6-year sum of observations; and
3. Known, human-caused mortality may not exceed four percent of the population estimate based on the most recent 3-year sum of females with cubs; furthermore, no more than 30 percent of this four percent mortality limit shall be females. These mortality limits cannot be exceeded during any two consecutive years for recovery to be achieved. Presently grizzly bear numbers are so small in this ecosystem that the mortality goal is zero known human-caused mortalities.

The most recent available information on the status of this population relative to the demographic recovery plan parameters is presented in Table 1 (Wakkinen, pers. comm. 2003). Based on this information, the SRZ is only meeting the recovery goal for female grizzly bear mortality outlined in the Recovery Plan.

Table 1: Status of the SRZ as of 2002 in relation to the demographic recovery goals from the grizzly bear recovery plan.

| Demographic Parameter | Recovery Plan Goals | Year 2002 |
|---|---|---|
| Females with cubs (6-year average) | 6.0 | 1.0 |
| Distribution of females with young | 7 of 10 BMUs | 5 of 10 BMUs |
| Female human-caused mortality limit (30% of the total mortality)[1] | 0.2 | 0.2 (6 year average) |
| Human-caused mortality limit (4% of the minimum population estimate)[1] | 0.6 | 2.0 (6 year average) |

[1] Presently grizzly bear numbers are so small in this ecosystem that the mortality goal is zero known human-caused mortalities.

In 2002, females with cubs of the year were not documented (Table 2). However, reliable sightings of females with family groups were reported in 5 of 10 BMUs (Wakkinen pers. comm. 2003). Female family groups were documented in the Blue-Grass, Long-Smith, Myrtle, and Kalispel-Granite BMUs, and in the lands administered by the Idaho Department of Lands (IDL) around Priest Lake. Over the six-year period from 1997-2002, females with young were recorded in 5 of 10 BMUs.

The mortality limit established by the Recovery Plan is based on a report by Harris (1985), who concluded that the maximum human-caused mortality rate that could be sustained by a grizzly bear population without population decline was six percent. However, to facilitate recovery, the Recovery Plan goal addressing mortality limits for the current population states that known human-caused mortalities may not exceed four percent of the population estimate, and that no more than 30 percent of this mortality shall be females. Using these limits, the annual mortality goals are calculated based on the minimum population estimate, which uses the most recent 3-year sum of females with cubs minus adult human-caused female mortality over the same 3-year period to estimate the minimum population. The actual annual mortality level is then derived by dividing the minimum population estimate by the most recent 6-year sum of human-caused grizzly bear mortalities (Table 2).

Table 2. Annual SRZ grizzly bear unduplicated counts of females with cubs, and known human caused mortality.

| Year | Annual Females with cubs | Annual Human Caused Adult Female Mortality | Annual Human Caused All Female Mortality | Annual Human Caused Total Mortality | 4% Total Human Caused Mortality Limit[1] | 30% All Female Human Caused Mortality Limit[1] | Total Human Caused Mortality 6 Year Average | Female Human Caused Mortality 6 Year Average |
|---|---|---|---|---|---|---|---|---|
| 1988 | 0 | 1 | 1 | 2 | | | | |
| 1989 | 4 | 0 | 0 | 0 | | | | |
| 1990 | 1 | 1 | 1 | 1 | | | | |
| 1991 | 1 | 0 | 0 | 0 | | | | |
| 1992 | 1 | 1 | 1 | 2 | | | | |
| 1993 | 1 | 1 | 2 | 5 | 0.2 | 0.1 | 1.8 | 0.8 |
| 1994 | 1 | 0 | 0 | 1 | 0.2 | 0.1 | 1.7 | 0.7 |
| 1995 | 1 | 1 | 1 | 2 | 0.4 | 0.1 | 2.0 | 0.8 |
| 1996 | 1 | 0 | 0 | 1 | 0.6 | 0.2 | 1.8 | 0.7 |
| 1997 | 1 | 0 | 0 | 1 | 0.6 | 0.2 | 2.0 | 0.7 |
| 1998 | 1 | 0 | 0 | 1 | 0.6 | 0.2 | 1.8 | 0.5 |
| 1999 | 0 | 0 | 0 | 2 | 0.4 | 0.1 | 1.5 | 0.2 |
| 2000 | 2 | 0 | 0 | 0 | 0.6 | 0.2 | 1.3 | 0.2 |
| 2001 | 2 | 0 | 0 | 1 | 0.8 | 0.2 | 1.2 | 0 |
| 2002 | 0 | 1 | 1 | 6 | 0.6 | 0.2 | 2.0 | 0.2 |

[1]Presently grizzly bear numbers are so small in this ecosystem that the mortality goal is zero known human-caused mortalities.

In its May 12, 1999, administrative finding on the status of the Selkirk population, the Service estimated the population at 46 grizzly bears (USDI 1999). It should be noted that this estimate is not based on the same minimum population estimate technique described in the Recovery Plan, [and as further discussed in the Service's (2001b) Amended Biological Opinion on the Continued Implementation of the IPNF's LRMP (2001 B.O.)], but is rather a more liberal estimate based on previous research in the Ecosystem. Specifically, Wielgus et al. (1994), studying grizzly bears in an area encompassing approximately one third of the Ecosystem, estimated a population of 31 bears. This study area was believed to hold the highest densities of grizzly bears in the Ecosystem. The Service then conservatively estimated that bear densities in the remainder of the Ecosystem might be 25 percent of those densities within the study area, providing an additional 15 bears. Consequently, the total population estimate for the entire SRZ was 46 bears.

On October 2, 2002, a map of the current grizzly bear distribution was finalized (Figure 3) (USFS 2003b). The map depicts several areas of grizzly bear occupancy outside of, but adjacent to, the Recovery Zones. Two areas of grizzly bear occupancy adjacent to the SRZ have been delineated: 1) Priest; and 2) Pack River. Some grizzly bears are residing, at least seasonally, in the Pack and Priest River areas. However, as portions of these bears' known movement patterns overlap the recovery zone, they have been included in the population estimate of 46 grizzly bears for the SRZ.

Population trend analyses in the SRZ have been statistically inconclusive, due primarily to wide confidence intervals resulting from the limited data set. However, while population trend analyses have been statistically inconclusive, the general perception of research biologists working in the SRZ is that there has been a population increase. This perception is primarily based on more reported grizzly bear sightings, and sightings in areas not previously known to be used by grizzly bears in the Ecosystem (Wakkinen, pers. comm., 2000). Even though the researchers believe this population may be increasing, given the uncertainty of the statistics, the exact status of this population is unknown.

- Factors Affecting the Status of the SRZ Grizzly Bear Population

The Service's 1999 finding concluded that grizzly bears in the SRZ were in danger of extinction due to: 1) habitat alteration and human intrusion into grizzly bear habitat; and 2) a small population facing potential isolation by activities across the border in Canada (USDI 1999). The finding also concluded that cumulative impacts of recreation, timber harvest, mining and other forest uses with associated road construction had reduced the amount of effective habitat for grizzly bears. Further, the finding stated that access management plans had the potential to reduce this threat, but had not been fully implemented.

Mortality:

Table 3 reports the total known grizzly bear mortality associated with the SRZ from 1982 to 2002. Within the recovery zone or within 10 miles of it over this 21-year period, there were 40 known grizzly bear mortalities, 33 of which were human-caused (9 were radio-collared bears). Based on a population estimate of 46 grizzly bears, the current annual known human-caused mortality rate is approximately 3.5 percent, or about 1.6 bears per year (33 grizzly bear mortalities over 21 years). The current female grizzly bear human-caused annual mortality rate is approximately 0.6 percent, or about 0.3 bears per year (7 known human-caused female mortalities over 21 years). However, actual mortality numbers are likely to be higher, given the remote habitats typically occupied by grizzlies and the low probability of finding a dead bear unless it was radio-collared. A review of known grizzly bear mortalities in British Columbia,

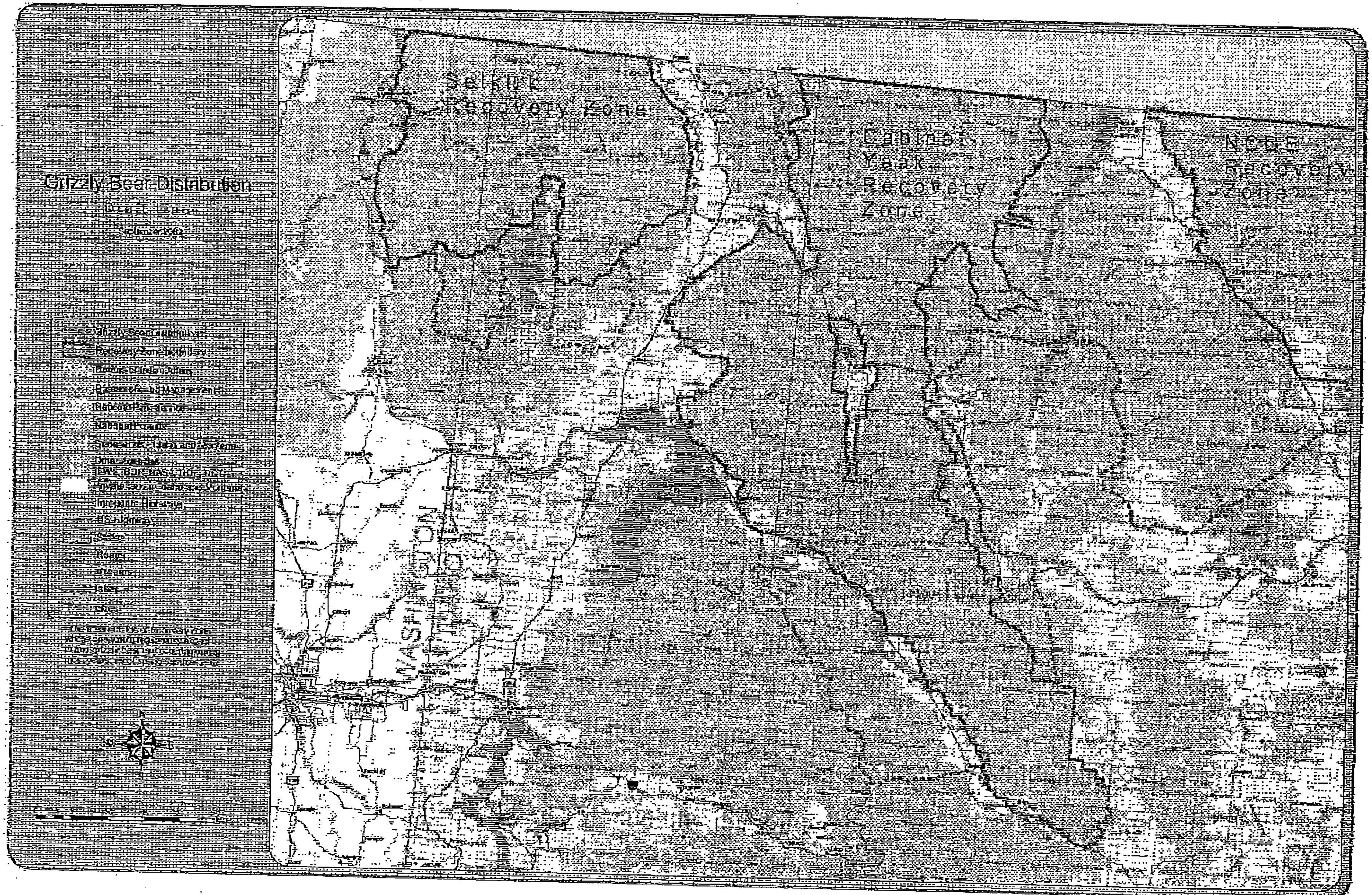


Figure 3: Current Grizzly Bear Distribution

Alberta, Idaho, Washington, and Montana concluded that of the studies reviewed, management agencies would have been unaware of about half of the deaths of radio-collared grizzly bears if not for the radio collars (McLellan et al. 1999). Adjusting for the unknown, unreported mortality by using methods in McLellan et al. (1999) results in a total estimate of 64 grizzly bear mortalities (including an estimated 57 human-caused mortalities). Based on a population estimate of 46 grizzly bears, the current annual known and unknown human-caused mortality rate is approximately 5.9 percent, or about 2.7 bears per year.

Over the most recent 6-year period (1997-2002), there were 11 total known human-caused grizzly bear mortalities within the recovery zone or within 10 miles of it; one of which was a female bear. The total known human-caused grizzly bear mortalities are reflected in the 2002 Recovery Plan goals for this population (Table 1).

Attraction of grizzly bears to improperly stored food and garbage is identified by the Recovery Plan as one of the principal causes of grizzly bear mortality (Service 1993). In 1995, after becoming habituated and conditioned to improperly stored food in a campground a male grizzly bears was collared and relocated. Soon after being relocated, the bear was illegally killed by a hunter.

Table 3. Known grizzly bear mortalities associated with the SRZ, 1982-2003.

| Mortality Date | Tag # | Sex | Age | Location | Mortality Category and Cause |
|---|---|---|---|---|---|
| Spring 1982 | None | M | AD | Priest River, ID | Human, Poaching |
| Autumn 1982 | None | Unk | Unk | LeClerc Creek, WA | Human, Unknown |
| 1985 | 867-85a[1] | Unk | Cub | N/A | Natural |
| Summer 1985 | 949[1] | M | 4.5 | US/BC border | Human, Unknown |
| Autumn 1986 | 898[1] | F | 1.5 | Grass Creek, ID | Human, Unknown |
| 1986 | None | M | Unk | BC Unit 4-8 | Human, Management Removal |
| Spring 1987 | 1005[1] | M | 10.5 | Wall Mtn, BC | Human, Poaching |
| Autumn 1987 | 962[1] | M | 7.5 | Trapper Creek, ID | Human, Poaching |
| Autumn 1988 | 1085[1] | F | 3.5 | Cow Creek, ID | Human, Mistaken Identity |
| Autumn 1988 | 1050[1] | M | 1.5 | Porcupine Creek, BC | Natural |
| 1988 | None | M | Unk | BC Unit 4-7 | Human, Legal Hunt |
| Summer 1989 | 1044[1] | F | 20+ | Lamb Creek, BC | Natural, Conspecific |
| Autumn 1990 | 1042 | F | 3.5 | Maryland, BC | Human, Malicious |
| 1990 | None | M | Unk | BC Unit 4-8 | Human, Management Removal |
| Summer 1991 | 1076[1] | F | 20+ | Next Creek, BC | Natural |
| 1991 | 876-92a[1] | Unk | 1.5 | N/A | Natural |
| 1992 | None | M | Unk | Lost Creek, BC | Human, Defense of Property |
| Summer 1992 | 1090[1] | M | 5.5 | Laib Creek, BC | Unknown |
| Autumn 1992 | 1015 | F | 12.5 | Monk Creek, BC | Human, Self Defense |
| Autumn 1993 | 867[1] | F | 15.5 | Willow Creek, WA | Human, Malicious[2] |
| Autumn 1993 | 867-93a[1] | Unk | 0.5 | Willow Creek, WA | Human, Malicious[2] |
| Autumn 1993 | 867-93b[1] | Unk | 0.5 | Willow Creek, WA | Human, Malicious[2] |
| 1993 | None | M | Unk | BC Unit 4-8 | Human, Management Removal |
| 1993 | None | M | Unk | BC Unit 4-7 | Human, Legal Hunt |
| 1994 | None | M | Unk | BC Unit 4-7 | Human, Legal Hunt |
| Spring 1994 | 13 | M | AD | BC Unit 4-20[3] | Human, Legal Hunt |
| Spring 1995 | None | F | 1.5 | Boundary Creek, ID | Human, Unknown |
| Autumn 1995 | 1100[1] | M | 2.5 | Granite Pass, WA | Human, Mistaken Identity |
| 1996 | 1027-96b[1] | Unk | cub | N/A | Natural |
| Autumn 1996 | 1022 | M | 2.5 | Boswell, BC | Human, Management Removal |
| Autumn 1997 | None | M | 1.5 | Salmo, BC | Human, Management Removal |
| Spring 1998 | 1023 | M | 4.5 | BC Unit 4-26[3] | Human, Legal Hunt |

Table 3 (cont.). Known grizzly bear mortalities associated with the SRZ, 1982-2003.

| | | | | | |
|---|---|---|---|---|---|
| Summer 1998 | None | M | 3.5 | Usk, WA | Human, Under Investigation |
| Autumn 1999 | None | M | 22 | Wyndel, BC | Human, Depredation |
| Autumn 1999 | 1032 | M | 19 | Procter, BC | Human, Depredation |
| Autumn 2001 | None | M | Unk | Cottonwood Creek, BC | Human, Depredation |
| Spring 2002 | 17 | M | 3.5 | Nelway, BC | Human, Management Removal |
| Autumn 2002 | None | F | AD | West of Nelson, BC | Human, Depredation |
| Autumn 2002 | None | Unk | 1 | West of Nelson, BC | Human, Under Investigation |
| Autumn 2002 | None | Unk | 1 | West of Nelson, BC | Human, Under Investigation |
| Autumn 2002 | None | Unk | 1 | West of Nelson, BC | Human, Under Investigation |
| Autumn 2002 | None | Unk | 1 | West of Nelson, BC | Human, Under Investigation |
| Autumn 2002 | 19 | M | 3.5 | Lamb Creek, ID | Human, Under Investigation |

[1]Part of radio collar sample at time of mortality.
[2]Human caused mortality determined only because of the radio collar on the animal at the time of death.
[3]Mortality outside recovery zone more than 10 miles.

Habitat:

A number of factors influence the quality and availability of habitat for grizzly bears in the SRZ. However, the primary factors are: habitat effectiveness and access management. This section also summarizes other habitat factors influencing the SRZ grizzly bear population.

Habitat effectiveness is defined as the amount of secure grizzly bear habitat (habitat at least one quarter mile from open roads, developments, and high levels of human activity) remaining within BMUs after impacted areas are subtracted from the total habitat in the BMUs. Based on work conducted by Christensen and Madel (1982), the IPNF's Land and Resource Management Plan (LRMP) requires maintenance of a minimum of 70 square miles ($mi^2$) of secure habitat in each BMU. The intent of this requirement is to provide the minimum viable habitat needed to avoid grizzly bear displacement.

Currently, 78 percent (seven of the nine BMUs primarily under Forest Service management) of the BMUs meet the 70 $mi^2$ standard (Table 4). Of the two BMUs that do not meet the standard, one is the 30 $mi^2$ Lakeshore BMU west of Priest Lake. The Lakeshore BMU, while being small and primarily serving as a buffer for development and high human activities along Priest Lake, does contain important seasonal grizzly bear habitats regularly occupied by grizzly bears. The BMU currently provides approximately 8 $mi^2$ of secure habitat. The other BMU not meeting the standard is the Blue Grass BMU, which encompasses 90 $mi^2$ immediately south of the U.S./Canada border. The Blue Grass BMU is a high priority BMU providing key, year-round habitat for the Selkirk grizzly bear population. Maintenance of adequate habitat conditions in this BMU is particularly essential because of its importance to the Selkirk grizzly bear population. The Blue Grass BMU currently provides approximately 69 $mi^2$ of secure habitat.

Table 4: 2002 status of SRZ BMUs relative to open roads, total roads, security habitat, and core habitat.

| BMU | Percent with Open Roads >1 mi./sq. mi. | Percent with Total Roads >2 mi./sq. mi. | Square Miles Security Habitat | Percent Core Habitat |
|---|---|---|---|---|
| Blue Grass | 27 | 29 | 69 | 50 |
| Long-Smith | 23 | 13 | 80 | 73 |

Table 4 (cont.): 2002 status of SRZ BMUs relative to open roads, total roads, security habitat, and core habitat.

| | | | | |
|---|---|---|---|---|
| Ball-Trout | 18 | 9 | 76 | 72 |
| Myrtle | 30 | 19 | 70 | 60 |
| Salmo-Priest | 30 | 24 | 102 | 65 |
| Sullivan-Hughes | 23 | 20 | 92 | 59 |
| LeClerc | 38 | 55 | 74 | 30 |
| Kalispell-Granite | 31 | 29 | 100 | 48 |
| Lakeshore | 78 | 50 | 8 | 20 |
| IDL | ? | ? | ? | ? |

Information on the level of habitat security within the remainder of the SRZ is not available as non-Federal entities do not necessarily manage their lands to maintain secure habitat for grizzly bears. Within the 160 $mi^2$ area encompassed by state lands (IDL) east of Priest Lake, there are approximately 34 $mi^2$ of identified Scenic Areas, managed primarily for recreational and aesthetic purposes. Depending on the quantity and type of recreational activities, these areas may provide some level of secure habitat. Additional secure habitat is likely to be available within the IDL managed area, because the agency does implement access management to a degree. However, quantitative information on the extent of this secure habitat is not available for this area.

Additional secure habitat is likely to occur within the British Columbia portion of the SRZ, particularly in the Stagleap Provincial Park, located just north of the border. In 1995, the British Columbia provincial government developed a grizzly bear conservation strategy with a stated goal of enhancing habitat protection through land use planning processes. However, many of these processes are ongoing and have not had the opportunity to achieve the stated goals of habitat protection. In 1998, a scientific advisory committee gave the provincial government a failing grade on its habitat protection measures (USDI 1999). Quantitative information on the amount of secure habitat in the British Columbia portion of the SRZ is not currently available.

Habitat security is accomplished largely through the effective management of restricted roads, and the administrative use of such roads. However, while the IPNF's LRMP does not specifically address administrative use, pursuant to the Service's 2001 BO, the IPNF is required to maintain administrative use on restricted roads at ≤ 57 round trips per active bear year (April 1 through November 15) per road, divided seasonally. The 2001 BO states that such use shall be apportioned as follows: ≤ 19 round trips in spring (April 1 thru June 15); ≤23 round trips in summer (June 16 through September 15); and ≤15 round trips in fall (September 16 through November 15). Administrative use is defined as passenger vehicle access on a restricted road to conduct non-mechanized activities, such as planting, regeneration surveys, timber sale layout, etc.

Access management pertaining to maintenance of grizzly bear habitat within BMUs primarily involves the density of roads within roaded habitat, and the quantity and quality of unroaded habitat. The effect of roads on grizzly bear behavior (Aune and Stivers 1985, McLellan and Mace (1985 In IGBC 1987), Kasworm and Manley 1988, McLellan and Shackleton 1988, Aune and Kasworm 1989, and Frederick 1991), grizzly bear populations and patterns of habitat use

[IGBC Grizzly Bear Compendium (IGBC 1987), Frederick 1991, Recovery Plan (Service 1993), Mace and Manley 1993, Mace et al. 1996, Wakkinen and Kasworm 1997, and Mace et al. 1999], and grizzly bear mortality risk [McLellan and Mace (1985 In IGBC 1987), Dood et al. (1986 [cited as Dood et al. 1985 in text] of IGBC 1987), Aune and Kasworm 1989] has been thoroughly documented in the scientific literature. This research has clearly indicated the importance of managing three primary elements to avoid bear displacement from important habitats and to reduce bear mortality risk: (1) open road density, (2) total road density, and (3) core habitat (areas free of motorized access and high levels of human use).

Recognizing the need to incorporate this new information into the management of grizzly bears, the IGBC, in 1994, directed its Subcommittees for each grizzly bear recovery zone (Ecosystem) to develop Ecosystem-specific standards for: (1) open motorized road density, (2) total motorized road density, and (3) core areas containing representative seasonal habitats. Standards for these three elements were to be developed based on the best available biological information, along with social and management considerations (IGBC 1994).

Based on the IGBC's direction, research data from radio-collared grizzly bears in the Selkirk and Cabinet-Yaak Ecosystems were used to determine appropriate levels of these three elements for both Ecosystems. Wakkinen and Kasworm (1997) found that grizzly bears in these two Ecosystems: (1) used areas having total road densities greater than 2 mi/mi$^2$ less than expected; (2) used areas having open road densities greater than 1 mi/mi$^2$ less than expected; and (3) used core habitat more than expected, while non-core habitat was used less than expected. The researchers found that within six female grizzly bear home ranges: (1) the amount of area having a total road density greater than 2 mi/mi$^2$ averaged 26 percent; (2) the amount of area having an open road density greater than 1 mi/mi$^2$ averaged 33 percent; and (3) the home ranges were comprised of an average 55 percent (range = 40-71.5 percent) core habitat. This analysis indicates that at least 55 percent of a BMU should be in core habitat to avoid displacement of bears (Wakkinen and Kasworm 1997).

While the sample sizes obtained by Wakkinen and Kasworm (1997) were small, the results were consistent with those found in similar studies conducted in the Northern Continental Divide Ecosystem (NCDE), although road density numbers in that Ecosystem were lower (open and total road densities = 19 percent, each) and core habitat was higher (68 percent). The NCDE parameters were developed using composite home range information, rather than average multi-years home range information as used for the Selkirk and Cabinet-Yaak Ecosystems. These values provide the best available indication of the habitat conditions used by grizzly bears in the Selkirk and Cabinet-Yaak Ecosystems.

It must be noted that Wakkinen and Kasworm (1997) did not determine if bears selected home ranges with fewer roads relative to road densities across the entire ecosystem (i.e., second order selection) because a complete access route map for the entire ecosystem was not available during the study period. Instead, they determined bear use of areas greater or lesser than expected within existing home ranges relative to access route density (third order selection). The above referenced orders are referred to as first and second order, respectively, in Wakkinen and Kasworm (1997). Therefore, we are unable to conclude whether the 26 percent and 33 percent for total and open road densities respectively, represents the optimal selection of habitat by bears, or if these numbers simply reflect the condition of the environment from which they have to choose (i.e., do grizzly bears in the Selkirk or Cabinet-Yaak Ecosystems have the opportunity to choose areas with less road density?). For example, Mace and Manley (1993) studied grizzly bears in the NCDE, which encompasses significant portions of a National Park and Wilderness Areas, and found that approximately 19 percent of their home ranges had a total road density exceeding 2 mi/mi$^2$, 19 percent of their home ranges had an open road density exceeding 1 mi/mi$^2$, and 67.5 percent of their home ranges was comprised of core habitat. It should also be noted that Mace and Manley (1993) generated their results using a composite of female home ranges, while Wakkinen and Kasworm (1997) obtained their results from averaging multi-year individual female home ranges.

An important consideration when interpreting results of the study conducted by Wakkinen and Kasworm (1997), in light of the apparent differences in road densities and core habitats of grizzly bears between the NCDE and the Selkirk/Cabinet-Yaak Ecosystems, is the fact that two of the six female bears in the Selkirk/Cabinet-Yaak study were killed by humans immediately following the period of monitoring, and a third female was the subadult offspring of one of the females in the study. While this female did produce cubs during the last year of monitoring that went into the study, subadult female home ranges decline as they approach reproductive age and change as a result of learning (Wakkinen and Kasworm 1997). Even though this female only produced cubs during the last year of monitoring, all years of radio locations were used to generate her home range.

Most of the research (cited above) documenting the need for managing road densities and unroaded habitat within grizzly bear home ranges was published after the IPNF had developed their 1987 LRMP, and thus, is not specifically addressed in the LRMP. However, recognizing the importance of managing for these parameters, the IPNF has been working on a project-by-project basis towards achieving the habitat conditions identified by Wakkinen and Kasworm (1997) that are used by the average adult female grizzly bear in the SRZ and CYRZ. Further, pursuant to the 2001 BO, the IPNF is required to achieve these parameters within a specified time frame such that each BMU: contains at least 55 percent core habitat; has no more than 26 percent total road density exceeding 2 mi/mi$^2$; and has no more than 33 percent open road density exceeding 1 mi/mi$^2$.

Currently, of the nine BMUs managed primarily by the Forest Service, five (55 percent) contain at least 55 percent core habitat, seven (78 percent) have open road densities exceeding 1 mi/mi$^2$ in 33 percent or less of the BMU, and five (55 percent) have total road densities exceeding 2 mi/mi$^2$ in 26 percent or less of the BMU (Table 4). The Lakeshore BMU and the LeClerc BMUs do not meet any of the standards. However, as discussed earlier, because of the Lakeshore's small size (30 square miles), achievement of the habitat parameters may not be possible. The LeClerc BMU is primarily managed by the CNF, and has a high degree of intermingled private land, which may make achieving all habitat parameters very difficult. Since 1999, total road density greater than 2 mi/mi$^2$ in this BMU has increased from 53 percent to 55 percent of the BMU, and open road density greater than 1mi/mi$^2$ has decreased from 39 percent to 38 percent of the BMU. However, core habitat has decreased from 32 percent to 30 percent of the BMU over this same period.

The project area is located within the Kalispell-Granite BMU, one of the ten BMUs in the Selkirk Recovery Zone. There have been numerous, reliable observations of grizzly bears and grizzly bear sign within the Kalispell-Granite BMU since the 1970s. Sightings of grizzly bears have been reported annually within this BMU, with the most recent sightings in 2000 of a female grizzly bear with two young, nine miles northeast of the project area. Additionally, an area immediately south of the Kalispell-Granite BMU has been identified as having year-round occupancy by grizzly bears, even though it is outside the Selkirk Recovery Zone.

Habitat conditions within this and adjacent BMUs were described in some detail in the BA and are largely incorporated here by reference. This BMU currently contains 48.2 percent core habitat, which is seven percent below the current minimum standard for core habitat of 55 percent. In anticipation of the proposed action and the potential loss of core habitat on federal land, in 1998 Forest Roads #1104 and #319 (also referred to as Harvey Granite and Cache Creek roads) were obliterated to create core habitat in mitigation for the loss of core habitat on federal land that would result from implementation of this action. Obliteration of these roads created approximately 2,043 acres of core habitat, increasing core habitat within the BMU from 45.9 to 48.2 percent, or by 2.3 percent. Approximately 31 percent of the BMU has an open road density greater than one mi/mi$^2$, which is within the current standard limit of 33 percent. Approximately 29 percent of the BMU has a total road density greater than two mi/mi$^2$ , which exceeds the current standard of 26 percent by four percent. Obliteration of Forest Roads #1104 and #319 had no effect upon open road density, but decreased total road density greater than 2 mi/mi$^2$ of the BMU by 0.9 percent, from 29.8 percent to 28.8 percent.

On July 19, 2003, in response to a wildfire, approximately 0.95 miles of Forest Road #1104 were reopened to facilitate fire suppression activities. The reopened road was closed to public use. Reopening a portion of this road affected approximately 825 acres of core grizzly bear habitat. Fire suppression activities included using chainsaws in conjunction with hand crews to construct 1,980 feet of fire line to contain the wildfire. Fire suppression activities were completed and the road reclosed (culvert removed and earthen barrier reinstalled) by September 23, 2003. Between July 19$^{th}$ and September 23$^{rd}$ there were a total of 15 vehicle round trips on the reopened road segment.

Consideration of seasonal habitat for grizzly bears focuses on four distinct seasons: spring, summer, fall and denning. Spring habitat within the Kalispell-Granite BMU consists of mountain bottomlands/wetlands and dry slopes/habitats. Summer habitat consists of both open and timbered shrubfields. Fall habitats consist of heavily timbered habitats. Riparian habitats were considered as key habitats yearlong (USFS 2003a). Habitats were identified using a variety of techniques such as database queries, aerial photo interpretation and field identification. Seasonal habitats and locations within the Kalispell-Granite BMU are displayed within the BA Appendix (USFS 2003a). Denning habitat, which is generally considered to be above 4,500 feet, is not displayed. There are no known grizzly bear den locations within the project area.

State and private forest management activities occur within the SRZ. As previously discussed, state lands are primarily encompassed within the 160 mi$^2$ IDL managed area. The IDL administers these lands primarily for timber production to provide funding for the State school system. This area contains a significant amount of important grizzly bear habitat, and bears are known to occur there. Approximately 34 mi$^2$ of this area falls within the Upper Priest Lake Scenic Area and the Selkirk Crest Scenic Area, managed primarily for recreational and aesthetic purposes. The remainder of the area is actively managed for timber production. The IDL implements road management with the use of gates to restrict access, however, the Service has no information regarding existing total and open road densities or amount of core habitat within this area. When information on habitat conditions is not available, the Service typically provides the benefit of the doubt to the species and assumes a conservative scenario to provide for protection of the species. Therefore, for purposes of characterizing baseline conditions in this area, the Service assumes that, outside of the 34 mi$^2$ of Scenic Areas mentioned above, open and total road densities exceed those values previously described, and that available core habitat is less than 55 percent of the area.

Stimson Lumber Company and Forest Capitals, Inc. are the primary private forest managers in the SRZ, which manage their ownerships primarily for timber production. The majority of Stimson Lumber Company ownership within the SRZ occurs within the LeClerc BMU; approximately 27 percent (21,000 acres) of the land within the LeClerc BMU is owned by Stimson. Stimson Lumber Company has entered into a Conservation Agreement with the CNF and the Service to minimize adverse affects to grizzly bears resulting from implementation of activities on its ownership within the LeClerc BMU through road and vegetation management (Service 2001c). Requirements of the Conservation Agreement include, but are not limited to, ensuring open road density on Stimson ownership does not exceed 1 mi/mi$^2$ during the non-denning period of April 1 through November 15; no increase in roads open to public motorized use, except where such increase will result in additional available habitats for grizzly bear; administrative use levels on certain roads do not exceed 12 round trips during the spring period (April 1 through June 15); that Stimson land contributes proportionally to the maintenance of a minimum of 40 percent vegetative cover; maintenance of vegetative screening adjacent to open roads; and the distance to cover from any point within harvest units does not exceed 600 feet by limiting the size of harvest units. Currently, Forest Capitals has not entered into an agreement with the Service for grizzly bear management on its ownership within the SRZ.

As identified above, grizzly bears are living in areas outside of but adjacent to the Recovery Zones. Relative to the SRZ, grizzly bear occupancy occurs in two separate mapped areas adjacent to the southwestern (Priest Area) and southeastern (Pack River Area) boundaries of the recovery zone (Figure 4) (USFS 2002). The Priest Area circumscribes an area of approximately 151 mi$^2$, and the Pack River Area circumscribes an area approximately 103 mi$^2$ (Table 5). Both areas contain a mixture of federal and non-federal land. Outside of the Recovery Zones, but within these areas identified as occupied by grizzly bears, the IPNF's LRMP does not contain specific standards pertaining to the management of grizzly bears or the maintenance of their habitat. However, the IPNF's LRMP does contain standards pertaining to the management of other species and their habitats (such as elk, and sensitive and indicator species) which are beneficial to grizzly bears. Some of these standards control the type and intensity of activities, including road management, that may occur within these species habitats.

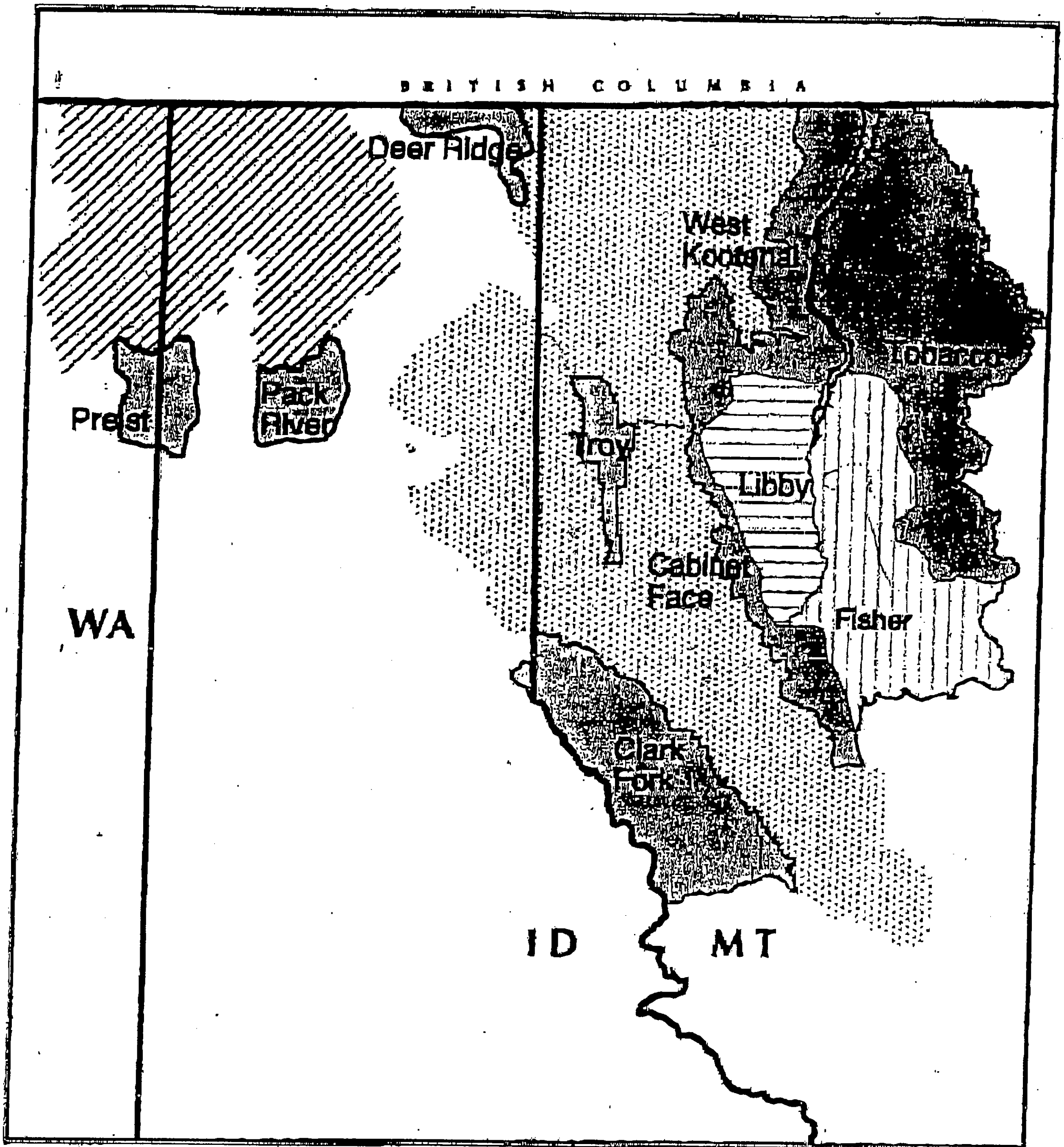


Figure 4: Grizzly Bear Analysis Areas Outside of SRZ and CYRZ[1]

[1] Libby and Fisher Areas are outside of the projected grizzly distribution area in the short term, but are included in this analysis to complete the process for lands associated with the CYRZ, per verbal agreement with the Service (September 26, 2002).

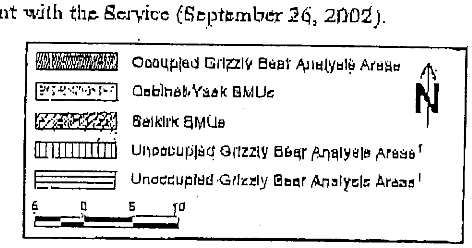

Table 5: Grizzly bear occupancy areas adjacent to the SRZ: size and road density status.

| Area | Size ($mi^2$) | Linear Total Road Density Across All Ownerships ($mi/mi^2$) | Linear Total Road Density on National Forest Lands Only ($mi/mi^2$) | Linear Open Road Density Across All Ownerships ($mi/mi^2$) | Linear Open Road Density on National Forest Lands Only ($mi/mi^2$) |
|---|---|---|---|---|---|
| Priest | 151 | 3.3 | 3.3 | 3.3 | 3.3 |
| Pack River | 103 | 1.8 | 1.2 | 1.8 | 1.2 |

Research has shown that road management and the density of roads is probably one of the most important factors influencing grizzly bear habitat use and grizzly bear mortality. Currently, linear open road densities within the Priest and Pack River Areas are 3.3 $mi/mi^2$ and 1.8 $mi/mi^2$, respectively, and linear total road densities are 3.3 $mi/mi^2$ and 1.8 $mi/mi^2$, respectively. On National Forest lands only within the Priest and Pack River Areas, linear open road densities are 3.3 $i/mi^2$ and 1.2 $mi/mi^2$, and linear total road densities are 3.3 $mi/mi^2$ and 1.2 $mi/mi^2$. We currently do not have any information regarding the quantity of unroaded habitat contained within these areas (Table 5).

It must be noted that the above linear road density information is not analogous to, and therefore may not be comparable with road density information derived using a moving windows analysis technique, upon which the road density standards for the Recovery Zones are based. A moving windows analysis is a spatial analysis of road density distribution, while a linear road density analysis is not.

Existing Management Direction:

The following goals, objectives, and standards, currently contained in the IPNF's LRMP (USFS 1987), may provide some benefits to grizzly bears and their habitat within these areas of mapped grizzly bear residency outside of the SRZ:

- The goals and objectives of the LRMP set the framework for minimizing take:
    - Roads will be developed and managed to the minimum standards and miles necessary to meet the objectives of the management area (MA).
    - Manage vertebrate wildlife habitat to maintain viable populations of all species.
    - Manage big game habitat toward achieving the goals of the Idaho Department of Fish and Game (IDFG).
    - Grazing management will protect soil and water resources, riparian areas, and T&E plant and animal species. Grazing is permitted on less than two percent of the Forest with a majority of the forage use occurring on 7,500 acres.
    - The needs of Threatened & Endangered (T&E), and sensitive plant and animal species have priority in managing existing range allotments. No new allotments will be established in areas where conflicts can be expected with T&E or sensitive species.

- Riparian resources will be managed to feature dependent resources (fish, water quality, natural channels, certain vegetation, and wildlife communities) while producing other resource outputs at levels compatible for the objective for dependent resources. (Also note, the IPNF amended the Forest Plan to incorporate the INFISH Guidelines that increase protection of riparian resources.)
- Management for elk habitat needs will emphasize road management to maintain adequate security and habitat potential on summer range.

➤ Specific management standards and guidelines in place to achieve the forest goals:

- Forest-wide standard- Management of habitat and security needs for T&E species will be given priority in identified habitat. Results of research regarding habitat of T&E species will be incorporated into management direction as it becomes available.
- IPNF Management Area (MA) 2 & 3- "Road and trail restrictions may be necessary to reduce human/bear conflicts.
- IPNF MA 4 & 5- Within critical habitat components motorized recreation use may be restricted to provide needed wildlife security.
- IPNF MA 6- Special emphasis will be given to the maintenance, protection and enhancement of key habitat components (including security).
- IPNF MA 9- Existing local roads will generally be closed to vehicles over 40" wide. No local road construction is planned.
- IPNF MA10- Parker and Long Canyons are closed to motorized use.
- IPNF MA 11- Salmo-Priest Wilderness is to be managed as non-motorized. Within grizzly bear and caribou habitat, recreation use and access may be restricted to provide needed wildlife security during use periods. (Includes proposed wilderness i.e., Scotchman Peak and Selkirk Crest areas)
- IPNF MA 11- Proposed Wilderness- Motorized use may be permitted ..........., except within bounds of Mallard Larkins Pioneer Area, ......
- IPNF MA 12- No new roads will be allowed in the Wild River portion (St Joe River).
- IPNF MA12- Within the Upper Priest Wild River area, uses will be limited to non-motorized except on established roads.
- IPNF MA 16- Maintenance of natural channels and adequate streamside vegetation will have a high priority in range allotment plans and prescriptions. A specific objective for stream bank protection will be included in all allotment management plans where second order or larger streams are involved.
- IPNF MA 19 & 20- Motorized recreation activities will be allowed where they do not conflict with wildlife and other resource needs.
- IPNF is increasing information and education efforts in 2003 and 2004 as it relates to sanitation, prior to developing a food storage order. The "Pack-it-in Pack-it-out" policy is in place.
- IPNF is working on a forest-wide food storage order.

Other Factors:

The SRZ is one of the smallest grizzly bear recovery zones at approximately 1,957 $mi^2$, and only 53 percent is contained within the conterminous U.S. The remainder (47 percent) lies within British Columbia. Because a substantial portion of the SRZ lies within British Columbia, grizzly bear management measures and habitat management efforts in that province play a significant role in the status of grizzly bears in this ecosystem. The British Columbia portion of the SRZ is subjected to the same forestry, mining, recreation, and road construction pressures that exist in the U.S., all of which affect grizzly bear habitat. In 1995, the British Columbia provincial government developed a grizzly bear conservation strategy (Strategy) to ensure effective, enhanced protection and management of habitat through land use planning processes, new protected areas, and the Forest Practices Code. However, the government was recently criticized by a scientific advisory committee for its poor implementation of the Strategy. In 1998, this scientific advisory committee issued a report card on the government's implementation of the Strategy and gave the government a failing grade for most habitat protection measures. In response to these criticisms, the provincial government recently updated the Forest Practices Code to incorporate specific prescriptions for grizzly bear habitat. The government is also seeking to increase the percentage of the province that is set aside in parks and protected areas (USDI 1999).

Unfortunately, the protective measures outlined above are fairly new and have not yet achieved the desired goals for habitat protection. Therefore, in its 1999 finding regarding reclassification of the Selkirk grizzly bear population to endangered status, the Service found that the lack of current habitat protection stemming from cumulative impacts related to access, mining, recreation, and forestry, both in the U.S. and Canada, poses a significant threat to the grizzly bear population, rendering the population warranted for endangered status (USDI 1999).

### B. Canada Lynx

The lynx is a medium-sized cat with long legs; large, well-furred paws; long tufts on the ears; and a short, black-tipped tail (McCord and Cardoza 1982). The winter pelage of the lynx is dense and has a grizzled appearance with grayish-brown mixed with buff or pale brown fur on the back, and grayish-white or buff-white fur on the belly, legs and feet. Summer pelage of the lynx is more reddish to gray-brown (Koehler and Aubry 1994). Adult males average 10 kilograms (22 pounds) in weight and 85 centimeters (33.5 inches) in length (head to tail), and females average 8.5 kilograms (19 pounds) and 82 centimeters (32 inches) (Quinn and Parker 1987). The lynx's long legs and large feet make it highly adapted for hunting in deep snow.

Classification of the Canada lynx (also called the North American lynx) has been subject to revision. In accordance with Wilson and Reeder (1993), the lynx in North America is *Lynx canadensis*. Previously the Latin name *L. lynx canadensis* was used for lynx (Jones et al. 1992; S. Williams, Texas Tech University, pers. comm. 1994). Other scientific names still in use include *Felis lynx* or *F. lynx canadensis* (Jones et al. 1986; Tumlison 1987).

In 1998, the lynx was proposed for listing as a threatened species under the Act (USDI 1998). The lynx in the contiguous United States was listed as threatened effective April 23, 2000 (USDI

2000). The Service identified one distinct population segment in the lower 48 states. No critical habitat has been designated for the threatened population of Canada lynx in the contiguous United States. As explained in the final rule (USDI 2000), designation of critical habitat would be prudent, but has been deferred until other higher priority work can be completed within the Service's current budget.

Life History

*Home range and dispersal* Lynx home range size varies by the animal's gender, abundance of prey, season and the density of lynx populations (Hatler 1988; Koehler 1990; Poole 1994; Slough and Mowat 1996; Aubry et al. 2000; Mowat et al. 2000). Documented home ranges vary from 8 to 800 square kilometers (3 to 300 square miles) (Saunders 1963; Brand et al. 1976; Mech 1980; Parker et al. 1983; Koehler and Aubry 1994; Apps 2000; Mowat et al. 2000; Squires and Laurion 2000). Preliminary research supports the hypothesis that lynx home ranges at the southern extent of the species' range are generally large compared to those in the core of the range in Canada (Koehler and Aubry 1994; Apps 2000; Squires and Laurion 2000).

Lynx are capable of dispersing extremely long distances (Mech 1977; Washington Department of Fish and Wildlife 1993); for example, a male was documented traveling 616 kilometers (370 miles) (Brainerd 1985). Lynx disperse primarily when snowshoe hare (*Lepus americanus*) populations decline (Ward and Krebs 1985; Koehler and Aubry 1994; O'Donoghue et al. 1997; Poole 1997). Subadult lynx disperse even when prey is abundant (Poole 1997), presumably as an innate response to establish home ranges.

During the early 1960s and 1970s, there were numerous occurrences of lynx documented in atypical habitat, such as in North Dakota. In those years, harvest returns indicated unprecedented cyclic lynx highs for the 20th century in Canada (Adams 1963; Harger 1965; Mech 1973; Gunderson 1978; Thiel 1987; McKelvey et al. 2000b). Many of these unusual observations were probably dispersing animals that either were lost from the population or later returned to suitable habitat.

***Diet*** Snowshoe hares (*Lepus americanus*) are the primary prey of lynx, comprising 35-97 percent of the diet throughout the range of the lynx (Koehler and Aubry 1994). Other prey species include red squirrel (*Tamiasciurus hudsonicus*), grouse (*Bonasa umbellus*, *Dendragopus* spp., *Lagopus* spp.), flying squirrel (*Glaucomys sabrinus*), ground squirrel (*Spermophilus parryii*, *S. richardsonii*), porcupine (*Erethrizon dorsatum*), beaver (*Castor canadensis*), mice (*Peromyscus* spp.), voles (*Microtus* spp.), shrews (*Sorex* spp.), fish, and ungulates as carrion or occasionally as prey (Saunders 1963; Van Zyll de Jong 1966; Nellis et al. 1972; Brand et al. 1976; Brand and Keith 1979; Koehler 1990; Staples 1995; O'Donoghue et al. 1998).

During the cycle when hares become scarce, the proportion and importance of other prey species, especially red squirrel, increases in the diet (Brand et al. 1976; O'Donoghue et al. 1998; Apps 2000; Mowat et al. 2000). However, Koehler (1990) suggested that a diet of red squirrels alone might not be adequate to ensure lynx reproduction and survival of kittens.

Most research has focused on the winter diet. Summer diets are poorly understood throughout the range of lynx. Mowat et al. (2000) reported through their review of the literature that summer diets have less snowshoe hare and more alternate prey species, possibly because of a greater availability of other species.

There has been little research on lynx diet specific to the southern portion of its range except in Washington (Koehler et al. 1979; Koehler 1990). Southern populations of lynx may prey on a wider diversity of species than northern populations because of lower average hare densities and differences in small mammal communities. In areas characterized by patchy distribution of lynx habitat, lynx may prey opportunistically on other species that occur in adjacent habitats, potentially including white-tailed jackrabbit (*Lepus townsendii*), black-tailed jackrabbit (*Lepus californicus*), sage grouse (*Centrocercus urophasianus*), and Columbian sharp-tailed grouse (*Tympanuchus phasianellus*) (Quinn and Parker 1987; Lewis and Wenger 1998).

In northern regions, when hare densities decline, the lower quality diet causes sudden decreases in the productivity of adult female lynx and decreased survival of kittens, which causes the numbers of breeding lynx to level off or decrease (Nellis et al. 1972; Brand et al. 1976; Brand and Keith 1979; Poole 1994; Slough and Mowat 1996; O'Donoghue et al. 1997). Relative densities of snowshoe hares at southern latitudes are generally lower than those in the north, and differing interpretations of the population dynamics of southern populations of snowshoe hare have been proposed (Hodges 2000b).

Snowshoe hares have evolved to survive in areas that receive deep snow (Bittner and Rongstad 1982). Primary forest types that support snowshoe hare are subalpine fir (*Abies lasiocarpa*), Engelmann spruce (*Picea engelmannii*), Douglas-fir (*Pseudotsuga menziesii*), and lodgepole pine (*Pinus contorta*) in the western United States, and spruce/fir, pine, and deciduous forests in the eastern United States (Hodges 2000b). Within these habitat types, snowshoe hares prefer stands of conifers with shrub understories that provide forage, cover to escape predators, and protection during extreme weather (Wolfe et al. 1982; Monthey 1986; Koehler and Aubrey 1994). Hares' use of habitat is correlated with understory cover (Hodges 2000a). Early successional forest stages generally have greater understory structure than do mature forests and therefore support higher hare densities (Hodges 2000a, b). However, mature forests can also provide snowshoe hare habitat as openings are created in the canopy when trees succumb to disease, fire, wind, ice, or insects, and the understory develops (Buskirk et al. 2000b).

Lynx seem to prefer to move through continuous forest, using the highest terrain available such as ridges and saddles (Koehler 1990; Staples 1995). Cover is important to lynx when searching for food (Brand et al. 1976) but lynx often hunt along edges (Mowat et al. 2000). Kesterson (1988) and Staples (1995) reported that lynx hunted along the edges of mature stands within a burned forest matrix and Major (1989) found that lynx hunted along the edge of dense riparian willow stands. Lynx have been observed (via snow tracking) to avoid large openings (Koehler 1990; Staples 1995) during daily movements within the home range.

***Den site selection*** Lynx use large woody debris, such as downed logs, root wads and windfalls, to provide denning sites with security and thermal cover for kittens (McCord and Cardoza 1982; Koehler 1990; Koehler and Brittell 1990; Mowat et al. 2000; Squires and Laurion 2000). During the first few months of life, kittens are left alone at these sites when the female lynx hunts. Downed logs and overhead cover provide protection of kittens from predators, such as owls, hawks and other carnivores during this period.

The age of the forest stand does not seem as important for denning habitat as the amount of downed, woody debris available (Mowat et al. 2000). Den sites may be located within older regenerating stands (>20 years since disturbance) or in mature conifer or mixed conifer-deciduous (typically spruce/fir or spruce/birch) forests. In Washington, lynx used lodgepole pine, spruce (*Picea* spp.), and subalpine fir (*Abies lasiocarpa*) forests older than 200 years with an abundance of downed woody debris for denning (Koehler 1990). A den site in Wyoming was located in a mature subalpine fir/lodgepole pine forest with abundant downed logs and a high amount of horizontal cover (Squires and Laurion 2000). A lynx den site found in Maine in 1999 was located in a forest stand in red spruce (*Picea rubra*) cover type that was logged in 1930 and again in the 1980s and is regenerating into hardwoods (Organ 1999). The site had a dense understory and an abundance of dead and downed wood.

Denning habitat must be in or near foraging habitat to be functional. The hunting range of females is restricted at the time of parturition, and their need to feed kittens requires an abundance of prey. Lynx, like other carnivores, frequently move their kittens until they are old enough to hunt with their mother. Multiple nursery sites are needed that provide kittens with overhead cover and protection from predators and the elements. Downed logs and overhead cover must also be available throughout the home range to provide security when lynx kittens are old enough to travel (Bailey 1974).

***Recruitment*** Breeding occurs through March and April in the north (Quinn and Parker 1987). Kittens are born in May to June in south-central Yukon (Slough and Mowat 1996). The male lynx does not help with rearing young (Eisenberg 1986). Slough and Mowat (1996) reported yearling females giving birth during periods when hares were abundant; male lynx may be incapable of breeding during their first year (McCord and Cardoza 1982).

In northern study areas during the low phase of the hare cycle, few, if any, live kittens are born and few yearling females conceive (Brand and Keith 1979; Poole 1994; Slough and Mowat 1996). However, Mowat et al. (2000) suggested that in the far north, some lynx recruitment occurs when hares are scarce and this may be important in lynx population maintenance during hare lows. During periods of hare abundance in the northern taiga, litter size of adult females averages 4 to 5 kittens (Mowat et al. 1996).

Koehler (1990) suggested that the low number of kittens produced in north-central Washington was comparable to northern populations during periods of low snowshoe hare abundance. In his study area, 2 radio-collared females had litters of 3 and 4 kittens in 1986 and 1 kitten in 1987 (the actual litter size of one of the females in 1987 was not determined) (Koehler 1990). Of the known-size litters in Washington, one kitten survived the first winter.

In Montana, Squires and Laurion (2000) reported that one marked female produced two kittens in 1998. In 1999, two of three females produced litters of two kittens each. In Wyoming (Squires and Laurion 2000), one female produced 4 kittens in 1998, but snow tracking indicated that the kittens were not with the female in November and were presumed dead. The same female produced 2 kittens in 1999.

*Mortality* Reported causes of lynx mortality vary between studies. The most commonly reported causes include starvation of kittens (Quinn and Parker 1987; Koehler 1990), and human-caused mortality, mostly fur trapping (Ward and Krebs 1985; Bailey et al. 1986). Significant lynx mortality due to starvation has been demonstrated in cyclic populations of the northern taiga, during the first two years of hare scarcity (Poole 1994; Slough and Mowat 1996). Various studies have shown that, during periods of low snowshoe hare numbers, starvation can account for up to two-thirds of all natural lynx deaths. Trapping mortality may be additive rather than compensatory during the low period of the snowshoe hare cycle (Brand and Keith 1979). Hunger-related stress, which induces dispersal, may increase the exposure of lynx to other forms of mortality such as trapping and highway collisions (Brand and Keith 1979; Carbon and Patriquin 1983; Ward and Krebs 1985; Bailey et al. 1986).

Paved roads have been a mortality factor in lynx translocation efforts within historical lynx range. In New York, 18 translocated lynx were killed on highways (Brocke et al. 1990). It has been suggested by Brocke et al. (1990) that translocated animals may be more vulnerable to highway mortality than resident lynx. Six lynx were killed on 2- and 4-lane Colorado highways following their release as part of a reintroduction effort (Colorado Division of Wildlife 2003).

Other than translocated animals, there have been documented occurrences of highway mortality of lynx in Wisconsin (Theil 1987), Minnesota (DonCarlos 1997; J. Cochrane, Service, pers. comm. 2003), and Montana (G. Joslin, Montana Department of Fish, Wildlife and Parks, pers. comm. 2003).

Predation on lynx by mountain lion (*Felis concolor*), coyote (*Canis latrans*), wolverine (*Gulo gulo*), gray wolf (*Canis lupus*), fisher (*Martes pennanti*) and other lynx has been confirmed (Berrie 1974; Koehler et al. 1979; Poole 1994; Slough and Mowat 1996; O'Donoghue et al. 1997; Apps 2000; Vashon et al. 2003; Squires and Laurion 2000). Squires and Laurion (2000) reported 2 of 6 mortalities of radio-collared lynx in Montana were due to mountain lion predation. Observations of such events are rare, and the significance of predation on lynx populations is unknown.

***Interspecific relationships with other carnivores*** Buskirk et al. (2000a) described the two major competition impacts to lynx as exploitation (competition for food) and interference (avoidance). Of several predators examined (birds of prey, coyote, gray wolf, mountain lion, bobcat (*Lynx rufus*), and wolverine), coyotes were deemed to most likely pose local or regionally important exploitation impacts to lynx, and coyotes and bobcats were deemed to possibly impart important interference competition effects on lynx. Mountain lions were described as interference competitors, possibly impacting lynx during summer and in areas lacking deep snow in winter, or when high elevation snow packs develop crust in the spring.

Exploitation competition may contribute to lynx starvation and reduced recruitment. During periods of low snowshoe hare numbers, starvation accounted for up to two-thirds of all natural lynx deaths in the Northwest Territories of Canada (Poole 1994). Major predators of snowshoe hare include lynx, northern goshawk (*Accipiter gentilis*), great horned owl (*Bubo virginianus*), bobcat, coyote, red fox (*Vulpes vulpes*), fisher, and mountain lion. In southern portions of snowshoe hare range, predators may limit hare populations to lower densities than in the taiga (Dolbeer and Clark 1975; Wolff 1980; Koehler and Aubry 1994).

Based on only anecdotal evidence, Parker et al. (1983) discussed competition between bobcats and lynx on Cape Breton Island. Lynx were found to be common over much of the island prior to bobcat colonization. Concurrent with the colonization of the island by bobcats, lynx densities declined and their presence on the island became restricted to the highlands, the one area where bobcats did not become established.

Population Dynamics

In Canada and Alaska, lynx populations undergo extreme fluctuations in response to snowshoe hare population cycles, enlarging or dispersing from their home ranges and ceasing the recruitment of young into the population after hare populations decline (Mowat et al. 2000). In the southern portion of the range in the contiguous United States, lynx populations appear to be naturally limited by the availability of snowshoe hares, as suggested by large home range size, high kitten mortality due to starvation, and greater reliance on alternate prey. These characteristics appear to be similar to those exhibited by lynx populations in the taiga during the low phase of the population cycle (Quinn and Parker 1987, Koehler 1990, Aubry et al. 2000). This is likely due to the inherently patchy distribution of lynx and hare habitat in the contiguous United States and corresponding lower densities of hares.

A lack of accurate data limits our understanding of lynx population dynamics in the contiguous United States and precludes drawing definitive conclusions about lynx population trends. Formal surveys designed specifically to detect lynx have rarely been conducted. Many reports of lynx (e.g., visual observations, snow tracks) have been collected incidentally to other activities, but cannot be used to infer population trends. Long-term trapping data have been used to estimate population trends for various species. However, trapping returns are strongly influenced by trapper effort, which varies between years, and therefore may not accurately reflect population trends. Another important problem is that trapping records of many States did not differentiate between bobcats and lynx, referring to both as "lynxcats." Overall, the available data are too incomplete to infer much beyond simple occurrence and distribution of lynx in the contiguous United States (McKelvey et al. 2000b)

Lynx populations in the contiguous United States occur at the southern periphery of a metapopulation whose core is located in the northern boreal forest of central Canada (McCord and Cardoza 1982; Quinn and Parker 1987; McKelvey et al. 2000a). Lynx population dynamics may emanate from the core to the periphery, as evidenced by a lagged correlation of lynx trap records and observations (McKelvey et al. 2000b; Mowat et al. 2000). In the Great Lakes Geographic Area, population dynamics in recent decades appear to be strongly driven by immigration from Canada (McKelvey et al. 2000b). In other areas and time periods, however, it is not known to what extent the correlation is due to immigration from Canada, population responses to the same factors controlling northern populations, or a combination of the two.

We suspect that some areas in the contiguous United States naturally act as sources of lynx (recruitment is greater than mortality) that are able to disperse and potentially colonize other patches (McKelvey et al. 2000a). Other areas may function as sinks, where lynx mortality is greater than recruitment and lynx are lost from the overall population. Sink habitats are most likely those places on the periphery of the southern boreal forest where habitat becomes more fragmented and more distant from larger lynx populations. Fluctuations in prey populations may cause some habitat patches to change from being sinks to sources, and vice versa. The ability of naturally dynamic habitat to support lynx populations may change as the habitat undergoes natural succession following natural or manmade disturbances (i.e., fire, clearcutting).

Status and Distribution

The lynx in the contiguous United States was listed as threatened effective April 23, 2000 (USDI 2000). At least one of five listing factors must be met for listing under ESA. These factors include: present or threatened destruction of habitat or range, over-utilization, disease or predation, inadequacy of existing regulatory mechanisms or other natural or human-made causes. The sole factor for listing the Canada lynx as threatened was inadequacy of existing regulatory mechanisms, specifically the lack of Forest Land and Resource Management Plans guidance to address the needs of lynx.

The following discussion of the status and distribution of lynx is largely excerpted from the Service's final rule (USDI 2000). The historical and present range of the lynx north of the contiguous United States includes Alaska and that part of Canada that extends from the Yukon and Northwest Territories south across the United States border and east to New Brunswick and Nova Scotia. In the contiguous United States, lynx historically occurred in the Cascades Range of Washington and Oregon; the Rocky Mountain Range in Montana, Wyoming, Idaho, eastern Washington, eastern Oregon, northern Utah, and Colorado; the western Great Lakes Region; and the northeastern United States region from Maine southwest to New York (McCord and Cardoza 1982; Quinn and Parker 1987).

The distribution of lynx in North America is closely associated with the distribution of North American boreal forest (Agee 2000). In Canada and Alaska, lynx inhabit the classic boreal forest ecosystem known as the taiga (McCord and Cardoza 1982; Quinn and Parker 1987; Agee 2000; McKelvey et al. 2000b). The range of lynx extends south from the classic boreal forest zone into the subalpine forest of the western United States, and the boreal/hardwood forest ecotone in the eastern United States (Agee 2000; McKelvey et al. 2000b). Forests with boreal features (Agee 2000) extend south into the contiguous United States along the Cascade and Rocky Mountain Ranges in the west, the western Great Lakes Region, and along the Appalachian Mountain Range of the northeastern United States. Within these general forest types, lynx are most likely to persist in areas that receive deep snow, to which the lynx is highly adapted (Ruggiero et al. 2000). Lynx are rare or absent from the wet coastal forests of Alaska and Canada (Mowat et al. 2000).

At its southern margins in the contiguous United States, forests with boreal features, or southern boreal forests, become naturally fragmented as they transition into other vegetation types. Southern boreal forest habitat patches are small relative to the extensive northern boreal forest of

Canada and Alaska, which constitutes the majority of lynx range. Many southern boreal forest habitat patches within the contiguous United States cannot support resident populations of lynx and their primary prey species.

The complexities of lynx life-history and population dynamics, combined with a general lack of reliable population data for the contiguous United States, make it difficult to ascertain the past or present population status of lynx in the contiguous United States. It is impossible to determine with certainty whether reports of lynx in many States were: 1) animals dispersing from northern populations that were effectively lost because they did not join or establish resident populations, (2) animals that were a part of a resident population that persisted for many generations, or (3) a mixture of both resident and dispersing animals.

The final rule (USDI 2000) determining threatened status for the lynx in the contiguous United States summarized lynx status and distribution across four regions that are separated from each other by ecological barriers consisting of unsuitable lynx habitat. These distinct regions are the Northeast, the Great Lakes, the Northern Rocky Mountains/Cascades, and the Southern Rocky Mountains. While these regions are ecologically unique and discrete, the lynx is associated with southern boreal forest in each and, with the exception of the Southern Rocky Mountains Region, each area is geographically connected to the much larger population of lynx in Canada.

***Northeast Region (Maine, New Hampshire, Vermont, New York)*** Based on an analysis of cover types and elevation zones containing most of the lynx occurrences, McKelvey et al. (2000b) determined that, at the broad scale, most lynx occurrence records in the Northeast were found within the "Mixed Forest-Coniferous Forest-Tundra" cover type at elevations ranging from 250 to 750 meters (820 to 2,460 feet). This habitat type in the northeast United States occurs along the northern Appalachian Mountain range from southeastern Quebec, western New Brunswick, and western Maine, south through northern New Hampshire. This habitat type becomes naturally more fragmented and begins to diminish to the south and west, with a disjunct segment running north-south through Vermont, a patch of habitat in the Adirondacks of northern New York, and with a few more distant and isolated patches in Pennsylvania (McKelvey et al. 2000b).

As it did historically, the boreal forest of the Northeast continues to exist primarily in Maine where habitat is currently optimal and a resident, breeding population of lynx continues to exist. Maine's lynx population is currently much larger than we knew at the time of the final listing rule in 2000 and habitat is directly connected to substantive lynx populations and habitat in southeastern Quebec and New Brunswick. The potential exists for lynx to occur in New Hampshire because of its direct connectivity with Maine. Lynx in Vermont have always existed solely as dispersers. Lynx occurring in New York since 1900 have been dispersers. Detailed information on the status and distribution of lynx in this region is found in the Final Rule (USDI 2000).

***Great Lakes Region (Minnesota, Wisconsin, Michigan)*** The majority of lynx occurrence records in the Great Lakes Region are associated with the "mixed deciduous-coniferous forest" type (McKelvey et al. 2000b). Within this general forest type, the highest frequency of lynx occurrences were in the sugar maple (*Acer saccharum*), basswood (*Tilia* spp.), jack pine (*Pinus* *banksiana*),white pine (*P. strobus*), and red pine (*P. resinosa*) forest types (McKelvey et al. 2000b). These types are found primarily in northeastern Minnesota, northern Wisconsin, and the western portion of Michigan's upper peninsula.

We conclude that northeastern Minnesota has historically supported and currently supports a resident lynx population, based on the number of lynx records, evidence of reproduction, and the presence of boreal forest contiguous with occupied habitat in Ontario. We conclude records of lynx in Wisconsin and Michigan constitute dispersing animals, rather than individuals from resident populations, based on the lack of evidence of reproduction, lack of connectivity with suitable habitat, and limited amount of habitat. Detailed information on the status and distribution of lynx in this region is found in the Final Rule (USDI 2000).

***Northern Rocky Mountains/Cascades Region (Washington, Oregon, Idaho, Wyoming, Utah, Montana)*** In this region, the majority of lynx occurrences are associated at a broad scale with the "Rocky Mountain Conifer Forest"; within this type, most of the occurrences are in moist Douglas-fir and western spruce/fir forests (McKelvey et al. 2000b). Most of the lynx occurrences are in the 1,500-2,000 meters (4,920-6,560 feet) elevation class (McKelvey et al. 2000b). These habitats are found in the Rocky Mountains of Montana, Idaho, eastern Washington, and Utah, the Wallowa Mountains and Blue Mountains of southeast Washington and northeastern Oregon, and the Cascade Mountains in Washington and Oregon. The majority of verified lynx occurrences in the United States and the confirmed presence of resident populations are from this region. The boreal forest of Washington, Montana, and Idaho is contiguous with that in adjacent British Columbia and Alberta, Canada.

We conclude that the Northern Rocky Mountains/Cascades Region continues to support resident lynx populations in north-central and northeastern Washington, western Montana and likely northern Idaho based on current evidence of reproduction in Washington and Montana and the presence of habitat able to support resident populations. We conclude that lynx have always occurred as dispersers in Oregon and Utah because habitat capable of supporting lynx is limited and there are relatively few historic records of lynx in these states. In northern Wyoming it appears habitat is less suitable to support resident populations and, therefore, we conclude animals in this area are most likely dispersers. Detailed information on the status and distribution of lynx in this region is found in the Final Rule (65 FR 16052; March 24, 2000) and the Clarification of the Final Rule (68 FR 40076; July 3, 2003).

***Southern Rocky Mountains Region (Colorado, SE Wyoming)*** Colorado represents the extreme southern edge of the range of the lynx. The southern boreal forest of Colorado and southeastern Wyoming is isolated from boreal forest in Utah and northwestern Wyoming by the Green River Valley and the Wyoming basin (Findley and Anderson 1956). These areas likely reduce opportunities for immigration from the Northern Rocky Mountains/Cascades Region and Canada (Halfpenny and Miller 1981; Koehler and Aubry 1994).

A majority of the lynx occurrence records in Colorado and southeastern Wyoming are associated with the "Rocky Mountain Conifer Forest" type. The occurrences in the Southern Rockies were generally at higher elevations (1,250 to over 3,750 meters (4,100-12,300 feet)) than were all other occurrences in the West (McKelvey et al. 2000b).

There are relatively few historic lynx records from this region (McKelvey et al. 2000b). We are uncertain whether the Southern Rockies supported a small resident population historically or whether such records were of dispersers that arrived during extremely high population cycles. If these historic records represent resident populations rather than dispersing animals that emigrated from the Northern Rocky Mountains, Cascades or Canada, then we believe a viable native resident lynx population no longer exists in the Southern Rocky Mountains. Although habitats in the Southern Rockies are far from source populations and more isolated, it is still possible that dispersers could arrive in the Southern Rocky Mountains during extreme highs in the population cycle. Detailed information on the status and distribution of lynx in this region is found in the Final Rule (USDI 2000).

***Reports from other locations*** Lynx have been documented in habitats that are unable to support them long-term. Such occurrences are associated with cyclic population highs when lynx tend to disperse long distances. These unpredictable and temporary occurrences are not included within either the historic or current range of lynx because they are well outside of lynx habitat (USDI 2000). This includes records from Nevada, North Dakota, South Dakota, Iowa, Nebraska, Indiana, Ohio, and Virginia (Hall 1971; Burt 1954; Gunderson 1978; Mech 1980; McKelvey et al. 2000b; Johnson 1994; Jones 1994; South Dakota Natural Heritage Program 1994; Jobman 1997; Smithsonian Institute 1998).

In its final rule listing the lynx as a threatened species within the contiguous U.S., the Service determined that, based primarily on trapping records, resident lynx populations historically existed and currently exist in Washington and Montana (USDI 2000). However, while historically lynx have been consistently trapped in these two states throughout successive years and decades, due to the nature of lynx population dynamics, suspected immigration of lynx from Canada during cyclical population lows in the snowshoe hare cycle, and individual trapper success and effort, the Service was unable to determine estimated historic and current population numbers or trends. In Idaho, however, although numerous records of lynx occurrence are documented and the boreal forest habitat is contiguous with adjacent States and Canada where known lynx populations exist, due to the unreliability of trapping records the Service was unable to determine the historic or current presence of resident lynx populations (USDI 2000).

Records of lynx occurrence in Idaho, using trapping data from the early 1900s, are unreliable because lynx were not distinguished from the bobcat (*Lynx rufus*) until 1982 when the IDFG initiated a mandatory pelt tagging program (USDI 2000). However, Rust (1946) noted that, although lynx were not abundant, they were distributed throughout northern Idaho in the 1940s, occurring in 8 of 10 northern and north-central counties (McKelvey et al. 2000a). There are 35 verified historic records of lynx from 1960 to 1991 in Idaho (McKelvey et al. 2000a). Preliminary results from surveys conducted in 1998 using hair-snagging techniques and DNA analyses suggest the presence of lynx in northern Idaho (Weaver 1999). Weaver conducted the study in the Priest Lake, Bonners Ferry, and Sandpoint areas of northern Idaho. Lynx hair was collected from five separate sampling locations within the study.

On February 7, 2000, the Forest Service entered into a Canada Lynx Conservation Agreement (CA) with the Service (USFS and USFWS 2000). The intent of the CA is to conserve lynx and its habitat on federal lands administered by the Forest Service, and to reduce or eliminate adverse effects or risks to the species and its habitat. Furthermore, pursuant to the CA, the Forest Service agreed to defer all actions that are determined likely to adversely affect lynx, which are proposed by the Forest Service and do not involve third parties. The CA will remain in effect until such time as individual National Forest LRMPs are amended or revised, as appropriate, to incorporate information on lynx management. The CA requires the Forest Service to consider the recommendations contained in the Canada Lynx Conservation and Assessment's (LCAS) (Rudiger et al. 2000). The LCAS recommends the establishment of Lynx Analysis Units (LAU) within lynx habitat on federal land. Lynx Analysis Units are not intended to depict actual lynx home ranges, but are intended to provide analysis units of the appropriate scale with which to begin the analysis of potential direct and indirect effects of projects or activities on individual lynx, and monitor habitat changes (Rudiger et al. 2000). Thus, pursuant to the CA, and following the LCAS's mapping direction, 71 LAUs were delineated on the IPNF. The mapped lynx habitat on Forest Service land within these LAUs equals approximately 1,260,918 acres on the IPNF.

The LCAS identified risk factors and developed conservation measures to reduce or eliminate adverse affects to lynx resulting from the spectrum of management activities potentially affecting lynx productivity, mortality and dispersal on federal land. The conservation measures address the risk factors, and many are intended to be applied at the scale of the LAU. Many of the conservation measures address actions outside the scope of this particular project. It should be noted that the LCAS was developed for and intended to apply to lynx habitat located on federal land. Therefore, the standards and guidelines contained in the LCAS are not applicable to non-federal land. However, the condition of all lynx habitat (both federal and non-federal to the extent it is known) within an individual LAU will affect management of lynx habitat on federal land within the LAU. Following are the conservation measures identifying requirements for overall management of lynx habitat on federal land within an LAU, and those pertinent to this action.

1. Recognizing the importance of maintaining adequate quantities and quality of denning and foraging habitat, management activities cannot further reduce suitable lynx habitat if more than 30 percent of lynx habitat in an LAU is currently in an unsuitable condition. Lynx habitat in a currently unsuitable condition is defined by the LCAS as "*Areas within identified/mapped lynx habitat that are in early successional stages as a result of recent fires or vegetation management, in which the vegetation has not developed sufficiently to support snowshoe hare populations during all seasons. Management-created openings would likely include clearcut and seed tree harvest units, and might include shelterwood and commercially-thinned stands depending on unit size and remaining stand composition and structure.*" Within LAUs, lynx denning habitat will be maintained in patches generally larger than 5 acres, comprising at least 10 percent of lynx habitat. Where less than 10 percent denning habitat is currently present within an LAU, management actions that would delay development of denning habitat structure will be deferred.

2. Management actions shall not change more than 15 percent of lynx habitat within an LAU to an unsuitable condition within a 10-year period.

3. To reduce the potential for intra-specific competition with competitors and predators of lynx, management actions will not result in an increase in groomed or designated over-the-snow routes and snowmobile play areas within individual LAUs, unless the designation serves to consolidate unregulated use and improves lynx habitat through a net reduction of compacted snow areas.

4. Determine where high total road densities (>2 mi/mi$^2$) coincide with lynx habitat, and prioritize roads for seasonal restrictions or reclamation in those areas.

5. Minimize roadside brushing in order to provide snowshoe hare habitat.

6. Locate trails and roads away from forested stringers.

7. Limit public use on temporary roads constructed for timber sales. Design new roads, especially the entrance, for effective closure upon completion of sale activities.

8. Minimize building of roads directly on ridgetops or areas identified as important for lynx habitat connectivity.

9. Identify and map linkage areas necessary to maintain connectivity of lynx habitat.

Currently, most mapped denning habitat is based on modeling, which uses information from stand evaluations containing data on stand structure (i.e., pole, saw timber, mature, old-growth), but does not however, contain data on the amount, size, or type of down woody debris. Therefore, because information on the actual amount of down woody debris was not available, mature and old-growth stands were used as surrogates for down woody debris and mapped as denning habitat because they are considered to have the greatest potential of providing denning habitat characteristics. However, recognizing the inherent weakness of the assumption for using mature stands as surrogates for identifying denning habitat, the LCAS recommends that modeled denning habitat be field validated in each LAU.

Currently, on the IPNF, 58 of 71 LAUs (82 percent) are modeled as containing greater than 10 percent denning habitat, all 71 LAUs contain greater than 30 percent suitable lynx habitat, and none of the LAUs has had more that 15 percent of suitable lynx habitat converted into a temporarily unsuitable condition within the past 10 years. Relative to the modeled lynx denning habitat, the apparent deficiency of this lynx habitat component within 13 LAUs (i.e., contain less than 10 percent denning habitat) may be partially a result of modeling limitations, large scale disturbances that have occurred in some LAUs, and lack of data.

As noted previously, because of a lack of actual information on the amount of down, woody debris accumulation on forest floors that may provide structure useable by lynx for denning, the identification of denning habitat is based on using mature and old-growth stands as surrogates for this structure. Thus, the identification of lynx denning habitat is based on stand structure, which is interpreted from stand evaluations. If a particular mature and/or multistoried stand providing lynx habitat (e.g. subalpine fir stand identified from photo interpretation, etc.) does not have a stand evaluation form indicating it contains the structural characteristics of a mature and/or multistoried stand, it would not be modeled as such. Lacking stand structure information, the model would classify the stand as "other" suitable lynx habitat. Also, if stand evaluations have been completed, they may have been completed many years ago, when the stand was in a younger age class, and may not accurately reflect the current condition of the stand, which may currently contain structural conditions characteristic of mature/multistoried stands. These stands would likewise not be classified as denning habitat and would be classified as "other" lynx habitat. Thus, due to the inherent limitations of this particular model, lynx denning habitat (i.e., mature and/or multistoried stands) may be under reported, relative to the actual availability of structure on the landscape that may provide suitable denning habitat for lynx.

Past fire events have also reduced denning habitat structure on the IPNF. Several LAUs (Copper Ruby, Divide, Five Lakes Butte, Fly Mosquito, Loop Creek, Lower North Fork St. Joe, Lower Slate Creek, Pack River, Simmons, Skookum Bird, Snow, St. Joe Headwaters, Upper North Fork St. Joe, and Upper Slate Creek) were impacted by large scale fires that occurred in 1910 (some of which reburned). The vegetation within many of the areas impacted by these burns has not yet reforested to conditions that would provide the necessary structural characteristics of lynx denning habitat.

Additionally, some stands do not have any information (e.g., aerial photos, habitat typing, etc.). These stands, although they may be providing lynx habitat, and potentially denning habitat, would be classified as "unknown". Until the vegetative capabilities and characteristics of these stands are determined, they are not included in the total acreage comprising lynx habitat within the LAUs, however, they are included in the total acreage comprising the LAU (i.e., not all habitat within some LAUs is capable of providing lynx habitat (e.g., lower elevation Ponderosa pine (*Pinus ponderosa*) stands contained within the boundaries of the LAU).

The project area is located entirely within the Sema Lynx Analysis Unit (LAU). District wildlife observation records indicate 11 lynx observations within or near the Sema LAU, with five of these reports having been received in the last decade. Surveys to detect absence or presence of lynx were conducted across the Priest Lake District in 1998 and 1999 using the 'hair-snare method'. In 1999, a survey benchmark included a portion of the Sema Lynx Analysis Unit. DNA analysis did not reveal the presence of lynx via this survey method.

The Sema LAU is 25,147 acres in size and includes a mixture of lynx foraging, denning, and currently unsuitable habitat. Foraging and denning habitat currently comprise approximately 73 and 15 percent, respectively, of the LAU. Unsuitable habitat comprises approximately 7 percent of the LAU, with 4 percent having been created within the last 10 years. Open and total road densities within this LAU are relatively low which would translate to a low risk of mortality for lynx. There are 16.3 miles of open road within the Lynx Analysis Unit for an open road density of .4 mi/mi$^2$. The total mileage for all roads within the LAU, including both open and restricted access roads, is 42.1 miles, which equates to 1.1 mi/mi$^2$.

## III. Environmental Baseline

Regulations implementing the Act (50 CFR 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area which have undergone section 7 consultation, and the impacts of State and private actions which are contemporaneous with the consultation in progress.

Action area, as defined by the Act, is the entire area to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. For this project, the action area is defined as Sections 5, 8, and 9 in Township 36 North, Range 45 East. Direct effects will occur primarily in Section 8, with the road construction across IPNF lands to access Stimson lands in Section 5. There will be associated effects in Section 9, with tying the new road into the existing road on Stimson lands and project-related travel on that road. Indirect effects will also occur on Stimson lands in Section 5, once access to that parcel is established.

### A. Grizzly Bear

Between 1985 and 1987, a radio-collared male grizzly bear had a home range which overlapped the project area. Grizzly bear habitats within the project area consist of a mosaic of closed timbered habitats, wetland meadow complexes, open timber shrubfields and rock/scree habitats. The majority of the project area is within a closed timbered condition, which resulted from a fire that swept through the area in 1926. Wetland habitats dominated by *Sphagnum spp* and *Carix spp.* are located in lowlands along Sema Creek and Tobasco Creek. These areas are considered as high quality spring season habitats for grizzly bears. Other high quality spring habitat includes open timber habitats and riparian habitats. High quality summer habitats are found throughout the Kalispell-Granite BMU and are primarily associated with areas where timber management activities have caused an opening of the overstory canopy and where the regeneration or the establishment of a shrub-dominated understory has occurred. During fall, grizzly bears tend to show a shift to more closed timber habitats. Fall habitats are generally more abundant and evenly distributed within the project area and the BMU (USFS 2003a).

Activities associated with Stimson lands in Sections 3 and 9 currently result in a 1.26 percent reduction in security habitat in the Kalispell-Granite BMU. These sections currently do not meet core habitat requirements. Because of continued management activities in these sections, core habitat would not be assumed to occur in the future. The roads accessing these sections are closed by gates to restrict public motorized access, and only administrative traffic is allowed. At the road entrance, signs outlining the yearlong road restrictions prohibiting public motorized use will be posted (USFS 2003a).

### B. Canada Lynx

As stated in the BA, habitat for lynx within the project area was identified through a combination of field review of the proposed project area and through an evaluation of timber stand and habitat information. Specific stand information including habitat type, stand structure, forest cover type and overstory canopy closure was used in a computer model to measure effects (USFS 2003a). Suitable lynx habitat is distributed throughout much of the proposed project area and is primarily composed of foraging habitat with some denning habitat (USFS 2003a). Denning habitat was previously described. Lynx foraging habitat is generally associated with forested cover composed of early successional habitats or later successional habitats containing mature stand structure with good understory development providing forage and cover for snowshoe hares. Early successional foraging habitats include areas created either by natural disturbances such as fire, insects, disease, and windthrows, or management created openings such as regeneration, seed-tree, and shelterwood harvests.

Approximately 164 acres of Section 9 were logged in 1995-1996. These treatments included 36 acres of overstory removal with the remainder being regeneration harvests. The acres of overstory removal are considered lynx forage habitat because of the sapling and pole-sized timber. An additional 243 acres were logged in 2000-2001; these acres are considered unsuitable lynx habitat. A predominant ridge (i.e. Kalispell-Granite Creek Divide) runs along the southern portion of the parcel. To maintain connectivity along this ridge, cover at least 300 feet in width was retained (USFS 2003a).

## IV. Effects of the Action

### A. Grizzly Bear

This action would result in the construction of 4000 feet (0.75 mile) of road on Federal land. This amount of road in itself would affect no measurable change in the percentages of open road and total road density because of its limited length. No high quality spring or summer habitats for grizzly bears would be impacted by road construction on National Forest lands.

Road density would change slightly, but would be mitigated by restricting access on the new road. Habitat loss of six acres from road construction and right-of-way clearance would reduce the amount of cover for bears, but the amount of habitat reduction is negligible. The reduction would be partially mitigated by revegetation along the roadsides and by the human use restrictions that would be imposed after the road is constructed.

During construction and eventual use of the road on National Forest lands, security habitat for grizzly bears would be reduced by 139 acres. This reduction in security habitat would be mitigated by restricting access on the new road system both during and after construction. The newly constructed road would be closed to all non-authorized motorized vehicles to provide for grizzly bear security. The existing closure on Stimson lands in Section 9 also would be maintained. Core habitat for grizzly bear would also be reduced by 151 acres (0.9 percent) as a result of activities on National Forest lands.

Open road density will not increase as a result of the proposed activities in the Stimson Access Project. As previously discussed, the road will have restricted access.

As discussed above, Forest Roads # 319 and #1104 were obliterated by the Forest in 1998 in anticipation of the potential loss of core habitat anticipated by this action. Obliteration of these roads resulted in the creation of approximately 2,043 acres, or an increase of 2.3 percent, of core habitat within the BMU. Thus, as the core habitat was created as direct mitigation to offset the potential loss (less than 1 percent) of core habitat anticiapted by this action, the potential effects to grizzly bears relative to degradation (loss) of habitat resulting from implementation of this action are insignificant. Obliterating Forest Roads #319 and #1104 also effectively reduced road total densities greater than 2 mi/mi$^2$ (open road densities were not affected) within the BMU by 1.0 percent, from 29.8 to 28.8 percent of the BMU. This action will slightly increase total road densities (less than 1.0 percent). Thus, potential effects to grizzly bears related to total road densities and to road use on the newly constructed road are likewise insignificant.

Relative to Stimson's activities on their ownership in Section 5, we anticipate that some level of road construction will occur to facilitate timber management activities. We do not know the extent of road construction that will occur nor do we know the amount and or type of timber management activities that will occur. However, grizzly bear habitat management parameters relative to core habitat are established and measured only on federal land within the BMU. Therefore, regardless of the amount of road construction or timber management that occurs on Stimson's ownership within this section, grizzly bear core habitat within the BMU will not be affected. While some level of disturbance to and possibly displacement of grizzly bears from the project area may occur resuling from Stimson's activities, sufficient habitat exists adjacent to the project area on federal lands that could be utilized by any grizzly bears potentially displaced from the project area. Therefore, we anticipate that the effects to any grizzly bears displaced from the project area would be insignificant.

**B. Canada Lynx**

The construction of 4,000 feet of road on National Forest lands would alter approximately six acres of lynx habitat. Habitat considered as low quality forage habitat for lynx would be converted to an unsuitable condition as a result of road construction and right-of-way clearing. No habitats identified as suitable for lynx denning would be impacted as a result of road construction. In addition, because design criteria established that road construction activities would not occur during the lynx denning season, no displacement of females with kittens is anticipated to occur during this critical season.

Proposed activities within Section 5, which is managed by the Stimson Lumber Company, would impact 375 acres of currently low quality forage habitat for lynx. These acres would become unsuitable lynx habitat and would remain unsuitable for approximately 25 years or until vegetational regrowth has occurred.

The overall proportion of denning habitat within the LAU would not change. The proportion of unsuitable habitat within the LAU would be increased from 5 percent to 7 percent, which is well within the thresholds established for limiting the amount of unsuitable habitat within an LAU. The LCAS limits the creation of unsuitable lynx habitat by management activities to less than 30 percent of the lynx habitat within an LAU (Ruediger et al. 2000). Additionally, the proportion of unsuitable habitat created within the last decade in the LAU would be increased from 3 percent to 4 percent as a result of the proposed action, which is also well within the thresholds established for limiting the conversion of suitable habitat to an unsuitable condition within a 10-year period (Ruediger et al. 2000).

On the unsuitable habitat which was created, after approximately 25 years, trees growing in these harvested areas may provide enough cover and browse to support populations of snowshoe hares, the primary prey for lynx. However, the suitability of this habitat for snowshoe hares and lynx could be short-lived if these areas are pre-commercially thinned.

Connectivity would be maintained on Stimson lands and across the landscape. Section 5 can be characterized as an east-facing bowl and is not located along a major ridge system. Because of the prevailing gentle topography of Section 5, lynx movement would not likely be restricted to the low ridges within the section. Stream buffers would be implemented adjacent to Sema Creek in accordance with Washington Forest Practices (WAC 222-30-022). These buffers adjacent to Sema Creek would maintain lynx travel corridors through Section 5.

Habitat succession would continue within the analysis area. Other natural processes, such as impacts from forest insects and disease in mature stands, would in some cases increase habitat for denning as trees die and fall to the forest floor and provide complex structure for lynx to rear kittens. These processes would be most likely to occur on National Forest lands within the Sema LAU.

New road construction on National Forest and Stimson lands would be an extension of existing restricted roads. These new road segments would be closed to the public both during and after project activities. The open road density within the Sema LAU would not change.

The effects of this action upon lynx and its habitat is consistent with the LCAS, and the resulting habitat conditions within the Sema LAU after implementation of this action are well within the thresholds established by the LCAS for the maintenance of lynx habitat within individual LAUs. Additionally, due to the location and timing constraints upon road construction, displacement of denning lynx is not anticipated. Therefore, the effects of this action upon lynx and its habitat are both insignificant and discountable.

## V. Cumulative effects

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

### A. Grizzly Bear

Stimson plans to implement additional timber harvest activities in Section 9. In 2003, 961 acres will be harvested as regeneration units. Future harvest also is scheduled for 46 acres of overstory removal and 37 acres of regeneration cuts. The harvest date for these acres has not been determined, and will depend on market conditions and other factors. Though no date has been specified, this harvest is considered as a reasonably foreseeable action in the analysis and may occur within the next 5 years. Because there already is a deduction for activities occurring in Section 9, no additional loss of security or core habitat would occur. Moreover, no additional roads would be built and the existing closures to public motorized use would be maintained. No increase would occur to open or total motorized road densities. These harvest and related activities were identified as Reasonably Foreseeable Actions for future analyses when the Kalispell-Granite BMU was originally established in 1995 (USFS 2003a).

### B. Canada Lynx

In Section 9, Stimson plans regeneration harvest of 98 acres in 2003. These acres all would be classified as unsuitable habitat following harvest. An additional 30 acres of partial cuts and 16 acres of overstory removal also will be logged in the future; these areas would remain as forage habitat. The harvest date for these acres has not been determined, and will depend on market conditions and other factors. Though no date has been specified, this harvest is considered as a reasonably foreseeable action in the analysis and may occur within the next 5 years. No denning habitat would be affected.

## VI. Conclusion

### A. Grizzly Bear

After reviewing the current status of the grizzly bear, environmental baseline, effects of the proposed action, and cumulative effects, it is the Service's biological opinion that the proposed action is not likely to jeopardize the continued existence of the grizzly bear within the SRZ. No critical habitat has been designated for this species, therefore, none will be affected.

We base our conclusions on the fact that while the action will result in a small amount of grizzly bear core habitat loss (less than 1 pecent) and a slight increase in total road density (less than 1 percent), each of these parameters, measuring the condition of grizzly bear habitat, remain improved over that which existed previous to the Harvey-Granite and Cache Creek road obliterations (Forest Roads #319 and #1104) completed by the IPNF in 1998. Our rationale is further outlined below.

Obliterating these roads (Forest Roads #319 and #1104) increased core habitat by 2,043 acres, or 2.3 percent, within the Kalispell-Granite BMU. The road obliteration and core habitat increase on federal land were implemented to offset potential core losses on federal land anticipated with the current Stimson access request. The obliteration increased core habitat within the BMU from 45.9 percent to the current 48.2 percent. Management activities associated with the proposed action would reduce core habitat for grizzly bears by 0.9 percent of the total BMU. Core habitat within the BMU would be reduced from 48.2 percent to 47.3 percent, but remain above the 45.9 percent that existed prior to the road obilterations. Furthermore, as non-federal land is not factored into the habitat contributing to the percentage makeup of core habitat within BMUs (in fact, non-fedeal land is buffered from the core habitat calculations), activities on Stimson lands within the project area will not affect or cause a reduction of core habitat within the BMU.

Obliterating these roads also resulted in similar improvements to the percent of the BMU exceeding total road densities greater than 2 mi/mi$^2$. Total road density greater than 2 mi/mi$^2$ decreased from 29.8 percent to 28.8 percent of the BMU. This action will increase total road density 0.9 percent to 29.7 percent of the BMU having a total road density greater than 2 mi/mi$^2$. However, this slight increase will still maintain the percent of the BMU having total road densities greater than 2 mi/mi$^2$ at slightly lower than the total road densities existing prior to the road obliterations.

The Harvey-Granite and Cache Creek road obliterations (Forest Roads #319 and #1104) were completed by the IPNF to offset the impacts to grizzly bear habitat anticipated by implemetation of this action. Therefore, inasmuch as the effects of this action will maintain grizzly bear habitat parameters for core habitat and total road densities (open road densities will not be affected by this action) in a condition better than that which existed prior to the Harvey-Granite and Cache Creek road obliterations, the effects of this action upon grizzly bears and their habitat are insignificant.

**B. Canada Lynx**

After reviewing the current status of the Canada lynx, environmental baseline, and effects of the proposed action it is the Service's biological opinion that the proposed action is not likely to jeopardize the continued existence of the Canada lynx. No critical habitat has been designated for this species, therefore, none will be affected.

Our conclusion is based upon implementation of the lynx CA. Pursuant to the lynx CA, the IPNF has delineated LAUs and mapped the quantity and distribution of lynx habitat on National Forest system lands within its administrative boundaries. Additionally, the CA requires the Forest Service to utilize the LCAS as a basis for making effect determinations. The Forest Service agrees that the LCAS represents the best currently available scientific information pertaining to the conservation and management of lynx and its habitat (see CA page 7). The LCAS contains standards and guidelines to minimize adverse effects to lynx and its habitat resulting from implementation of activities on federal lands. Additionally, the IPNF has analyzed the effect of this action and determined that the quantity, composition, and distribution of lynx habitat, including denning and foraging habitat, within the Sema LAU will remain well above the thresholds established by the LCAS for the management of lynx habitat within individual LAUs. Furthermore, the proposed action will not result in an increase in designated or groomed over-the-snow routes or snowmobile play areas within the Sema LAU

## INCIDENTAL TAKE STATEMENT

Section 9 of the Act, and Federal regulations pursuant to section 4(d) of the Act, prohibit the take of endangered and threatened species, respectively without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The Service does not anticipate that the proposed action will incidentally take any grizzly bears or lynx. Therefore, no terms and conditions to minimize take are required.

## CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. The Service recommends that the IPNF obliterate Forest Roads 1323 and 1323a as soon as funding becomes available.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

## REINITIATION NOTICE

This concludes formal consultation on the proposed Amendment, and the reinitiated formal consultation on the continued implementation of the LRMPs for grizzly bears outside of the Recovery Zones. As provided in 50 CFR, Part 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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**United States Department of Agriculture** **Forest Service** **Idaho Panhandle National Forests** **3815 Schreiber Way Cocur d'Alene, ID 83815**

**File Code:** 2670
**Date:** September 8, 2003

Susan Martin, Field Supervisor
US Fish and Wildlife Service
Upper Columbia River Basin Field Office
11103 E. Montgomery Dr, Suite #2
Spokane, WA 99206

RECEIVED
SEP 10 2003
U.S. FISH & WILDLIFE SERVICE
ECOLOGICAL SERVICES
SPOKANE WA

Dear Susan,

The Idaho Panhandle National Forests ~~has~~ completed ~~the~~ Biological Assessments (BAs) for the Stimson Access Project that consider the potential effects to federally listed terrestrial and aquatic species. This project involves building approximately 0.75 miles of road across National Forest System lands to allow access to a private inholding. The BAs were completed and a letter of concurrence was requested on April 8, 2002. Informal consultation was completed as stated in your correspondence of June 17, 2002. We sent a final BA updating changes that had occurred, along with a letter requesting formal consultation on May 29, 2003.

This letter is to clarify that we are requesting formal consultation only on grizzly bear and lynx.

If you have any questions or require further information, please feel free to contact myself, Tim Layser (Wildlife Biologist) or Shanda Dekome (Fisheries Biologist) for any additional information needs.

Sincerely,

RANOTTA K. MCNAIR
Forest Supervisor

OPTIONAL FORM 99 (7-90)

**FAX TRANSMITTAL** # of pages ▸

| To Shanda DeKome | From Bryan Holt |
|---|---|
| Dept./Agency | Phone # |
| Fax # | Fax # |

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

United States Department of Agriculture
Forest Service
Idaho Panhandle National Forests
Forest Supervisor's Office
3815 Schreiber Way
Coeur d'Alene, ID 83815-8363
(208) 765-7223

**File Code:** 2670
**Date:** May 29, 2003

Susan Martin, Field Supervisor
US Fish and Wildlife Service
Upper Columbia River Basin Field Office
11103 E. Montgomery Dr, Suite #2
Spokane, WA 99206

Dear Susan,

The Idaho Panhandle National Forests has completed the Biological Assessments (BAs) for the Stimson Access Project that considers the potential effects to federally listed terrestrial and aquatic species. This project involves building approximately 0.75 miles of road across National Forest System lands to allow access to a private in holding. The BAs were completed and a letter of concurrence was requested on April 8, 2002. Informal consultation was completed as stated in your correspondence of June 17, 2002.

Enclosed is an updated wildlife BA documenting changes that have occurred since June 17, 2002, primarily for grizzly bear and lynx. The fishery BA has not changed and is not being re-submitted. We are now requesting initiation of formal consultation pursuant to section 7(2)(a) of the Endangered Species Act (50 CFR 402.14).

The BAs document that this project will have the following effects to listed species:

| **Listed Species** | **Determination Of Effects** |
|---|---|
| Gray Wolf, *Canis Lupis* | Not Likely To Adversely Affect |
| Grizzly Bear, *Ursus Arctos* | Not Likely To Adversely Affect |
| Woodland Caribou, *Rangifer Tarandus Caribou* | Not Likely To Adversely Affect |
| Bald Eagle, *Haliaeetus Leucocephalus* | No Effect |
| Canada Lynx, *Lynx Canadensis* | Not Likely To Adversely Affect |
| White Sturgeon, *Acipenser Transmontanus* | No Effect |
| Bull Trout, *Salvelinus Confluentus* | Not Likely To Adversely Affect |
| Water Howellia, *Howellia Aquatilis* | No Effect |
| Ute Ladies'-Tresses, *Spiranthes Diluvialis* | No Effect |

If you have any questions or require further information, please feel free to contact myself, Tim Layser (Wildlife Biologist) or Shanda Dekome (Fisheries Biologist) for any additional information needs.

Sincerely,

Ranotta K. McNair

RANOTTA K. MCNAIR
Forest Supervisor

Enclosure

Biological Assessment

Idaho Panhandle National Forests

Priest Lake Ranger District
32203 Highway 57
Priest River, Idaho 83856
208-443-2512

Reply to: **2672.4**

Ref: **Biological Assessment, <u>Stimson Access, Sema Creek</u>**

Date: **May 28, 2003**

## I. INTRODUCTION

Threatened and Endangered species are managed under authority of the Federal Endangered Species Act (36 U.S.C. 1531-1544) and the National Forest Management Act (16 U.S.C. 1600-1614). The Endangered Species Act requires that Federal agencies ensure all actions that they "authorize, fund, or carry out" are not likely to jeopardize the continued existence of any threatened or endangered species. Agencies are also required to develop and carry out conservation programs for threatened and endangered species.

U.S.D.A. Forest Service Policy (Forest Service Manual FSM. 2672.4) requires a Biological Assessment to be prepared in sufficient detail to determine how a project or proposed activity may affect any threatened, endangered or proposed species. The biological assessment process is intended to analyze and document activities necessary to ensure proposed management activities will not jeopardize the continued existence or cause adverse modification of critical habitat of threatened or endangered species.

The purpose of this biological assessment is to evaluate the potential effects of the proposed Stimson Access Request on any federally listed threatened or endangered species, and determine whether and to what extent any such species and or habitats are affected by the proposed action.

## II. PROPOSED ACTION

Stimson Lumber Company (SLC) has requested that the Forest Service grant an easement across National Forest System lands that would allow Stimson access to their timberland for management activities. The Project Area is located in: Pend Oreille County, Washington; Idaho Panhandle National Forests; Priest Lake Ranger District; T36N, R45E, Section 8, W.M.

Stimson Lumber Company has requested access to a section of land they own in the headwaters of Sema Creek (Section 5; see Figure 1). Access to Section 5 was originally requested in 1992, when Plum Creek Timber Company owned the parcel. Stimson Lumber Company acquired Section 5 in 1996, and continued pursuing access to this section. The application for access was submitted pursuant to the Alaska National Interest Lands Conservation Act (ANILCA).

The Stimson Lumber Company parcel is surrounded by National Forest lands and no other roaded access currently exists. ANILCA directs the Forest Service to grant access to lands located within the National Forest boundary adequate to secure to the owner the reasonable use and enjoyment of the non-federally owned land This meets the purpose and need for action, the requirements of ANILCA and the Forest Plan of the Idaho Panhandle National Forests (IPNF) by granting the access to Stimson Lumber Company lands.

This proposal will grant Stimson Lumber Company a road easement about 4,000 feet (0.75 mile) in length by 66 feet in width on National Forest lands in Section 8 as shown on Figure 2. This access will allow Stimson to construct a road that will be an extension of an existing road on Stimson property in Section 9. The road will be constructed in accordance with plans, specifications, and written stipulations approved by a Forest Service engineer prior to the beginning of construction work. These design standards provide for the protection of soil and water as well as other resource concerns.

Once access is granted, Stimson Lumber Company will be responsible for the following actions on National Forest lands:

- Removing all timber located within the clearing limits of the new road construction on National Forest lands. The timber will then be appraised and sold by the Forest Service.

- Constructing and maintaining a road to Forest Service specifications. Stimson Lumber Company will be required to construct the road in a manner that meets all federal requirements relating to public safety and protection of forest resources.

- Installing and maintaining all drainage structures on the access road.

- Keeping the road closed with a gate year-round to restrict motorized access.

- Implementing and complying with the design features and mitigation measures specified for Alternative B as described below.

**Features Designed to Protect Wildlife Habitat**

- Proposed, threatened, endangered or sensitive listed animals would receive protection on federal land via contract/easement provisions.

- Any proposed, threatened, endangered or sensitive animal species discovered during project activities would be reported as soon as possible. The biologist would implement immediate consultation, if necessary, with the U.S. Fish and Wildlife Service (on proposed, threatened, and endangered species) and District Ranger (on sensitive species) to determine any site-specific measures needed to protect the species and/ or habitat.

- The newly constructed road would be closed to all non-authorized motorized vehicle use. Closure orders would include all motorized vehicles, including those less than 40 inches in track width.

- Motorized vehicle access would be restricted on the proposed access road when not being used by Stimson Lumber Company (SLC) to manage their lands in Section 5. The existing SLC gate on their road in Section 9 serves this purpose. If the existing gate is opened for SLC management activities on their lands in Section 9, an additional gate or barrier would be required to effectively maintain this restriction on the proposed access route to Section 5.

- Stimson Lumber Company would provide to the Forest Service at the end of each "bear year" (March 15 to November 15) a listing of vehicle trips by date and activity type (i.e. survey, monitoring, maintenance, etc.) on the road systems within the Kalispell-Granite BMU.

- Per the January 19, 2001, Memorandum of Understanding among the Forest Service, Bureau of Land Management, National Marine Fisheries Service, and the U.S. Fish and Wildlife Service, the Forest Service would conduct monitoring on federal land that has been identified as necessary to determine the scope and scale of any effects that activities occurring on private land may have on federal land

- Road construction within lynx denning habitat would not occur during the lynx denning period, (April 1 through July 1).

- Road obliteration associated with Roads 1323 and 1323a will be implemented when funding is available. This .was identified in the Dusty Peak Timber Sale Environmental Assessment and Decision Notice February 2, 1997.

## III. LISTED SPECIES

On October 2, 2002, the U.S. Fish and Wildlife Service provided the Priest Lake Ranger District with a list of threatened and endangered species, which may be present within the planning area (FWS 1-9-03-SP002). The list is available at the Priest Lake Ranger District. This list, combined with known species occurrence and habitat availability, indicates that the Grizzly bear, *Ursus arctos*, gray wolf, *Canis lupus*, woodland caribou, *Rangifer tarandus caribou* and Canada lynx, *Lynx canadensis* are known to occur within the project area. The Bald Eagle, *Haliaceetus leucocephalus* is not known to occur within the project area nor is suitable habitat available within the project area.

## IV. ACTION AREA

The area (defined as the action area) used to display the environmental baseline and the determination of effects for grizzly bear is the Kalispell-Granite Grizzly Bear Management Unit (Figure 4). The action area used to display the environmental baseline and the determination of effects for woodland caribou; and gray wolf is the Priest Lake Ranger District. The action area used to display the environmental baseline and the determination of effects for lynx is the Sema Lynx Analysis Unit.

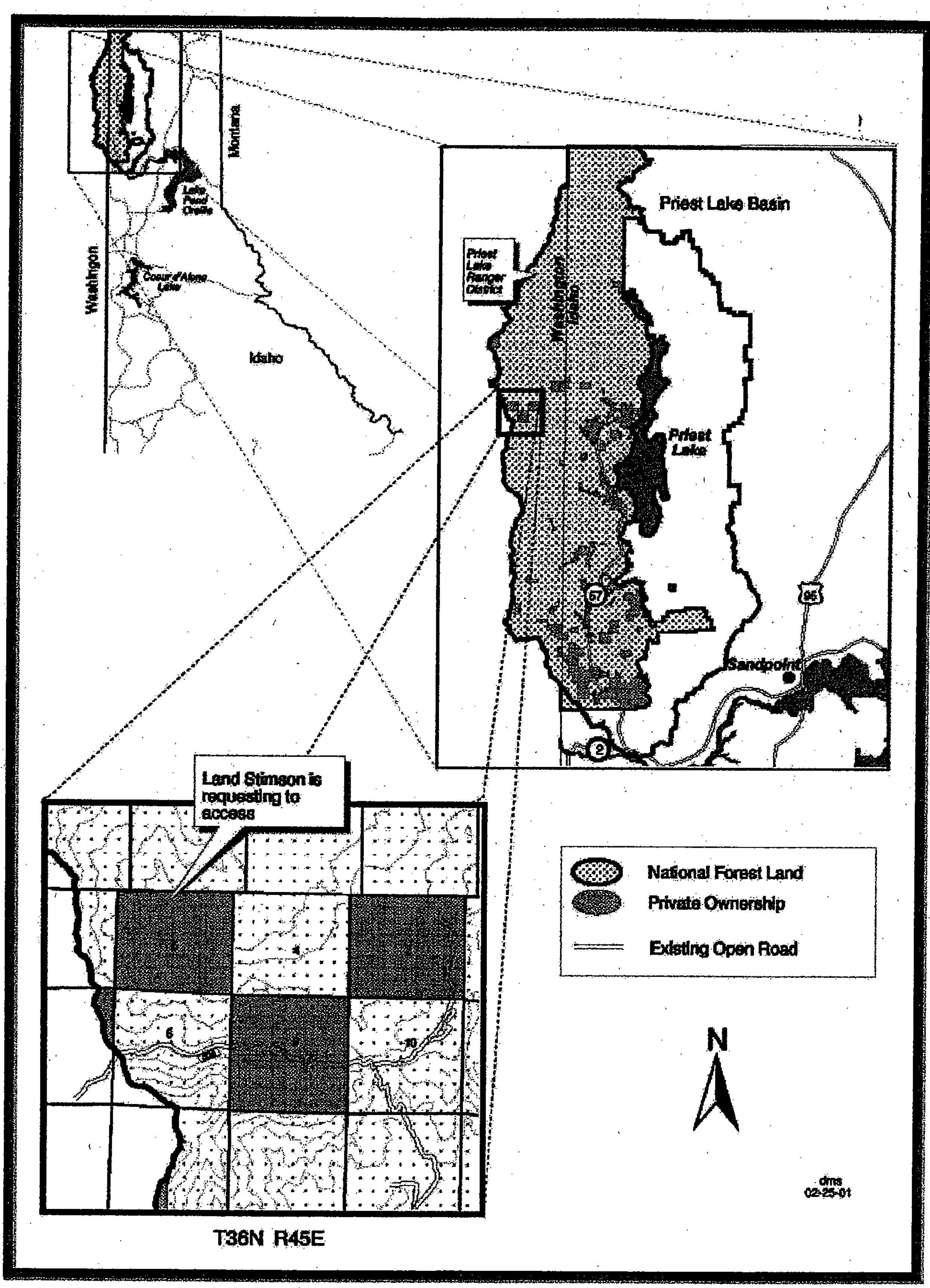



Figure 1 Vicinity Map of the Project Area

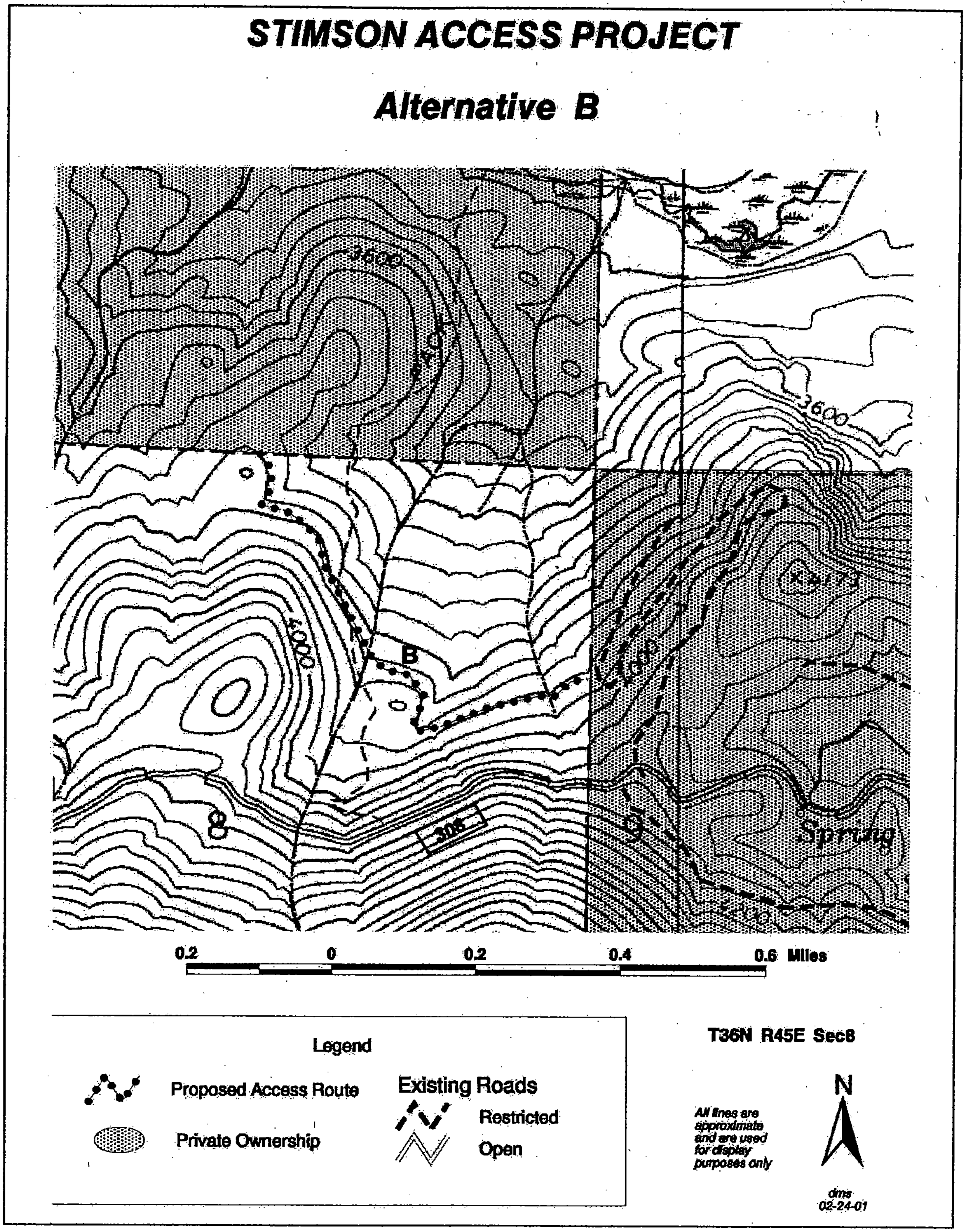



**Figure 2 Map of the Proposed Action.**

## V. PRE-FIELD AND FIELD REVIEW

District observational and occurrence information for grizzly bear, woodland caribou, gray wolf, bald eagle and Canada lynx were reviewed. Surveys for lynx were conducted within the vicinity using the 'hair snare' method in 1998 and 1999. Habitat information for lynx was derived from the timber stand database and from aerial photo interpretation. Surveys for wolf were conducted in July 1999 by Jay Mallonee in cooperation with the Priest Lake Ranger District. Proposed road locations were reviewed by Tim Layser in 1993 and 1997.

## VI. ANALYSIS OF EFFECTS

### Grizzly Bear, Ursus arctos horribilis

***Reference Condition and Habitat Requirements***

The grizzly bear was listed as a threatened species by the U.S. Fish and Wildlife Service in 1975. In 1982, the Selkirk Mountains were identified as a grizzly bear recovery area. Grizzly bears were originally distributed in various habitats throughout western North America. Today, they are confined to less than 2 percent of their original range and represented in five population centers south of the Canadian border. These populations occur in what are identified as grizzly bear ecosystems. The Selkirk Mountains ecosystem of northeastern Washington, northern Idaho, and southeast British Columbia is one of these grizzly bear ecosystems. This grizzly bear recovery area includes an area within adjacent British Columbia as part of the overall area identified as necessary to achieve recovery of grizzly bears within this ecosystem.

Grizzly bears are habitat generalists, meaning that they will be found over a variety of habitats and conditions. Certain types of habitats are utilized proportionally higher than others such as wet meadows in the spring, riparian areas year-round, and berry fields in the summer. Grizzly bears tend to avoid human contact with the exception of during the early season or spring. During this timeframe, bears may sometimes compromise their natural avoidance of humans because of the high nutritional demands that they experience following the winter denning period. This is especially true for females with cubs, which have a higher nutritional requirement.

Controlling/directing motorized access has been an important tool in managing for grizzly bear recovery. By managing motorized access, certain objectives can be achieved such as, minimizing human interactions and potential grizzly bear mortality, reducing displacement from important habitats and minimizing habituation to humans.

Core area habitat is identified as areas free of motorized access during the non-denning period. These areas are an important component for adult female grizzly bears that have successfully reared and weaned offspring (IGBC, 1994). Research conducted on four female bears within the Selkirk ecosystem showed a selection for core over non-core habitat by three of the four bears and a significant selection for core habitat by two of the female bears (Wakkinen and Kasworm, 1996).

Grizzly bear core habitat is identified as areas greater than 500 meters or .3 miles from any road or trail which received motorized use during the non-denning period. Also, areas within .125 mile of trails which are considered as 'high use' are not considered as providing grizzly bear core habitat. High use trails are defined as trail which receive a level of human use which result in displacement or avoidance by bears, or are trails which receive motorized use.

***Environmental Baseline***

The project area is located within the Kalispell-Granite Grizzly Bear Management Unit (Figure 3). The Kalispell-Granite BMU totals 85,640 acres and is one of nine designated grizzly bear management units within the Selkirk Recovery Area (USFWS, 1993). Grizzly bear habitat security within this BMU is achieved through road restrictions on 27 road systems. The management of security habitat is an important aspect of management for grizzly bears (Kasworm and Manley, 1989). Security habitat allows for sufficient space for grizzly bears to roam and allows for effective use of available habitats. By definition, security habitat is an area or space outside of or beyond the influence of high levels of human activity. Open roads, timber harvest and high-use recreational features such as trails or camps are examples of activities that are considered as causing displacement of bears and thus reduce the amount of security habitat that is available. Four of the road systems have restrictions which are only implemented seasonally. Currently within this bear management unit habitat effectiveness is maintained at 82.7 percent during the spring season (March 15 - June 30), 76.6 percent during the summer season (July 1 - September 10) and 82.6 percent during the fall season (September 11- November 15).

On the Priest Lake Ranger District, the effectiveness of closed roads in maintaining security habitat has been monitored since 1995. Closure structures such as gates or guardrail barriers are visited/inspected approximately every two weeks or more often throughout the bear year (March 15 through November 15). Monitoring has shown that while most closure structures are effective in controlling or eliminating motorized vehicle use, some received occasional unauthorized use from ATV or other recreational vehicles. This unauthorized use usually occurs only on a few closed road systems and does not occur each year. Road closure structures, gates and guardrails, are improved if monitoring indicates unauthorized use of that restricted road system.

Numerous, reliable observations of grizzly bear and grizzly bear sign have been reported within the Kalispell-Granite Grizzly Bear Management Unit since the 1970s. Between 1985 and 1987, a radio-collared male grizzly bear had a home range which overlapped with the project area. Sightings of grizzly bear have been reported annually within this GBMU, with the most recent sightings being a female with two young nine miles northeast of the area of the proposed access project in 2000.

Within the Kalispell-Granite Grizzly Bear Management Unit, 39,801 acres or 48.2 percent of the GBMU have been identified and mapped as meeting the requirements of grizzly bear core habitat as currently defined. Of this, 3,257 acres of core habitat have been created since 1995 when this grizzly bear management unit was established. In 1995, the ripping and earthen barriering of Roads 1122A, 1122B, 1122C,and 401C and, in 1997, the obliteration of Road 638C, contributed to an increase in 1,214 acres of core. In 1998, the obliteration of Road 319 and 1104, the Harvey-Granite and Cache road systems, increased core habitat by 2,043 acres.

Three other bear management units are adjacent to the Kalispell-Granite BMU (Le Clerc BMU, Sullivan-Hughes BMU and the Lakeshore BMU). The Priest evaluation area, which is located immediately to the south of the Kalispell-Granite Bear Management Unit has been identified as having year-around occupancy by grizzly bears although it is situated outside of the recovery area boundary

The LeClerc BMU is located immediately to the west of the Kalispell-Granite BMU. Overall conditions for grizzly bears within the LeClerc Bear Management Unit are impacted by the high overall total road density which results in a lower proportion of grizzly bear core habitat than the other bear management units. This is largely due to the high percentage of private industrial lands that are prevalent within the BMU. The Colville National Forest approved an access request by Stimson Lumber Company in 2002 to provide access to Stimson's lands located within the LeClerc BMU.

The Lakeshore BMU borders the eastern boundary with the Kalispell-Granite BMU and consists primarily of Management Situation 2 and 3. (IGBC, 1987). The IGBC management situation designations are used to distinguish areas where differing grizzly bear habitat and human use conditions occur and define appropriate management strategies for each.

- MS1 areas are to be managed for grizzly bear habitat maintenance, improvement, and minimization of grizzly bear-human conflict. Management decisions will favor the needs of the grizzly bear when grizzly habitat and other lands use values compete.

- In MS2 areas, the grizzly bear is an important, but not necessarily the primary, use of the area. In some cases, habitat maintenance and improvement may be important management considerations. Reducing grizzly bear-human conflict potential is a high management priority.

- In MS3 areas, grizzly bear conflict reduction is a high priority management consideration. Grizzly bear presence and factors contributing to their presence will be actively discouraged.

This Lakeshore BMU was established concurrently with the Kalispell-Granite but was designed to serve primarily as a buffer adjacent to residential and recreational developments immediately adjacent to Priest Lake. Management directions for this BMU is primarily minimization of grizzly-human conflict potential, reduction of grizzly bear mortality risk and, where feasible, maintenance of key habitat components within secure areas." (USFWS, 1994)

The Sullivan-Hughes BMU is located to the north and includes portions of the Salmo-Priest Wilderness Area and high quality habitats such as Hughes Meadow, Hughes Ridge and portion of the Trapper Peak burn which have been documented as to their importance to grizzly bears. This BMU has a higher proportion of core and security habitat than either the Kalispell-Granite or LeClerc Bear Management Units.

The Priest Evaluation Area, which is outside of the recovery area to the south of the Kalispell-Granite BMU, has numerous documented occurrences of grizzly bear. In May 2001, two sub-adult male grizzly bear were trapped within this area and relocated. Road densities are relatively high within this area, although it is believed that the area is currently occupied by grizzly bears.

***Seasonal Habitats***
Consideration of seasonal habitat for grizzly bear focuses on four distinct seasons: spring, summer, fall and denning. Spring habitat within the Kalispell-Granite BMU consists of mountain bottomlands/wetlands and dry slopes/habitats. Summer consists of both open and timbered shrubfields. Fall habitats consist of heavily timbered habitats. Riparian habitats were considered as key habitats yearlong (Volsen, 1994; Wakkinen personal communication 2002). Habitats were identified using a variety of techniques such as database queries, aerial photo interpretation and field identification (Table 1). Seasonal habitats and locations within the Kalispell-Granite BMU are displayed within the BA Appendix. Denning habitat, which is generally considered to be above 4,500 feet, is not displayed. There are no known grizzly bear den locations within the project area.

Grizzly bear habitats within the project area consist of a mosaic of closed timbered habitats, wetland meadow complexes, open timber shrubfields and rock/scree habitats. The majority of the project area is within a closed timbered condition, which resulted from a fire that swept through the area in 1926. Wetland habitats dominated by *Sphagnum spp* and *Carix spp.* are located in lowlands along Sema Creek and Tobasco Creek. These areas are considered as high quality spring season habitats for grizzly bears. Other high quality spring habitat includes open timber habitats and riparian habitats. High quality summer habitats are found throughout the Kalispell-Granite Grizzly Bear Management Unit and are primarily associated with areas where timber management activities have caused an opening of the overstory canopy and where the regeneration or the establishment of a shrub-dominated understory has occurred. During fall, grizzly bears tend to show a shift to more closed timber habitats. Fall habitats are generally more abundant and evenly distributed within the project area and the Grizzly Bear Management Unit.

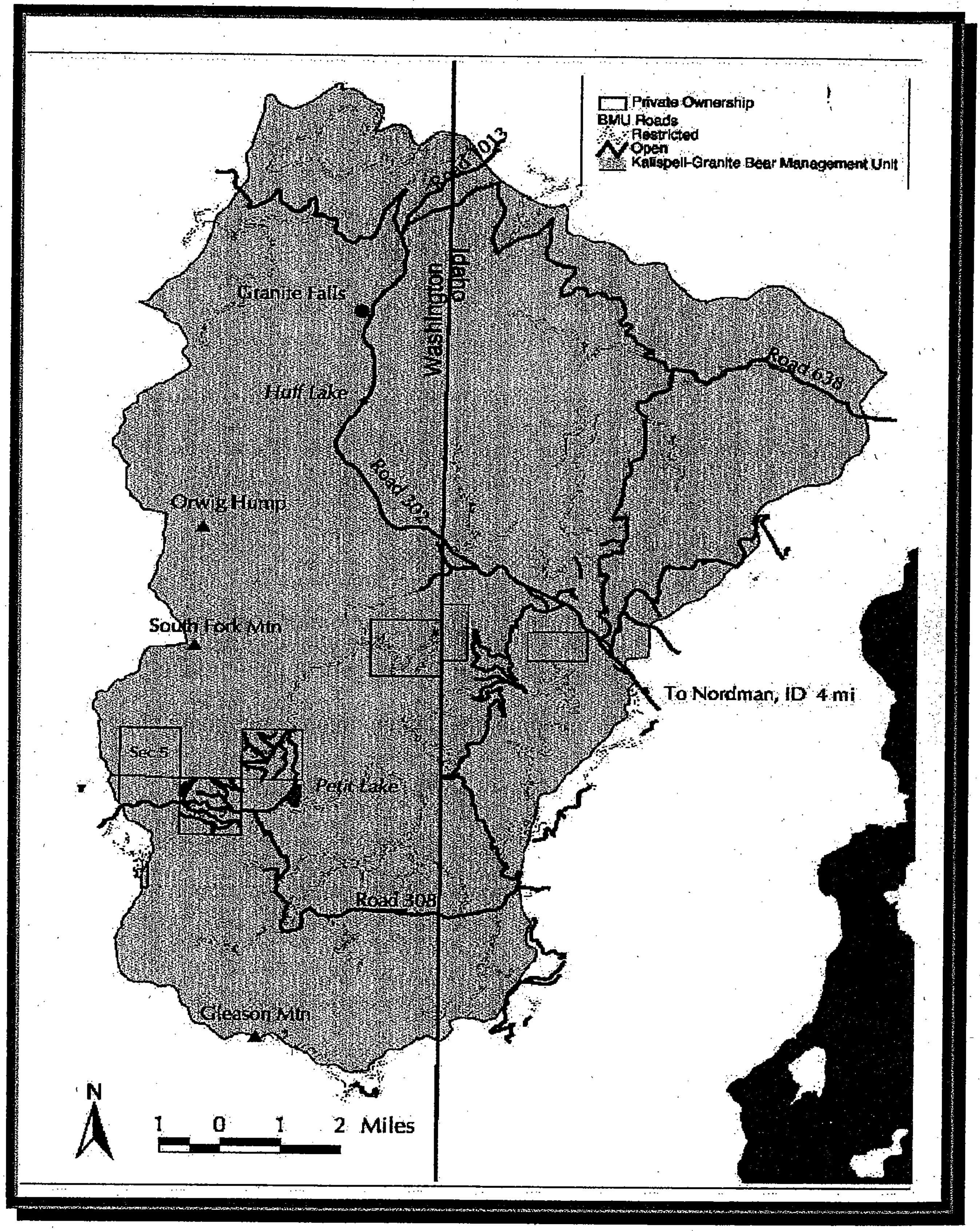



**Figure 3 Map of the Kalispell-Granite Bear Management Unit, the action area for grizzly bear.**

Table 1. Seasonal habitat within the Kalispell-Granite Bear Management Unit.

| Seasonal Habitats | Habitat Type | Acres | Percent of BMU |
|---|---|---|---|
| **Spring** | *Mountain bottomlands/wetlands* | *985* | →11% |
| | *Dry slopes and habitats* | *2,631* | |
| | *Riparian* | *5,850* | |
| | ***Total*** | ***9,466*** | |
| | | | |
| **Summer** | *Open shrubfields* | *8,785* | →19% |
| | *Timbered shrubfields* | *2,025* | |
| | *Riparian* | *5,850* | |
| | ***Total*** | ***16,660*** | |
| | | | |
| **Fall** | *Closed forested* | *66,620* | →84% |
| | *Riparian* | *5,850* | |
| | ***Total*** | ***72,470*** | |

***Analysis of Effects and Determination of Effects***

**Analysis Process**

The analysis of impacts to grizzly bears focuses of changes to habitat quality and road densities. Security habitat is determined based on habitat, that is outside the influence of open roads, high use recreational sites and management activities such as timber sales. Roads which are managed for restricted access such as roads which are gated or closed via guardrail barrier are not considered as detracting from grizzly bear security habitat. The influence zone of open roads on surrounding habitat is considered as .25 miles. The distance of .25 miles buffer or influence zone is adapted from similar processes for other species. Grizzly bear core habitat is considered as habitat that is outside of the influence of both open and restricted roads. The influence zone used to determine core habitat is .3 miles or 500 meters, which is based on research conducted within the Selkirk and Cabinet-Yaak grizzly bear ecosystems by Wakkinen and Kassworm (1996).

Open Motorized Road Density (OMRD) and Total Road Density (TMRD) are calculations made with the moving windows technique that includes open roads, restricted roads, other roads not meeting restricted or obliterated criteria, and open motorized (ibid, USDA, Forest Service: March 2002 p. 2-4). The percentage of the Bear Management Unit in relevant road density classes is calculated using a computerized Geographic Information System (GIS).

The basis for the determination of cumulative effects on grizzly bear is the Grizzly Bear Management Unit. For the analyses of the effects of the Stimson Lumber Company access request, the cumulative effects area used for grizzly bear is the Kalispell-Granite Grizzly Bear

Management Unit. The rationale for cumulative effects analysis for grizzly bears follows the guidance outlined in the IPNF Forest Plan, Appendix U (1987) and the grizzly bear recovery plan

The direction for grizzly bear habitat management is based on providing a minimum of 70 square miles of security habitat or other established threshold within each Grizzly Bear Management Unit. The 70 square mile management criteria was developed from information outlined within the Cumulative Effects Analysis process developed by Christensen and Madel (1982). This process was adopted by the Idaho Panhandle National Forests during development of the Forest Plan (IPNF. Appendix U, 1987). These researchers estimated that approximately 100 square mile represents a viable home range which spatially meets the needs of a resident female grizzly bear. However, grizzly bear home ranges overlap, and individual bears can displace each other, at least temporally, from portions of their home ranges. Christensen and Madel indicated that bears displaced from segments of their home ranges can adapt if remaining portions of the home ranges provide the necessary habitat components. However, if additional portions of these home ranges are affected by high levels of human activity, the viability of the home ranges could be compromised. Therefore, Christenson and Madel also estimated a lower limit of secure habitat deemed necessary to provide a minimum viable home range: this lower limit was estimated at 70 square miles (approximately 70 percent of the home range), which should remain free of high levels of human activity.

The process is based on data on the mean home range of 13 adult female grizzly bears, older than 5 years of age. The average home range was determined to be approximately 100 square miles in size. The Grizzly Bear Management Unit was determined to represent a viable home range that would spatially meet the needs of a resident female grizzly bear. The identification of a suitable smaller area within the bear unit that would minimally meet the spatial and other needs of an adult female grizzly bear would define the lower limit of a viable home range. This lower limit was established at 70 square miles based on: 70 square miles matched the average home range size for six adult females in the North Fork Flathead drainage and also on professional judgment. The average home range for adult females in the Northern Continental Divide Ecosystem was 72 square miles. Minimum security habitat standards for the Kalispell-Granite Grizzly Bear Management Unit were established at 70 percent of the GBMU (USFS., 1995). Grizzly Bear Management Units are fixed in order to provide consistency in management of habitat over time as well as long term tracking of conditions.

In 1998, the Selkirk/Cabinet-Yaak subcommittee, at the request of the Interagency Grizzly Bear Committee, developed an interim access management strategy to address impacts related to motorized access, until Forest Plans are revised. This strategy includes achieving specified levels of security (habitat effectiveness) and core habitat, depending upon priorities of Bear Management Units (BMUs). The management goals for grizzly bear which apply include:

- A minimum of 70 percent security habitat would be maintained within the Kalispell-Granite Grizzly Bear Management Unit (USFS, 1995).

- There would be no net loss in core habitat for grizzly bears. Core habitat is defined as an area of high quality habitat that contains no motorized travel routes or high use trails. (IGBC Interim Access Management Rule Set, 1998).

- Total road densities of 2 mi/mi$^2$ would not exceed more than 26 percent of the grizzly bear management unit. Within the Kalispell-Granite BMU, activities will strive to reduce total road densities. Total road densities include all open roads and restricted access roads. (IGBC Interim Access Management Rule Set, 1998; Holt, personal communication, 2001)

- There would be no net loss in core habitat for grizzly bears. Core habitat is defined as an area of high quality habitat that contains no motorized travel routes or high use trails (IGBC Interim Access Management Rule Set, 1998). Core areas do not include any gated or restricted roads (USDA, Forest Service; November 2001; FEIS for Access Management within the Selkirk and Cabinet/Yaak Grizzly Bear Recovery Zone; p. 2-4).

***Direct and Indirect Effects***
The proposed action has the potential to displace grizzly bears. If displacement were to occur, grizzly bears would likely be displaced into areas of secure habitat, such as that being provided within the Kalispell-Granite Bear Management Unit. Subadult bears, which have been recently separated from the maternal female, have displacement patterns which are highly variable and may range over many Bear Management Units.

This action would result in the construction of 4000 feet (0.75 mile) of road on Federal land. This amount of road in itself would affect no measurable change in the percentages of open road and total road density because of its limited length. No high quality spring or summer habitats for grizzly bears would be impacted by road construction on National Forest lands.

Road density would change slightly, but would be mitigated by restricting access on the new road. Habitat loss of six acres from road construction and right-of-way clearance would reduce the amount of cover for bears, but the amount of habitat reduction is negligible. The reduction would be partially mitigated by revegetation along the roadsides and by the human use restrictions that would be imposed after the road is constructed.

During construction and eventual use of the road on National Forest lands, security habitat for grizzly bears would be reduced by 139 acres. This reduction in security habitat would be mitigated by restricting access on the new road system both during and after construction. The newly constructed road would be closed to all non-authorized motorized vehicles to provide for grizzly bear security. The existing closure on Stimson lands in Section 9 also would be maintained. Core habitat for grizzly bear would also be reduced by 151 acres as a result of activities on National Forest lands.

If a bear is discovered during use of the easement, the sighting would be reported as soon as possible, consultation with the U.S. Fish and Wildlife Service would occur and operations would be suspended, if necessary. This consultation would determine if any site-specific measures would be needed to protect the animal.

***Cumulative Effects***
This existing condition for security habitat is the percentage of the BMU that presently lies outside areas of high human activity such as all open roads, timber harvest areas, and high-use recreational features. The existing condition for core habitat is the percentage of the BMU that presently lies outside areas of high human activity such as all open and restricted roads, and high-use recreational features Both past and present activities affecting habitat security and core are

included in this calculation. High use recreational areas include the dispersed recreational sites such as Petit Lake, Stagger Inn and the Roosevelt Grove of Ancient Cedars, and Huff Lake Interpretive Site. Security and core habitat reductions also occur from the operation of the Indian Mountain Lookout.

Several ongoing projects on National Forest lands that would not affect security or core habitat also were considered. These include the following:

- *Post-harvest activities associated with the Dusty Peak Timber Sale.* Timber harvest activities were completed in 2003. Post-sale activities such as planting, prescribed burning, and road obliteration would occur over the next 2-3 years. Currently, Dusty Peak Timber Sale area is not considered as core habitat. Following the post-sale activities, core habitat would be established through road obliterations.

- *Special use permit for outfitting and guide services.* This permit, which covers the entire BMU, includes short-term activities that do not result in a reduction in grizzly bear security or core habitat.

- *Maintenance of open roads and high-use recreational trails.* These annual maintenance activities lie within corridors for which security and core habitat deductions already have been included.

- *Maintenance of fire trails.* These maintenance activities would occur within established administrative use guidelines.

- *Noxious weed treatments.* These activities primarily would occur adjacent to open roads. Where treatments occur on restricted roads or other areas, administrative use guidelines apply.

Reasonably foreseeable future actions within the Kalispell-Granite Grizzly Bear Management Unit include: road maintenance associated with open roads, trail maintenance on recreational and fire trails, the Kalispell Ecosystem Project, the Granite-Reeder Fuels Reduction project, the obliteration of Roads 1323 and 1323a in the Blacktail Creek drainage, road obliterations associated with the Dusty Peak Timber Sale and activities associated with the management of private industrial lands within the GBMU.

- *Kalispell Ecosystem Project.* This project would be located in the Kalispell Creek portion of the BMU. The vegetation portion of this project would focus on salvaging the dying trees and planting/rehabilitating the affected stands. There is high mortality in the white pine and ponderosa pine plantations that were established in the 1930s and 1940s. Other potential projects include road relocation and obliteration, burning of dry-site ecosystems, recreation improvements, and noxious weed control.

- *Granite-Reeder Fuels Reduction Project.* Portions of the Indian Creek and Reeder Creek drainages on the eastern edge of the BMU are included in the tentative project area boundary. This project was identified as a National Fire Plan fuel reduction project.

- *Obliteration of Roads 1323 and 1323a.* This road obliteration project was identified within the Dusty Peak Environmental Assessment (USDA Forest Service. 1997) as an opportunity for resource improvement. Because this project was situated outside the timber sale area boundary, is not being implemented as part of the Dusty Peak Timber Sale. This project is scheduled to be completed when funding becomes available.

Included in the deductions for security and core habitat are ongoing activities on private lands within the BMU:

- *Stimson Lumber Company lands in Sections 3 and 9, T36N, R45E, W.M.* Activities associated with these private industrial lands currently result in a 1.26 percent reduction in security habitat in the Kalispell-Granite BMU. These sections currently do not meet core habitat requirements. Because of continued management activities in these sections, core habitat would not be assumed to occur in the future. The roads accessing these sections are closed by gates to restrict public motorized access. Only administrative traffic is allowed. At the road entrance, signs outlining the yearlong road restrictions prohibiting public motorized use would be posted.

- *Management activities on private industrial lands in Sections 3 and 9, T36N, R45E, W.M. of the BMU.* Additional timber harvest would occur in both sections. In 2002-2003, Stimson planned to harvest an estimated 300 acres of Section 3. The harvest would include 226 acres of regeneration units and 36 acres of selective cutting. The remaining 38 acres are located in Riparian Management Zones (RMZs) in which an estimated 25 percent of the basal area (i.e. density) of the stand will be removed. In Section 9, 61 acres will be harvested as regeneration units in 2003. Future harvest also is scheduled for 46 acres of overstory removal and 37 acres of regeneration cuts. The harvest date for these acres has not been determined, and will depend on market conditions and other factors. Though no date has been specified, this harvest is considered as a reasonably foreseeable action in the analysis and may occur within the next 5 years. Because there already is a deduction for activities occurring in Sections 3 and 9, no additional loss of security or core habitat would occur. Moreover, no additional roads would be built and the existing closures to public motorized use would be maintained. No increase would occur to open or total motorized road densities. These harvest and related activities were identified as Reasonably Foreseeable Actions for future analyses when the Kalispell-Granite BMU was originally established in 1995 (USDA, Forest Service, Priest Lake Ranger District, Kalispell-Granite Grizzly Bear Access Management Environmental Assessment; p. 1-4).

- *Management activities on private industrial lands in Section 7, T36N, R45E, W.M.* Stimson Lumber Company also has scheduled timber harvest to occur on 30 acres located in the northeastern corner of Section 7. Selective harvest is prescribed on 25 acres in 2003. No date has been specified for the remaining 5 acres of selective harvest, but probably will occur within the next 5 years. Roads accessing this portion of Section 7 are to be constructed in 2002. The road will be barricaded for grizzly bear security at its junction with Road 308. At the road entrance, signs outlining the yearlong road restrictions prohibiting public motorized use would be posted. No loss of security or core habitat would occur in the 8 acres of Section 7 that lies within the influence zone of Road 308, but this future action would reduce core and security habitat on the remaining acres. Though there would be a small loss of acres in security habitat and core habitat, the percentages would not change from the existing condition. The new roads are included in the calculations for Open Motorized Road Density (OMRD) and Total Motorized Road Density but did not result in a change in the percentages.

- In addition to the private lands discussed above, *private industrial lands exist in Sections 31 and 33, T62N, R5W, B.M. and Section 25, T37N, R45E, W.M.* Sections 31 and 33 and the majority of Section 25 were clearcut harvested in the past. A possibility of management activities or timber harvest in Section 25 may occur in the future. Because the section is completely roaded, no additional new road construction would occur. Existing closures would be maintained to restrict public use during periods of operations. There would be a reduction in habitat security if activities would occur. If these activities would occur, activities on National Forest lands in the public use during periods of operations. There would be a reduction in habitat security if activities would occur. If these activities would occur, activities on National Forest lands in the BMU would be adjusted to ensure that 70 percent habitat security be maintained during the period of operations.

The cumulative effects to security and core habitat for grizzly bears are based on effects of past, present, and reasonably foreseeable future activities that impose impacts on security and core habitat. Currently, security habitat of the BMU is at 82.7 percent during the spring season of March 15-June 30, 76.6 percent during the summer season (July 1 – September 10, and 82.6 percent during the fall (September 11 – November 15). The minimum standard for security habitat within the Kalispell-Granite BMU is 70 percent. The proposed road access and associated activities within Section 5, Township 36 North, Range 45 East, would result in an additional .8 percent reduction in security habitat within the Grizzly Bear Management Unit. Road construction and use of roads associated with the access request would result in security habitat changing to 81.9 percent during the spring season, 75.8 percent in the summer and 81.8 percent in the fall. Thus, minimum criteria for security habitat are maintained even considering potential cumulative effects.

Cumulative impacts from activities adjacent to Kalispell-Granite BMU – As outlined above the BMU provides an appropriate scale at which to consider cumulative impacts to grizzly bears because it approximates the home range of a female grizzly bear. By using fixed boundaries for analysis of impacts to bears, more consistent management of habitat attributes that affect bears occurs We also are better able to track potential impacts to these habitat attributes than if some variable analysis area concept was employed. In litigation regarding the Colville National Forest decision to grant Stimson access to lands within the LeClerc BMU, the issue of cumulative impacts with the present proposed action was raised. Although there is a sound biological basis for using the individual BMU as the analysis area for cumulative effects we address in the potential effects from these adjacent activities in more detail.

Because the potential activities within the Kalispell-Granite BMU related to Stimson's access are minimal the most likely potential effect would be that bears would be displaced from LeClerc to the Kalispell Granite BMU as a result of activities within LeClerc. During Stimson's activities the Kalispell-Granite BMU would continue to provide adequate habitat attributes to support bears that may be in the area. While there is potential for bears to be displaced out of the area where activities are occurring related to Stimson's access request within the Kalispell-Granite BMU it is not likely that those bears would be displaced from of the BMU into adjacent areas since the Kalispell-Granite BMU would continue to provide adequate habitat conditions to support bears continued use. The most likely scenario would be that any bears would be displaced, to other areas of the Kalispell-Granite BMU less affected by human activities. It is unlikely, therefore that there would be any significant potential cumulative effect of the Stimson access proposal even considering activities occurring outside the Kalispell-Granite BMU.

Table 2 Impacts of the proposed action on habitat parameters for grizzly bear.

| | Pre-Existing Condition | Harvey-Granite Road Obliteration | Proposed Action (Includes Stimson activities in Section 5) | Road 1323 and 1323a Obliteration | Total change from Pre-existing condition |
|---|---|---|---|---|---|
| Core Habitat Change | | +2,043 acres | -772acres | +622 acres | +1,893acres |
| Core Habitat | 45.9 | 48.2% | 47.3% | 48.1% | +2.2% |
| Open Road Density | 31.4% | 31.4% | 31.4% | 31.4% | 0% |
| Total Road Density | 29.8% | 28.8% | 29.7% | 28.9% | .9 |

Road obliteration of Roads 319 and 1104, the Harvey-Granite and Cache Creek Road systems, in August 1998, increased core habitat by 2,043 acres or 2.3 percent within the Kalispell-Granite GBMU. The road obliteration and core increase were implemented to offset imminent core losses anticipated with the current access request (Biological Assessment, Harvey-Granite Cache Creek Road Storage, 1988). The obliteration increased core habitat within the BMU from 44.1 percent to the current 48.2 percent. Management activities associated with the proposed action would reduce core habitat for grizzly bears by .9 percent of the total Bear Management Unit. Core habitat within the Bear Management Unit would be reduced cumulatively from 48.2 percent to 47.3 percent as shown in Table 2. The obliteration of Roads 1323 and 1323a will increase core habitat by 622 acres or .8 percent within the BMU. Considering the effects of these actions, core habitat will be increased to 48.1 percent from the pre-existing condition of 45.9 percent. Figure 4 shows core habitat within implementation of the Stimson Access proposal.

Open road density will not increase as a result of the proposed activities in the Stimson Access Project. As discussed under direct and indirect effects, the road will have restricted access.

The obliteration of the Harvey-Granite and Cache Creek road systems reduced total road density from 29.8 percent to 28.8 percent within the Kalispell-Granite BMU. Implementation of the Stimson Access request would increase total road density to 29.7 percent as shown in Table 2. The obliteration of Roads 1323 and 1323a would reduce total road densities to 28.9 percent of the BMU Maps showing total road densities are included in the BA Appendix.

Seasonal Habitat within both the Harvey-Granite/Cache Creek area where core habitat was gained and the Stimson Access area where core habitat would be lost is displayed in Table 3. Overall, a slight increase in spring habitat will be achieved because riparian habitat is considered as an important spring component. Summer habitat within core areas would also be increased, as no habitat classified as summer is available within the Stimson Access area other than riparian areas. (Figure 5).

**Table 3. Seasonal habitat gains and losses associated with the proposed action.**

| Seasonal habitat | Habitat type | Harvey-Granite/Cache Creek Core Habitat Increase | Stimson Access Core Reduction |
|---|---|---|---|
| | | *Acres* | *Acres* |
| **Spring Habitat** | *Mountain bottomlands/Wetlands* | *15* | *37* |
| | *Dry slopes and habitats* | *0* | *4* |
| | *Riparian* | *208* | *122* |
| | ***Total*** | ***223*** | ***163*** |
| | | | |
| **Summer Habitat** | *Open Shrubfields* | *41* | *0* |
| | *Timbered shrubfields* | *62* | *0* |
| | *Riparian* | *208* | 122 |
| | ***Total*** | ***311*** | **122** |
| | | | |
| **Fall Habitat** | *Closed Forested* | *1902* | *743* |
| | *Riparian* | *208* | *122* |
| | ***Total*** | ***2110*** | ***865*** |

**Determination of Effects**

The activity **may affect** grizzly bears; however, core habitat created through obliteration of the Harvey-Granite and Cache Creek road systems and the 1323 and 1323a Roads 'offset' the anticipated core habitat reductions associated with Stimson's planned activities. The obliterations provided a net increase in core habitat so that the established standard of no net loss would be met. The Stimson access proposal and associated road obliterations provide a net decrease in total road density from 29.8 to 28.9 percent, and increase in core habitat from 45.9 to 48.1 percent. Open road density would remain unchanged. Therefore, planned activities are ***not likely to adversely affect*** grizzly bear or grizzly bear habitat.

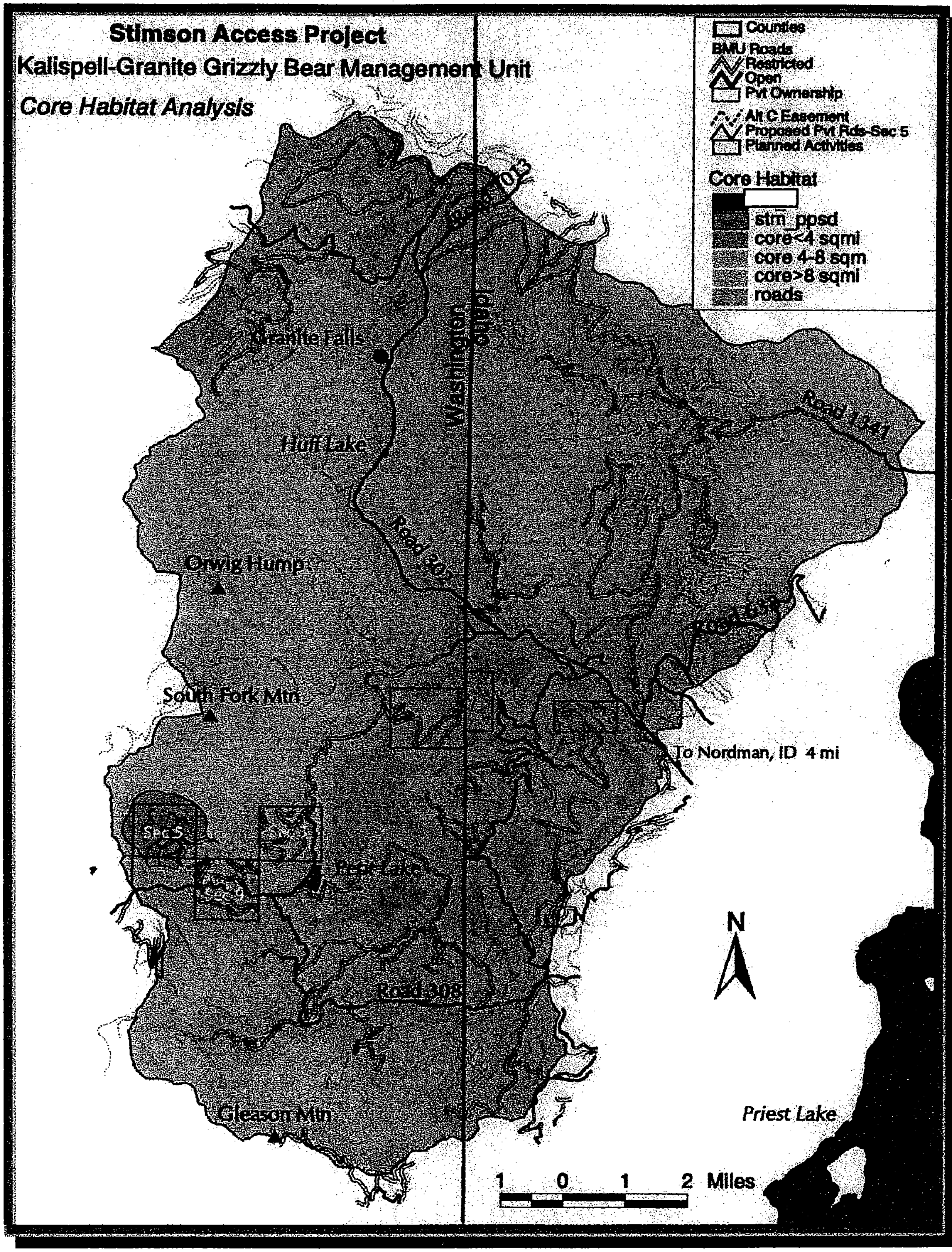



**Figure 4. Map showing core habitat within the Kalispell-Granite Grizzly Bear Management Unit, with implementation of the Stimson access proposal.**

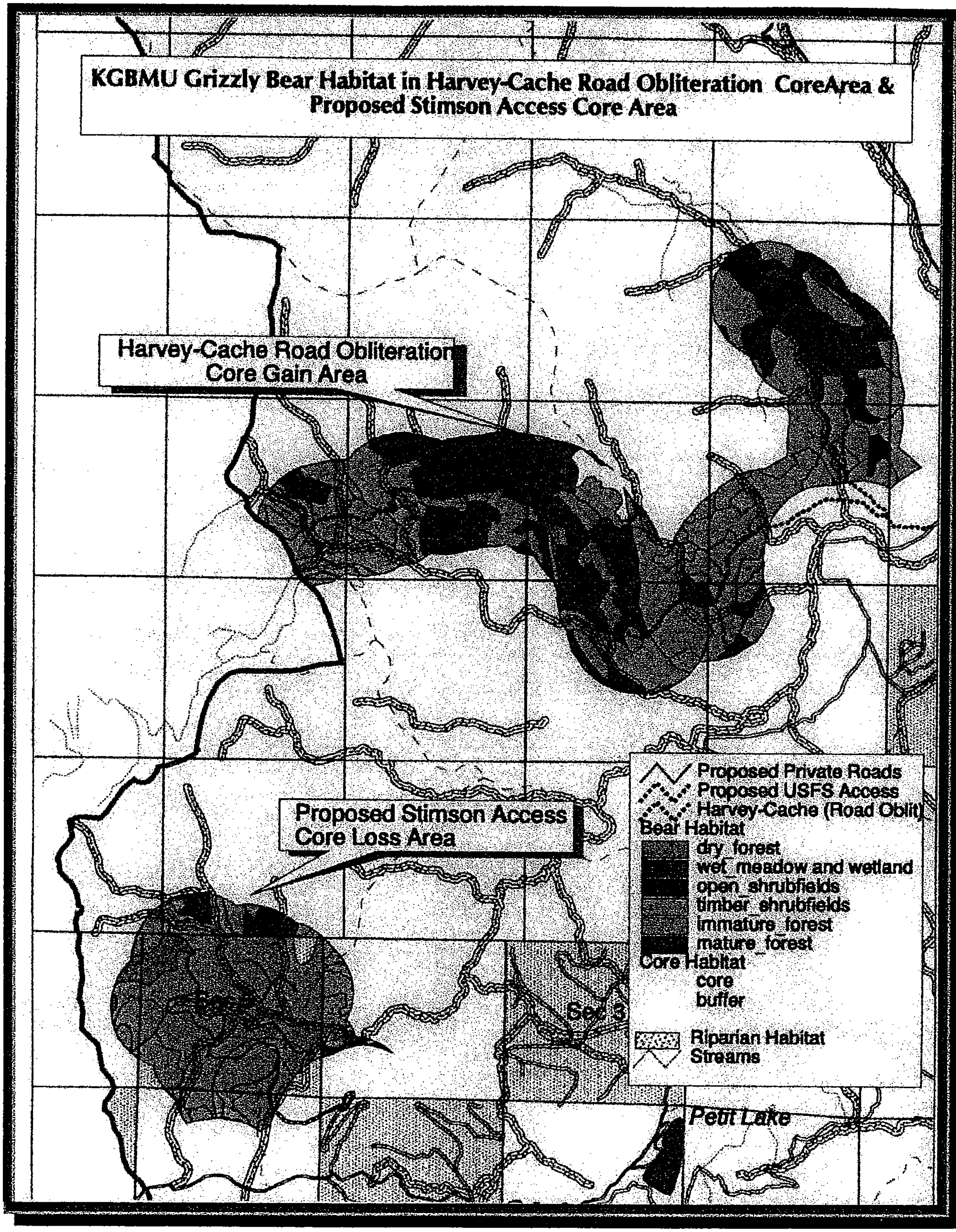



**Figure 5. Seasonal grizzly bear habitats within the Harvey-Granite road obliteration and Stimson access areas.**

**Gray Wolf, Canis lupus**

Currently the gray wolf is listed federally as an endangered species north of Interstate 90 and as an experimental population south of Interstate 90. This species is known to occur within the Priest Lake drainage and is assumed to occur occasionally within the proposed project area. Because of repeated observations of wolves within the Priest Lake drainage, the drainage is presumed as occupied wolf habitat.

Gray wolves were much more abundant historically than they are today. H.C. Lindsley recorded in his journal in 1889 that he trapped and hunted in the Pend Oreille drainage west of the assessment area, harvesting 40 wolves. His one-year take was greater than the entire current wolf population in this area. Anecdotal information found in some early journals such as "North of the Narrows" relate that a popular sporting activity during the winter months in the 1920s was to sit on the shore of Priest Lake and shoot wolves as they chased wintering deer out onto the ice.

Approximately 46 observations of wolves have been documented within the district in the last decade. The majority of the reports are direct observations, while some consist of only tracks or scat or vocalizations. Five of these observations documented two or more animals traveling together. Of the 44 observations of wolf or wolf sign, 31 reports are considered highly probable, nine reports with moderate probability and three reports with low probability. Follow-up surveys were conducted on 18 of the reported observations. Not all of the wolf reports were verified in the field because of the elapsed time frame since the observation was made and the report was received or because of the weather conditions during the time when the observations were made. In February 2002, a lone female wolf from Montana was located within the Kalispell Basin, approximately 3 miles south of the project area. This animal was estimated to have spent a few days within the area before moving further west into the Pend Oreille Valley.

Reported sightings and evidence of gray wolves within the Priest River drainage and surrounding areas have been increasing annually. Direct observations and observation of wolf sign have been observed within and adjacent to the project area routinely since 1991. Four observations considered as possible were reported 9 miles southwest of the project area between October and November 1996. A sighting considered as possible was reported July 1997, four miles northeast of the project area. On August 1998, probable wolf sign (scat) was located at T36N, R45E, Section 9, one mile south of the project area.

Jay Mallonee conducted surveys specifically designed to detect the presence of wolves in July 1999. This survey was successful in detecting the presence of wolves within the Priest Lake drainage by the identification of scat and tracks. Wolf tracks and scat were also detected incidentally during implementation of lynx 'hair snagging' surveys within the northern portion of the Kalispell Creek and the southern portion of the Sema Creek drainage in the summer of 1999. Scat, which was believed to be wolf, was located five miles north of the project area on July 29, 1999, by Tim Layser and July 30, 1999, by Tim Kaminsky. Tracks were observed on July 29, 1999, by Rene Guaderrama, Wildlife Technician at Priest Lake Ranger District.

Wolf mortality associated with human/wolf interactions is considered one of the primary limiting factors in the recovery of wolf populations (USDI, 1987. Fish and Wildlife Service, p.9). The risk of mortality for wolves is strongly correlated with increasing levels of human access (Frederick, 1991, p. 36). Misidentifications of wolves by coyote hunters, deliberate killing and non-target mortality associated with coyote eradication efforts all are known to contribute to mortality of wolves, and are associated with increased levels of human access into areas which are occupied by wolves.

Currently, the evidence over the last ten years indicates only single animals and occasionally groups of animals traveling through the area and possible single animals residing within the area. The evidence does not yet imply pack establishment within the drainage. No known mortality has occurred in the recent past within National Forest System lands. However, within the last ten years, two known mortalities have occurred to the south and southwest of the project area. One of the known mortalities occurred in February 1995, and resulted from efforts to reduce what was believed to be coyote depredation on livestock. An adult male wolf was taken via lethal trapping by the USDA Animal Damage Control Program. This animal was known to be traveling with another animal, which was believed to be a female. Another lone wolf was found dead approximately 15 miles northwest of Newport, Washington, in the fall of 1994. The cause of death of this animal is unknown but is suspected to be human-caused. This animal was a radio-collared female from the Ninemile pack in Montana.

Habitat for wolves within the project area is considered high quality as a result of the diversity and abundance of prey species (Hansen, 1986). Portions of the project area are utilized as winter range by moose, *Alces alces*, and mule deer, *Odocoileus hemionus*. Also, elk, *Cervus canadensis,* white-tailed deer, *Odocoileus virginianus*, and snowshoe hare, *Lepus americanus*, are also found within portions of the project area.

***Analysis and Determination of Effects***

Increased access would increase the potential for human use and thus the potential of human/wolf encounters would also increase. However, the increased public access to new roads would be restricted. Wolf use of the area is known, but because of the low density and infrequent nature of their occurrence, the probability of a wolf/human encounter would remain low. Proposed activities, either on federal lands or on private lands, would have little impact on big game populations, and therefore, the potential impact on wolf would be minor. It is anticipated that the proposed activities ***may affect*** wolf through displacement if they occur and may slightly increase mortality risk, but these effects are ***not likely to adversely affect*** wolf or wolf habitat.

**Woodland Caribou, Rangifer tarandus caribou**

The recovery area for the mountain caribou is located within the Selkirk Mountains of northern Idaho, northeastern Washington and southern British Columbia, Canada. The proposed project area is located just outside of the Selkirk Mountain Caribou Recovery Area. The population is threatened by habitat fragmentation and loss, and excessive mortality from predators and illegal human take (USDI, 1993).

The population is generally found above 3000 feet elevation in the Selkirk Mountains in Engelmann spruce/subalpine fir and western red cedar/western hemlock forest types. Caribou are highly adapted to boreal forests and do not generally occur in drier low elevation habitats. Seasonal movements can be complex in this population and normally occur as altitudinal movements between the different seasons.

Woodland caribou use mature spruce/subalpine fir habitats most of the year. In some years, during early winter they also use dense mature and old growth cedar/hemlock forests. Arboreal lichens, specifically *Bryoria spp.*, comprise a critical winter food source. This species of lichens as with many other species is generally most abundant on trees that are generally more than 100 years old, but factors such as relative humidity, wetting and drying cycles and amount of light are ultimately the controlling factors. Subalpine fir trees and snags tend to support higher densities of these lichens than other tree species. One reason is that most other conifer species in this region tend to lose their branches as they age, providing less substrate for arboreal lichens (Detrick, p. 29). Forage during spring and summer consists of succulent forbs and graminoids in subalpine meadows, and huckleberry leaves.

As part of the plan for recovery, caribou were augmented into the ecosystem from source populations in British Columbia between 1987 and the present time. By 1990, the population was increased to approximately 55 to 70 animals. The population remained somewhat stable through the early 1990s, but a decline in numbers was detected in 1996 and was believed to be the result of increased rate of predation combined with other factors. Caribou numbers vary annually, and have been regularly documented with annual winter censuses and with monitoring of radio-collared animals.

***Analysis of Effects and Determination of Effects***

The activity is located approximately 1.5 miles east of the Selkirk Mountain Caribou Recovery Area (Figure 6). Caribou use of the area immediately surrounding the proposed access area is considered as uncommon, although caribou have been documented utilizing habitats within and adjacent to the project area. Caribou use of the area within and adjacent to the project area was documented in 1988, 1996 and 1997. Direct observations were made in 1988 and 1996 and physical evidence was used to determine caribou use in 1997. Caribou habitat within the project area is not considered as high quality as a result of the overall low elevation and generally young forest age.

The proposed project area is outside of the area designated for caribou recovery, and therefore, is not deemed as essential to achieve caribou recovery within the Selkirk Mountains. No habitat identified necessary for recovery of caribou would be impacted. Caribou have a recent history of utilization of the area and may possibly on rare occasions utilize the area in the future. Therefore, there is a possibly that activities may affect caribou through displacement, and through a slight increase in the risk of mortality. Therefore, the proposed activity **may affect** caribou, but is **not likely to adversely affect** caribou.

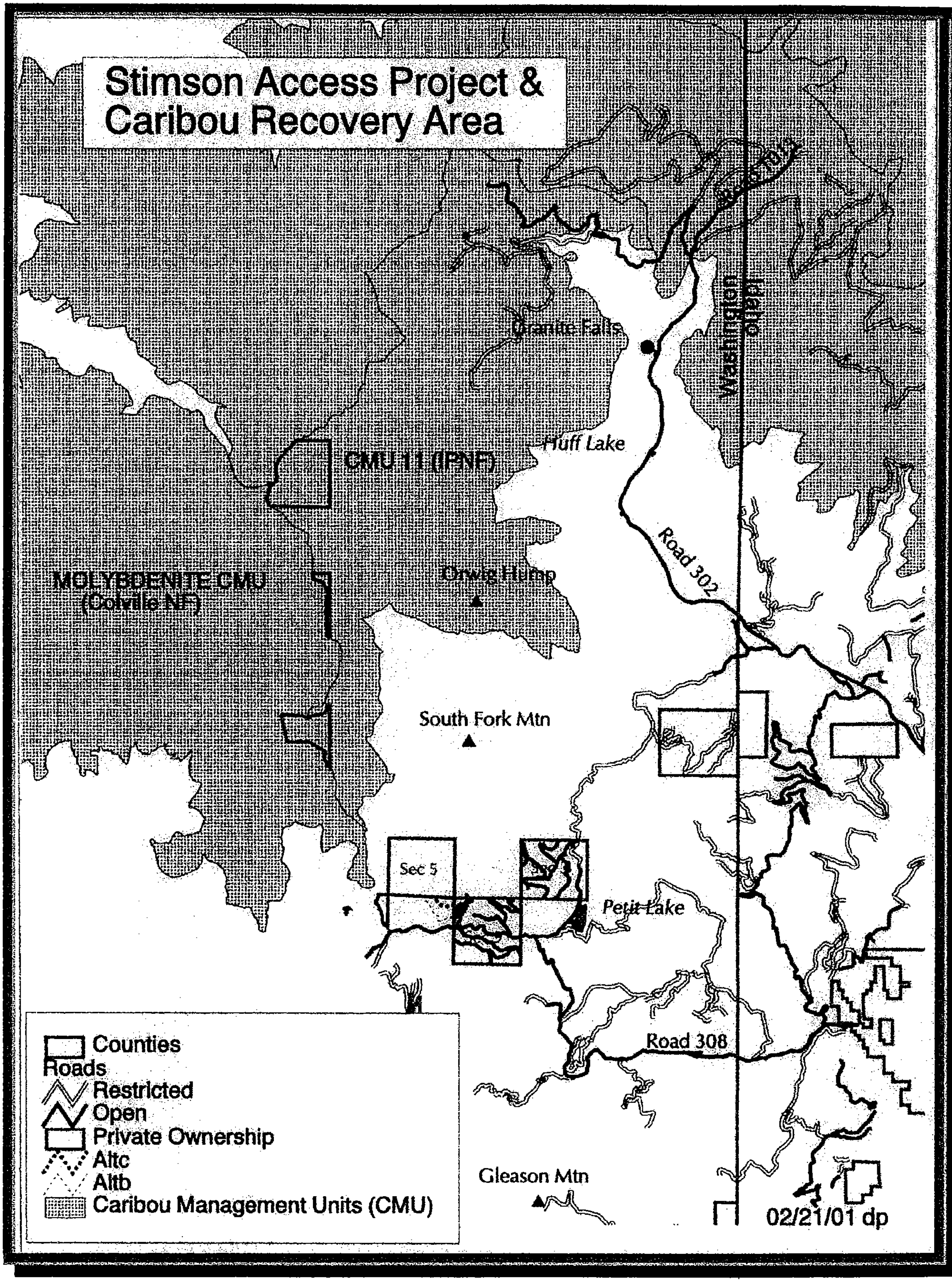



**Figure 6. Map showing caribou recovery area in relation to the Stimson access proposal.**

**Canada Lynx, *Lynx canadensis***
***Reference Condition and Habitat Requirements***
On July 8, 1998, the U.S. Fish and Wildlife Service published a proposal to list the lynx under the Endangered Species Act. On March 21, 1999, the U.S. Fish and Wildlife Service made the decision to formally list the species. The formal listing as a threatened species was published in the Federal Register on March 24, 2000.

The lynx is one of the three species of wild cats that occur in the temperate forests of North America. Lynx populations in Alaska and most of Canada are generally considered stable. Both historic and recent lynx records are scarce, which makes identifying range reductions and determining the historical distribution of stable populations in the region difficult (Koehler and Aubry in Ruggiero et al., 1994, p. 79).

Lynx occupy regions in North America of arctic or boreal influence. They are strongly associated with forested habitats within this region and are found from western Alaska to the eastern edge of Newfoundland. The northern boundary of this range coincides with the northern extension of the boreal forests. The southern boundary of lynx range is along the high elevation or boreal forested areas of the Cascades and Rocky Mountains into Washington, Idaho, Montana, Wyoming, Colorado, and Utah.

Lynx generally occur at low densities and have a home range which averages 24 square miles, depending on prey abundance. They generally occur primarily in moist, cold habitat types above 3,000 feet elevation on the Priest Lake Ranger District (Weaver, personal communication 2000). Even though lower elevations can be important in some instances, evidence suggests lynx tend to use these areas less because of competition with other predators and overheating in the summer.

Studies using radio telemetry have estimated home ranges for lynx varying in size from 29 $km^2$ for 2 females and 69 $km^2$ for 5 males. Within British Columbia researchers found much larger home ranges of 381 and 239 $km^2$for males and females, respectively. Generally, home range sizes at the southern extent of lynx range in boreal and montane forests are larger than those reported from the taiga during snowshoe hare peaks (Ruediger et al., 2000, p. 1-5.) Studies have demonstrated a correlation between prey density and lynx home range sizes in the Yukon by using radio telemetry. As the number of hares decreased within a landscape, the mean home range size for lynx increased. Denning habitat for lynx is generally associated with later successional stands where complex structure affords lynx opportunities to rear kittens in concealment. Foraging habitat for lynx is often associated with early successional habitats, which have been created either by management such as regeneration harvest or by fire. In addition, forage habitat can be associated with later successional habitats or open forested stands where the resurgence of understory growth affords quality hare habitat. Although it is noted that lynx rely heavily on snowshoe hare as a primary food source, it is believed that within portion of the project area other species may play an important role in lynx ecology such as ruffed grouse, blue grouse, red squirrel which are in abundance within portions of the analysis area in certain years.

Important risk factors that can impact lynx populations include high open road densities and alterations to foraging and denning habitat. Roads are directly correlated with human access, and consequently lynx vulnerability to trapping and shooting (especially during the winter season) (Ruediger et al., 2000, p. 2-13). Lynx habitat in the western mountains consists primarily of two structurally different forest types occurring at opposite ends of the stand age gradient (Koehler and Aubry, p. 86). Lynx require early-successional forests that contain high numbers of prey (especially snowshoe hare) for foraging and late-successional forests that contain cover for kittens (especially deadfalls) and for denning. Mid-successional stages may serve as travel cover and provide low quality forage for lynx but function primarily to provide connectivity within a forest landscape. Lynx seem to prefer to move through continuous forest, and frequently use ridges, saddles, and riparian area (Ruediger, et al., p. 7). Like most wild cats, lynx require cover for security and stalking prey; they avoid large open areas. Although lynx may cross openings less than 100 meters in width, they do not hunt in these areas (ibid p. 88).

Unsuitable habitat for lynx can be either management-created or naturally occurring. Examples include recent wildfires or regeneration–type harvests that have removed overstory cover. Management-created unsuitable areas in identified/mapped lynx habitat are characterized by early successional vegetation stages resulting from recent fires or vegetation management. In these areas, vegetation has not developed sufficiently to support snowshoe hare populations during all seasons. These areas will not become suitable habitat until the sapling-sized trees reach approximately six feet above mid-winter snow depths. Management-created openings include clearcut and seed tree harvest units and might include shelterwood and commercially-thinned stands, depending on unit sizes and remaining stand composition and structure. Naturally-occurring unsuitable areas include lakes, low-elevation ponderosa pine forests and alpine tundra. These areas do not support snowshoe hare populations and, therefore, are not considered as capable of providing lynx habitat.

Landscape connectivity is important so that all or most habitat has the potential of being occupied, and populations remain connected (Ruediger, et al., p. 88). Connectivity is provided by inherently important topographic features and vegetation communities that link fragmented forested landscapes of primary habitat together, providing for dispersal movements and interchange among individuals and subpopulations of lynx (ibid, p. 57). Landscape connectivity may take the form of narrow forested mountain ridges or plateaus connecting more extensive mountain forest habitats (ibid). Wooded riparian communities may provide travel cover across open valley floors between mountain ranges or lower elevation forests that separate high elevation spruce-fir forests (ibid). Figure 7 displays lynx travel corridors and landscape connectivity.

The project area is located entirely within the Sema Lynx Analysis Unit (LAU). District wildlife observation records indicate 11 lynx observations within or near the Sema LAU, with five of these reports having been received in the last decade. Surveys to detect absence or presence of lynx were conducted across the Priest Lake District in 1998 and 1999 using the 'hair-snare method'. In 1999, a survey benchmark included a portion of the Sema Lynx Analysis Unit. DNA analysis did not reveal the presence of lynx via this survey method.

Open and total road densities within this lynx analysis unit are relatively low which would translate to a low risk of mortality for lynx. There are 16.3 miles of open road within the Lynx Analysis Unit for an open road density of .4 mi/mi$^2$. The total mileage for all roads within the LAU, including both open and restricted access roads, is 42.1 miles, which equates to 1.1 mi/mi$^2$.

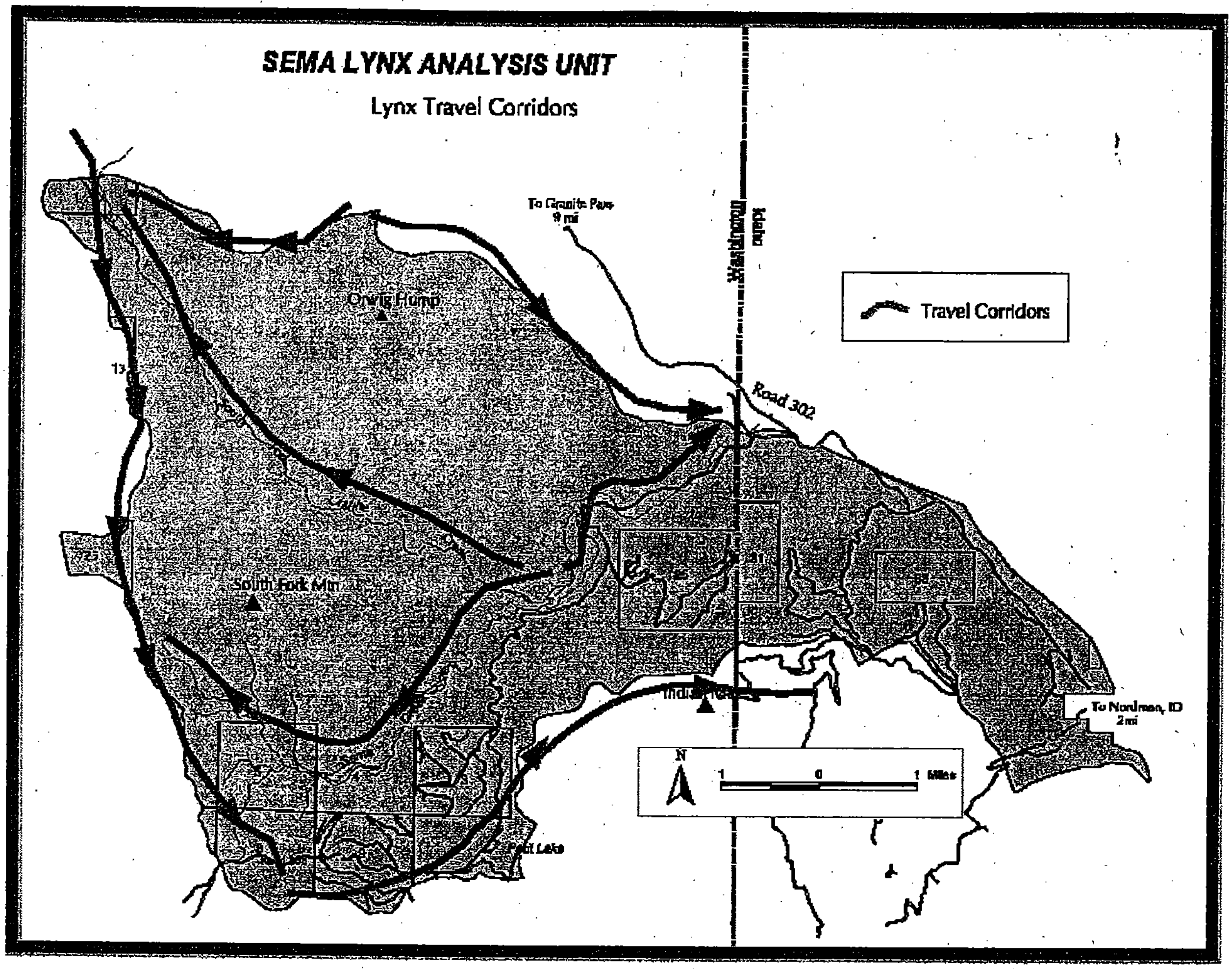



**Figure 7 map of Sema LAU, showing potential travel corridors and landscape connectivity**

## *Analysis of Effects and Determination of Effects*

### Analysis Process

The Lynx Conservation Strategy (Ruediger et al. 2000 and Conservation Agreement, USFS Agreement #00-MU-11015600-013, 2000), outlines the best science regarding the impacts of management activities on lynx and lynx habitat. This conservation strategy was developed to provide recommendations to conserve Canada lynx on federal lands within the United States (Ruediger et al., 2000). These recommendations include:

- Within lynx habitat, no more than 30 percent of lynx habitat should be within an unsuitable habitat condition at any time. Management activities should not change more than 15 percent of lynx habitat into an unsuitable condition within a 10-year period.
- Within lynx habitat, management activities should strive to maintain denning habitat on at least 10 percent of the lynx analysis unit. Denning habitat should be well distributed and in patches larger than 5 acres.
- It is recommended that federal lands be managed for no net increase in open road miles in lynx habitat and there be no net increase of regularly used or groomed over-the-snow routes and play areas on federal lands.

- Maintain vegetative structure that facilitates movement of lynx along important connectivity corridors (e.g. riparian areas, saddles, ridges).

Habitat for lynx within the project area was identified through a combination of field review of the proposed project area and through an evaluation of timber stand and habitat information. Specific stand information including habitat type, stand structure, forest cover type and overstory canopy closure was used in a computer model to measure effects (Figure 8). Direct effects would be the loss of suitable habitat or direct mortality of lynx such as hunting, trapping, vehicle encounters, etc. Indirect effects would examine the changes in suitable habitat through time. The cumulative effects area for lynx would be the Sema Lynx Analysis Unit (LAU)

Lynx Analysis Units (LAU) were delineated following recommendations outlined within the Lynx Conservation Assessment and Strategy (Ruediger et al. 2000). Lynx analysis Units do not depict actual lynx home ranges, but their scale approximates the size of area used by an individual lynx. The size of LAU's would generally be from 16,000 to 25,000 acres in contiguous habitat, and likely be larger in less contiguous, poorer quality, or naturally fragmented habitat. The LAU encompasses both lynx habitat (which may or may not be currently in a suitable condition for denning or foraging) and other areas (such as lakes, low elevation ponderosa pine forests and alpine habitats). Conservations measures (objectives, standards, and guidelines) generally apply only to lynx habitat within the LAUs.

Suitable habitat is distributed throughout much of the proposed project area. The Sema LAU is 25,147 acres in size and includes a mixture of lynx foraging, denning and currently unsuitable habitats. Foraging habitat is generally associated with either early successional or mature and old growth forests that have a relatively open overstory. Lynx denning habitat conversely is associated with mature and old growth forests with a closed canopy; these habitats are thought to be important lynx denning because of the inherently higher amount of downed wood on the forest floor. Unsuitable lynx habitats are areas such as recent wildfires or regeneration-type harvests that lack overstory cover. These areas do not become suitable habitat until the sapling-sized trees reach approximately six feet above mid-winter snow depths. Figure 8 displays existing habitat conditions within the Sema Lynx Analysis Unit.

***Direct and Indirect Effects***

The construction of 4,000 feet of road on National Forest lands would alter approximately six acres of lynx habitat. Habitat considered as low quality forage habitat for lynx would be converted to an unsuitable condition as a result of road construction and right-of-way clearing. No habitats identified as suitable for lynx denning would be impacted as a result of road construction. In addition, because design criteria established that road construction activities would not occur during the lynx denning season, no displacement of females with kittens is anticipated to occur during this critical season.

If a lynx would be reported during operations on National Forest lands within the project area, management activities would be delayed or altered, if determined necessary, so protection measures would be taken as stated in Features Common to All Action Alternatives. This clause would have a high effectiveness in protecting lynx and other TES species on National Forest lands.

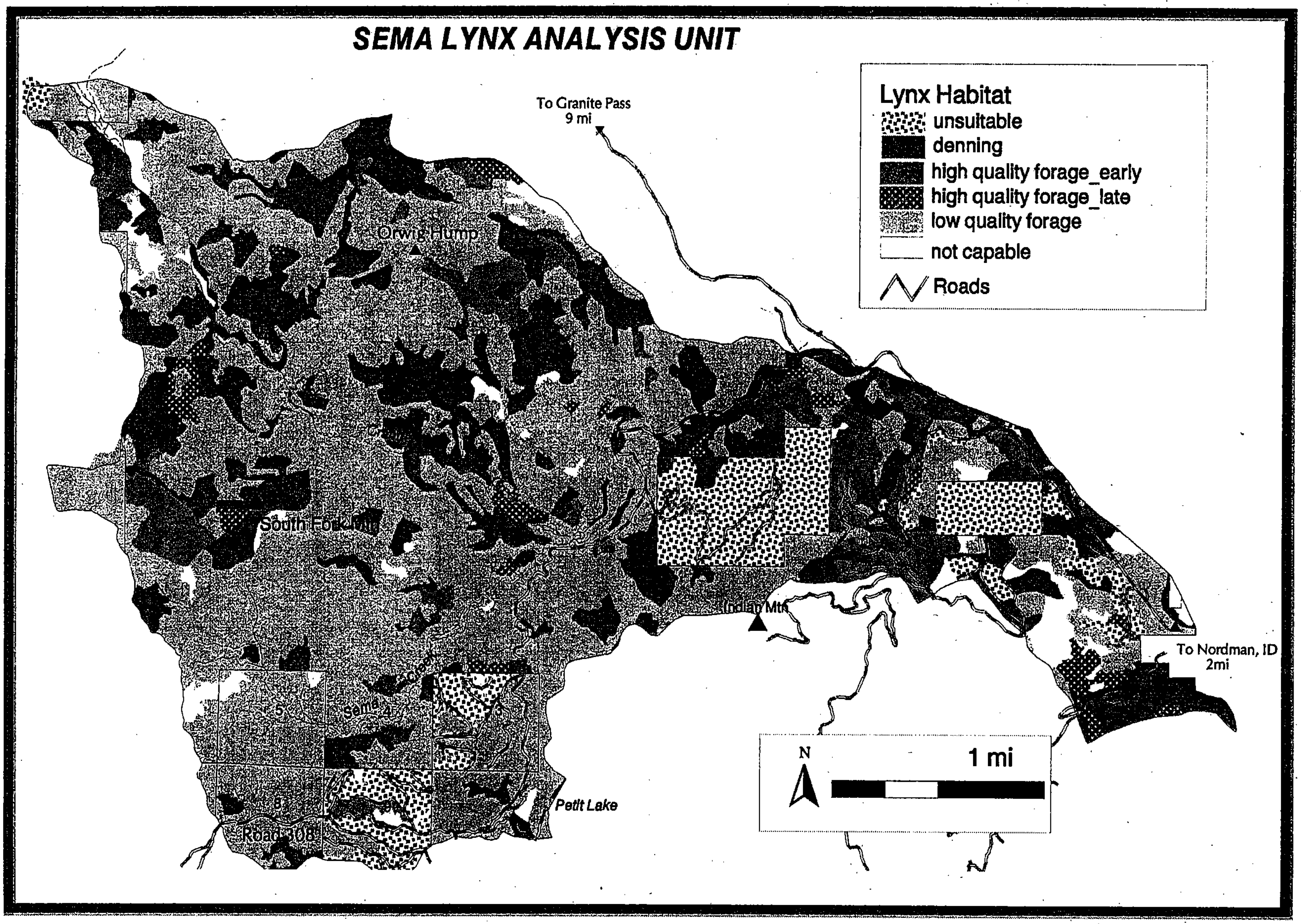



**Figure 8 Map showing the existing condition within the Sema lynx analysis unit.**

**Table 4. Summary of impacts to lynx habitat attributes within the Sema lynx analysis unit resulting from the proposed access request.**

| Habitat Parameter | Existing Condition | | Result of the Proposed Action | | |
|---|---|---|---|---|---|
| | Acres | Percent of LAU | Change in Acres NF Lands | Change in Acres PVT Lands | Resulting Percent of LAU |
| *Denning Habitat* | 3,692 | 15 | 0 | 0 | 15 |
| *High Quality Forage Habitat* | 2,860 | 11 | 0 | 0 | 11 |
| *Low Quality Forage Habitat* | 16,025 | 64 | -6 | -375 | 62 |
| *Unsuitable Habitat* | 1,244 | 5 | +6 | +375 | 7 |
| *Unsuitable Habitat created in last Decade [1]* | (689) | (3) | (+6) | (+375) | (4) |
| *Non Capable* | 1,326 | 5 | 0 | 0 | 5 |
| Total | 25,147 | | | | |

***Note [1] – subset of total unsuitable.***

***Cumulative Effects***

Past and present activities along with reasonably foreseeable future activities that would have an impact on lynx in the Sema Lynx Analysis Unit have been included in the determination of the total amount of habitat which is currently suitable either as foraging habitat, denning habitat, or as unsuitable for lynx. As shown in Table 4, high quality foraging habitat represents 11 percent of the LAU; denning habitat is 15 percent; and unsuitable habitat is 5 percent. Guidelines for denning and suitable habitat, as specified in the existing conditions for lynx, would be met. Unsuitable habitat has resulted from recent timber harvest activity in the late 1980s and early 1990s on National Forest lands in the extreme eastern portion of the LAU. No harvesting has occurred on National Forest lands in the LAU since that time. Several older harvest units on National Forest lands currently are considered as high quality forage areas because of the density of sapling and pole-sized trees.

Past actions on private industrial lands within the LAU which were considered in the cumulative effects analysis include:

- *Stimson Lumber Company lands in Section 3; T36N; R45E; W.M.* Past harvesting includes 92 acres of selective harvest and 142 acres of regeneration harvest. These units were logged in 1995-1996. All acres are considered unsuitable habitat. Section 3 contains no defined travel corridor because of the overall moderate topography within the section.

- *Section 9; T36N; R45E; W.M.* Approximately 164 acres of Section 9 were logged in 1995-1996. These treatments included 36 acres of overstory removal with the remainder being regeneration harvests. The acres of overstory removal are considered forage habitat because of the sapling and pole-sized timber. An additional 243 acres were logged in 2000-2001; these acres are considered unsuitable habitat. A predominant ridge (i.e. Kalispell-Granite Creek Divide) runs along the southern portion of the parcel. To maintain connectivity along this ridge, cover at least 300 feet in width was retained (Gilbert, p. 28).

- *Section 1; T37N; R44E; W.M.* The southern third of the section is located within the Sema LAU. Approximately 45 acres in the southwestern portion were harvested in 1986. The unit was clearcut and planted, and is a sapling-sized stand. These acres presently are considered unsuitable habitat.

- *Section 13; T37N; R44E; W.M.* The 38 acres located on extreme eastern portion of this section is included in the Sema LAU. Harvesting occurred on 9 acres in 1999. These acres are considered as low quality forage. The main north-south ridge (i.e. Priest-Pend Oreille Divide) runs through this section; this ridgeline is an important feature in maintaining landscape connectivity. Harvesting was conducted to maintain cover at least 300 feet in width to main connectivity (Gilbert, p. 29).

- *Section 25; T37N; R44E; W.M.* Only the eastern portion of this section lies within the Sema LAU. Roads were constructed, and 162 acres were selectively logged in 1996-1997. The logging in this section maintained suitable habitat, with the harvested acres being classified as low quality forage. The main Priest-Pend Oreille Divide tranverses this section. To maintain connectivity along the ridgeline, harvesting was conducted to maintain cover along the ridge over time (Gilbert, p. 29). The cover was a minimum of 300 feet in width.

- *Section 25; T37N; R45E; W.M.* This former Crown Pacific section was logged in the mid-1990s. These acres are considered unsuitable lynx habitat except for two parcels adjacent to the northern boundary, which are presently classified as denning habitat. No reasonably foreseeable actions have been identified for this parcel because of the fairly recent logging activity which covered the entire section.

- *Sections 31 and 33; T62N; R5W; B.M.* These partial sections were clearcut logged in the 1980s, and currently are unsuitable lynx habitat. No activities are planned in this section in the reasonably foreseeable future.

Winter recreation such as snowmobiling is a popular activity within this LAU. Groomed snowmobile routes are maintained on Forest Roads 302 and 1362 in the eastern portion of the LAU; these groomed routes receive heavy use from December to the end of the snowmobiling season in the spring. These routes are located over five miles from the project area. One identified 'snowmobile play area' of approximately 900 acres is located in the western portion of the lynx analysis unit (IPNF Biological Assessment, 2000). This area is located along the Priest-Pend Oreille Divide near Monumental Mountain in the vicinity of Bunchgrass Meadows, approximately two miles from Section 5, where Stimson Lumber Company has requested road access. The 'play area' is accessed by ungroomed routes on the Colville National Forest side of the Divide. Open and semi-open areas adjacent to groomed snowmobile trails often receive periodic dispersed snowmobile use. Ungroomed roads including Roads 308 and 311 receive lower levels of dispersed snowmobiling use (Figure 9). Roads on Stimson lands are gated, and closed yearlong to public motorized use, including snowmobiles; each road is posted at its entrance. A field survey by the wildlife biologist during the winter of 2000-2001 documented low to moderate use of Roads 308 and 311. No dispersed snowmobile use was noted off these roads at the time of the survey.

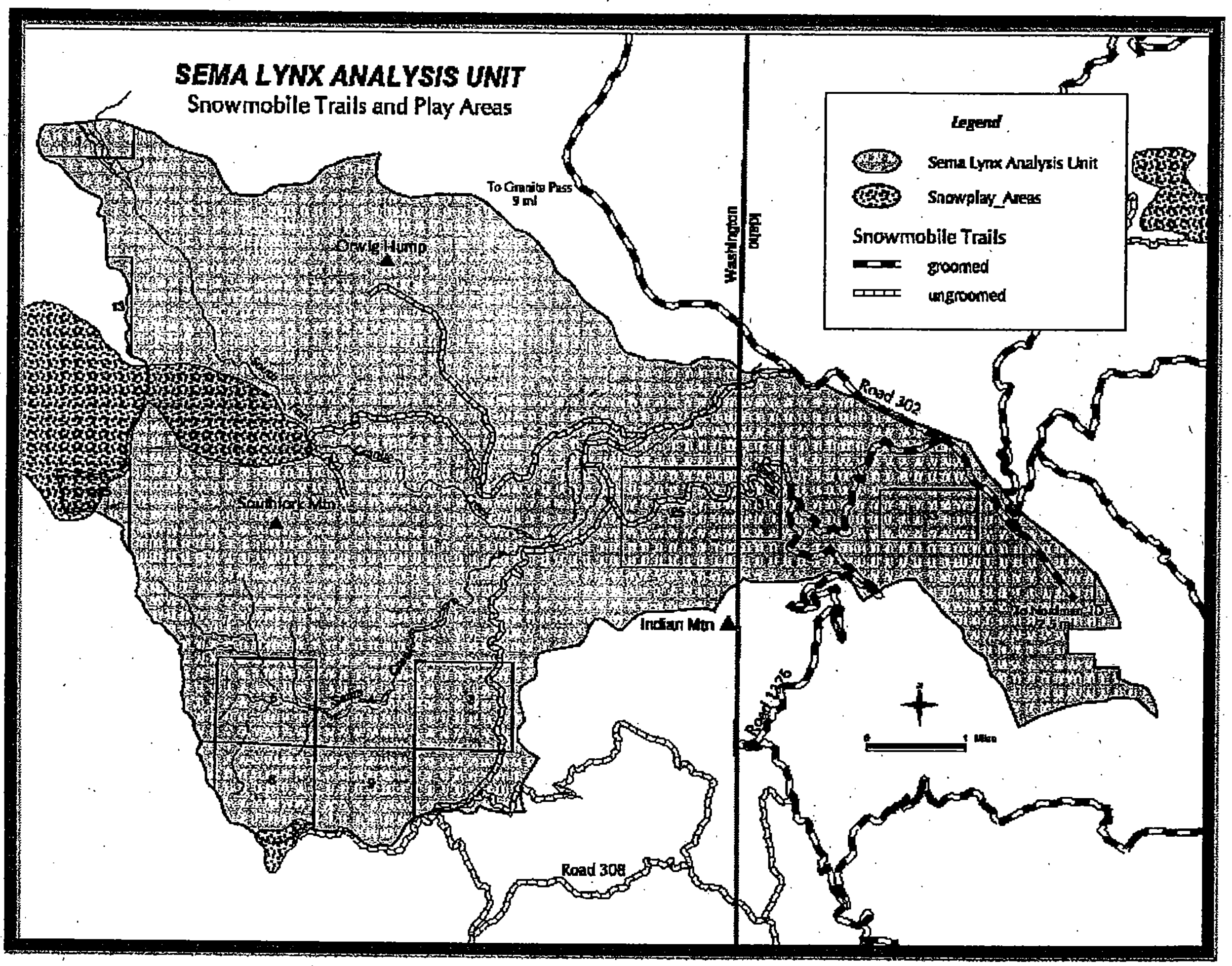



**Figure 9 Map of Sema LAU showing snowmobile trails and identified snowmobile play areas.**

It is thought that lynx may be displaced from areas where high levels of winter recreational use occur, and that these activities tend to reduce the availability of winter foraging habitat in some areas. Maintained trails for snowmobiling also provide easy access for winter trapping, which historically has been a documented source of lynx mortality and serve as travel routes for potential competitors and predators of lynx (Ruediger, et al., pp. 22-23, 8). The proposed action does not propose any increase in groomed snowmobile routes or dispersed snowmobile use.

Proposed activities within Section 5, which is managed by the Stimson Lumber Company, would impact 375 acres of currently low quality forage habitat for lynx. These acres would become unsuitable lynx habitat and would remain unsuitable for approximately 25 years or until vegetational regrowth has occurred.

The overall proportion to denning habitat within the LAU would not change. The proportion of unsuitable habitat within the LAU would be increased from 5 percent to 7 percent. This would be well within the established guidelines, both for total portion of the LAU within unsuitable habitat and for the amount of unsuitable habitat created within the last decade. The proportion of unsuitable habitat created within the last decade in the LAU would be increased from 3 percent to 4 percent as a result of the proposed action. This would be well within the established guidelines both for total portion of the LAU in unsuitable habitat and for unsuitable habitat created within the last decade. The established guideline is that management actions shall not change more than 15 percent of lynx habitat within a LAU to an unsuitable condition within a 10-year period (Ruediger, et al., p. 80).

On the unsuitable habitat which was created, after approximately 25 years, trees growing in these harvested areas may provide enough cover and browse to support populations of snowshoe hares, the primary prey for lynx. However, the suitability of this habitat for snowshoe hares and lynx could be short-lived if these areas are pre-commercially thinned.

Connectivity would be maintained on Stimson lands and across the landscape. Section 5 can be characterized as an east-facing bowl and is not located along a major ridge system. Because of the prevailing gentle topography of Section 5, lynx movement would not likely be restricted to the low ridges within the section. Stream buffers would be implemented adjacent to Sema Creek in accordance with Washington Forest Practices (WAC 222-30-022). These buffers adjacent to Sema Creek would maintain travel corridors through Section 5.

The federal and private activities, along with any other reasonably foreseeable actions, would cumulatively reduce low quality forage from 64 to 62 percent of the LAU as shown in Table 4. Currently, 16 percent of the LAU consists of denning habitat. Within a LAU, denning habitat should comprise at least 10 percent of the LAU as discussed in the Affected Environment portion of this section.

As newly created openings within the Sema LAU become reforested, they would eventually provide enough concealing cover for lynx to move through them. The Lynx Habitat Management Plan Biennial Report (Duke Engineering and Services, 1998) predicts habitat values and changes in juxtapositions, seasonal forage and denning habitat. By employing this model in timber sale planning, connectivity should be maintained on Stimson lands and across the landscape.

Habitat succession would continue within the analysis area. Other natural processes such as forest insects and disease in mature stands would in some cases increase habitat for denning as trees die and fall to the forest floor and provide complex structure for lynx to rear kittens. These processes would be most likely to occur on National Forest lands within the Sema LAU.

New road construction on National Forest and Stimson lands would be an extension of existing restricted roads. These new road segments would be closed to the public both during and after project activities. The open road density within the Sema Lynx Analysis Unit would not change.

**Reasonably foreseeable actions on National Forest lands in the LAU include:**

*Granite-Reeder Fuels Reduction Project.* A portion of the extreme eastern edge of the LAU is included within the tentative project area boundary. This project was identified as a National Fire Plan fuel reduction project. No proposed action has been developed. The locations and types of treatment are very speculative at this time. No new system *(i.e. classified)* road construction is anticipated; any needed roads would be *unclassified* temporary roads. Preliminary work on an EIS is scheduled for this summer. Planned implementation of the project would not occur until *2004 or later.* Any activities would comply with lynx management guidelines. No other timber sale is planned in the LAU.

*Special use permit for outfitting and guide services.* This permit, which covers the entire LAU, includes short-term activities that do not affect lynx habitat.

*Maintenance of open roads and trails.* These annual maintenance activities on existing developments would not affect lynx habitat.

*Noxious weed treatments.* These activities primarily would occur adjacent to open or restricted roads. No change in habitat conditions would occur.

**Reasonably foreseeable actions on private land include:**

The following reasonably foreseeable actions on private land are included in the cumulative effects analysis.

- *Planned Timber Harvest in Section 3, T36N, R45E, W.M.* Stimson plans to harvest an estimated 300 acres of Section 3 in 2002-2003. The harvest would include 226 acres of regeneration units and 36 acres of selective cutting; these acres would become unsuitable habitat. Currently these acres are considered low quality forage habitat. The remaining 38 acres would occur in Riparian Management Zones (RMZs) where 25 percent of the basal area would be removed, but would retain low quality forage habitat values. No harvest would occur in existing denning habitat.

- *Planned timber harvest in Section 7, T36N, R45E, W.M.* Stimson Lumber Company also has scheduled timber harvest to occur on 30 acres located in the northeastern corner of Section 7. Selective harvest is prescribed on 25 acres in 2003. No date has been specified for the remaining 5 acres of selective harvest, but probably would occur within the next 5 years. These acres currently are classified as low quality forage habitat, and would become unsuitable habitat following the timber harvest operations. Harvesting will be conducted to maintain cover at least 300 feet in width to maintain connectivity along the main north-south ridgeline (Gilbert, p. 28).

- *Planned Timber Harvest in Section 9, T36N, R45E, W.M. In Section 9.* 98 acres will be harvested as regeneration units in 2003. These acres all would be classified as unsuitable habitat following harvest. An additional 30 acres of partial cuts and 16 acres of overstory removal also will be logged in the future; these areas would remain as forage habitat. The harvest date for these acres has not been determined, and will depend on market conditions and other factors.

Though no date has been specified, this harvest is considered as a reasonably foreseeable action in the analysis and may occur within the next 5 years. No denning habitat would be affected.

- *Planned Timber Harvest in Section 1, T37N, R45E, W.M.* A 68-acre commercial thin/selective harvest in the southwestern portion of the section is planned for 2005. The eastern portion of the section is programmed for an overstory removal cut in the future. No date has been scheduled for the overstory removal harvest, but would probably occur within the next 5 years. A portion of these acres would become unsuitable habitat. Within the riparian management zone, approximately 20 percent of the basal area would be removed in the future though no date has been specified; these areas would remain as low quality forage habitat. No harvest activity would occur in the riparian core zone of the South Fork of Granite Creek, which has been identified as a landscape corridor. The riparian core zone is considered not-capable habitat.

- *Planned Timber Harvest in Section 13, T37N, R44E, W.M.* The 38 acres located on extreme eastern portion of this section is included in the Sema LAU. Harvesting occurred on 9 acres in 1999. These 9 acres in addition to 22 adjacent acres will be selectively logged in 2002, but would retain their value as low quality forage because of the limited tree removal. Five acres of overstory removal will occur in 2005. The main north-south ridge (i.e. Priest-Pend Oreille Divide) runs through this section; this ridgeline is an important feature in maintaining landscape connectivity. Harvesting will be conducted to maintain cover at least 300 feet in width to maintain connectivity (Gilbert, p. 29). The remaining three acres of the section are a rock outcrop lacking tree cover, and are considered as not-capable habitat.

- *Section 25; T37N; R44E; W.M.* Only the eastern portion of this section lies within the Sema LAU. In the future, 222 acres will be logged though no date has been established. It is anticipated, however, that this harvest activity will occur within the next five years. The majority of these acres were previously logged in 1996-97. The harvest would remove approximately 40 percent of the basal area on 212 acres, and 10 percent on the remaining 10 acres. No additional roads would be constructed. The logging in this section would maintain suitable habitat, with the harvested acres being classified as low quality forage. The main Priest-Pend Oreille Divide transverses this section. To maintain connectivity along the ridgeline, harvesting was conducted to maintain cover along the ridge over time (Gilbert, p. 29). The cover was a minimum of 300 feet in width.

- *Management activities on Stimson Lumber Company lands in Sections 31 and 33, T62N, R5W, B.M.* In addition to the private lands in Washington State as discussed above, Stimson Lumber Company also owns the private industrial lands in Sections 31 and 33, T62N, R5W, B.M., in Idaho. These sections were clearcut harvested in the 1980s, and currently are considered as unsuitable habitat. These areas would become suitable foraging habitat in approximately 10-15 years based on the current age and density of the trees. Precommercial thinning has the potential to occur on these parcels to maintain the vigor of the sapling-sized trees though Stimson Lumber Company has not indicated that the activity would occur within that timeframe. Precommercial thinning would maintain both sections as unsuitable lynx habitat.

- *Management activities on former Crown Pacific lands in Section 25, T37N, R45E, W.M.* Section 25 was logged in the mid-1990s as a regeneration harvest. Because of the level of removal, a majority of the section is considered as unsuitable lynx habitat except for approximately 65 acres in the northwest corner. The 65 acres were not logged as heavily, and currently meet denning habitat criteria. Patriot Investments has indicated that no management activities are planned in this section within the next 5-10 years. If logging would occur on these acres within that timeframe, the 65 acres would become unsuitable habitat until the regenerated trees provide forage habitat.

The above actions on private land were considered in the cumulative effects analysis. Other management activities such as inventory and monitoring, noxious weed control, and road maintenance also would be expected to continue on both private and federal lands. These seasonal activities such as culvert-cleaning would have minimal, if any, effect on lynx because of their short duration. No precommercial thinning is planned in these sections in the reasonably foreseeable future.

**Determination of Effects**

Because the proposed road construction on National Forest lands would impact suitable habitat for lynx, the activity **may affect** lynx, but because the reduction in the amount of suitable habitat is small or minimal and that the established thresholds and standards would be meet, I conclude that the activity is **not likely to adversely affect** lynx. Associated activities on private lands will also additionally reduce the amount of available suitable for lynx, thus the activity **may affect** lynx, but because the established thresholds and standards for the management of lynx habitat would be meet, I conclude that the activities are also **not likely to adversely affect** lynx or lynx habitat.

## VII. CONDITIONS AND RECOMMENDATIONS

**Conditions** are actions which **must be implemented** and which **are necessary** in achieving the current determination of effects. Recommendations represent opportunities, which will have a benefit to the species, but are not necessary to conclude the current determination of effects.

***Conditions:***

- None

**Recommendations:**

- **None**

## VIII. DOCUMENTATION

### A. Literature Cited:

*Detrick Richard. 1984. Aboreal Lichens Available to Caribou, Selkirk Mountains, Northern Idaho. Unpublished Report to Supervisors Office, Idaho Panhandle National forests, Coeur D;Alene, Idaho. 54 pages.*

*Duke Engineering and Services. December 1998. Lynx Habitat Management Plan, Biennial Report for Harvest Years 1996-1997 for Stimson Lumber Company. 22 pages.*

*Frederick, Glenn P. April 1991. Effects of Forest roads on grizzly bears, elk, and gray wolves: a literature review. USDA Forest Service.*

*Fredrickson. 1992 Effects of Roads on Grizzly Bear, Gray Wolf and Elk. Unpublished Report U.S.D.A. Forest Service Kootenai National Forest.*

*Hansen, H. Jerome. 1986. Wolves of Northern Idaho and Northeastern Washington. Montana Cooperative Wildlife Research Unit, U.S. Fish and Wildlife Service.*

*Koehler, Gary M. and Keith B. Aubry. 1994. Lynx. The scientific basis for conserving forest carnivores: American marten, fisher, lynx, and wolverine. USDA Forest Service General Technical Report RM-254: 74-98.*

*Reel, Susan, Lisa Schassberger, and William Ruediger. 1989. Caring for Our Natural Community: Region 1 – Threatened, Endangered, and Sensitive Species Program. U.S.D.A. Forest Service, Northern Region: 309 pages.*

*Ruediger, Bill et al. 2000. Canada lynx conservation assessment and strategy. USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management and USDI National Park Service. Forest Service Publication #R1-00-53. Missoula, Montana. 142 pp.*

*U.S.Forest Service. 1987. Idaho Panhandle National Forest Plan.*

*U.S. Forest Service. 1983. Guidelines for Managing Grizzly Bear Habitat in Northern Idaho. 27 pp.*

*U.S. Forest Service. 1995. Kalispell-Granite Grizzly Bear Access environmental Assessment.*

*U.S. Fish and Wildlife Service. 1993. Grizzly Bear Recovery plan. Missoula, MT 181 pp.*

*U.S. Department of Interior, Fish and Wildlife Service. 1993. Selkirk Mountain Woodland Caribou Recovery Plan. Portland, OR. 59p.*

*U.S. Department of Interior, Fish and Wildlife Service. 1994. Biological Opinion for Bismark Meadows right of Way. 59p.*

*U.S. Department of Interior, Fish and Wildlife Service. 1987. Northern Rocky Mountain Wolf Recovery Plan: 119 pages.*

*U.S. Forest Service and U.S. Fish and Wildlife Service. February 7, 2000. Canada Lynx Conservation Agreement #00-MU-11051600-013.*

*Volsen, D.D. 1994. Habitat Use of a Grizzly Bear Population in the Selkirk Mountains in Idaho & Southern B.C. MS Thesis University of Idaho.*

*Wakkinen W.L. and W.F.Kasworm. 1996. Grizzly bear and road density relationships in the Selkirk and Cabinet-Yaak recovery zones. Unpublished report. 28 pp.*

## B. Contacts Made During The Preparation Of The Biological Assessment:

December 10, 1997. Meeting: Attending: Kent Dunstan, David Asleson, Jill Cobb, John Chatel, Gary Weber, Debbie Butler, Tim Layser, Teresa Asleson, Tom Sandberg, Jim Langdon, Camilla Cary. Purpose of Meeting: To inform the IDT members of the Stimson Access project, discuss issues, establish a list of interested publics and set up a timeframe for the next meeting and what we want to accomplish by then. Debbie Butler will be Team Leader on this project.

January 13, 1998. Meeting with Ted Carlson, Dwight Opp, Debbie Butler, Kent Dunstan, John Chatel, Jill Cobb, Dave Asleson and Tim Layser. Discussed consultation process, impacts to bear, caribou and wolf and bulltrout. Discussed sediment and spawning habitat in South Fork of Granite Creek. No documented spawning habitat in Sema. Plum Creek did spawning surveys in Sema in 1995 and didn't find any Bull Trout. Potential for sediment (sand) delivery to both creeks; would initiate the consultation process with USFWS.

July 22, 1998. Meeting at Kalispell Tribal Office Usk, Washington. Attending: Suzanne Audet, Scott Hall, Debbie Butler, Tim Layser, Brett Roper, John Wallen, Mark Sprengel, Kent Dunstan, Montey Williams. Debbie Butler reviewed some of the history of the proposal. Scott – Tribal Concerns: This was a traditional caribou hunting area years ago. The caribou were displaced out of proximity to where the Tribal members live. Caribou hunts were as recent as the late 1920s. – Grizzly bear: currently core habitat in the bear unit is only at 41%. There are known wolf occurrences in the area. June 30th, 1998: Lynx listed as proposed threatened species – would take approximately 1 year to list. Grizzly bear – probably a "not likely to adversely affect" call.

January 17, 2001. A pre-consultation meeting was held between the Forest Service, U.S. Fish and Wildlife Service and Stimson Lumber Company. The following people were present: Forest Service: Jim Dvoracek, Brett Roper, Dave O'Brien, Rick Patten, Pete Zimmerman, Tim Layser, David "Norgy" Asleson, and Debbie Butler. Stimson Lumber Company: Dwight Opp and Ted Carlson. USFW: Bryon Holt and Susan Martin. The purpose of this meeting was to bring everyone up to speed on the status of the Stimson access request in the Upper Granite area, located through T36N, R45E, Section 5, Willamette Meridian on the Priest Lake Ranger District, Idaho Panhandle National Forests. The access is requested in National Forest Section 8. Dwight stated that Stimson has a Conservation Agreement, which covers their properties on the LeClerc BMU. His agreement includes specific BMPs for grizzly bear management on Stimson lands. Dwight stated that these guidelines would be also used for their planned activities in this area. Dwight stated that Stimson also has an approved plan for lynx management with Washington State DNR. USFWS also was involved in the formulation of this statewide lynx management plan. He will provide copies of both the lynx plan and grizzly bear BMPs to the group.

May 6, 2003. Meeting: Dave O'Brien, Norgy Asleson, Alan Campbell, Craig Bobzien, Bob Ralphs, Tim Layser, Shanda Dekome. Discussed changes to the BA and formal consultation.

May 12, 2003. Telephone discussion with Tom Wittinger, Threatened, Endangered and Sensitive species program Manager, USDA- Region 1, Missoula Montana. Discussed with tom the current cumulative process and area and rationale for that area and wanted to compare process with that on other forest's within the region. Tom concluded that the IPNF use of the bmu is similar to that being used by other forests and ecosystem within the region.

## C. Informal Consultation:

November 17, 1997. Suzanne Audet, U.S.Fish and Wildlife Service, Wildlife Biologist,. Telephone conversation. Discussed proposed project, cumulative effects and impacts to grizzly bear.

January 16, 1997. Suzanne Audet, U.S.Fish and Wildlife Service, Wildlife Biologist,. Telephone conversation. Discussed overall access proposal and the level of analysis needed and determination of effects.

April 9, 1997. Suzanne Audet, U.S. Fish and Wildlife Service, Wildlife Biologist,. Telephone conversation. Discussed grizzly bear and gray wolf, the determination of effects and proposed conditions and recommendations.

February 22, 2001. Bryon Holt, U.S. Fish and Wildlife Service, Wildlife Biologist. Debbie Butler, Team Leader and Tim Layser, Wildlife Biologist. . Meeting in Spokane, Washington. Discussed impacts and determination of effects for gray wolf, and caribou. Discussed impact and determination of effects for lynx, discussed level of analysis and determination of effects for grizzly. Specifically discussed core habitat and habitat quality within core loss and gain areas. Also, a detailed discussion about total road densities. It was discussed that roads with guardrail barriers could be reclassified as barriered roads from restricted roads. Bryon felt this would be acceptable because no administrative use has occurred on these roads in the last few years and also that monitoring efforts also indicate that they are secure closures. Bryon also agreed that in light of the closure types that Stimson used on their road systems that classification of these road systems as restricted would be prudent.

October 29, 2001. Telephone discussion with Suzanne Audet (USFWS) I discussed with Suzanne the comment from the public regarding the consideration of cumulative effects. The comments from the public suggested that the USFS should be looking at both the LeClerc and the Kalispell-Granite BMU together to fully evaluate the impacts of Stimson's access proposals. Suzanne agreed with our understanding, which is that the current BMU's were designed to assess the evaluation of cumulative effects. Each BMU has criteria and thresholds for management. If the USFS were to decide that a particular activity would have an adverse effects on a federally listed species and USFS needed to still proceed with that project, then the USFWS would be required to issue a biological opinion, which in part, because of their guidance would require them to look beyond the BMU to access the impacts to that species. That larger area may be the recovery area, species ranges etc. The guidance for the USFWS is 'USFWS/NIMPS 1998, Consultation Handbook) USFWS Policy and Required Service Responsibility. In regards to the comments the USFS had regarding recovery goals, Suzanne clarified that the goals from the recovery plan, which are 7 out of 10 of the BMU's would have occupancy (females with young) and for a period of 6 years. The combination of these factors would show distribution and reproduction within the ecosystem. The comment that was make regarding the determination of effects call. The call was make relative to the cumulative effects, within the BMU, and also was make in conjunction with the USFWS.

January 31, 2002. Bryon Holt (USFWS), Tim Layser (USFS), Shanda Dekome (USFS). . Meeting in CDA. Discussed the Stimson project and timelines. Made sure Bryon was still in agreement with effects for listed species.

February 19, 2002 Bryon Holt. U.S. Fish and Wildlife Service, Wildlife Biologist.. Draft Biological Assessments submitted to USFWS for review and comments. Comments received March 25, 2002.

April 4, 2002. Bryon Holt. U.S. Fish and Wildlife Service, Wildlife Biologist. Telephone conversation with Bryon, discussed total road density. Current values indicate that total road density would be slightly increased (.2%) over Pre-Harvey-Granite condition. Bryon emphasized that we would have to compensate for this increase prior to or concurrently with Stimson Access.

July 11, 2002. Meeting with Bryon Holt (USFWS) Shanda Dekome (USFS) and Timothy Layser (USFS) discussed changes in activities on Stimson Land. The changes will reduce the amount of suitable habitat for lynx. Within the Sema LAU. Additional impacts to the Kalispell LAU which is outside of the analysis area and area impacted by the proposed access. No high quality forage or denning habitat would be impacted within this LAU. The changes for grizzly bear centers around new helicopter logging. Temporary impact to core that will be buffered for the one season. The long-term condition of core is not changed from what was originally consulted on. The initial determination for all species is unchanged.

February 3, 2003. Memo to Bryon Holt (USFWS). Memo discussed recalculation of security habitat for grizzly bears. Changes result in changes to baseline condition, as a result of the Dusty Peak Timber Sale closing.

## IX. LIST OF PREPARERS

***Prepared by:***

Timothy Layser
Wildlife Biologist
Idaho Panhandle National Forests
Priest Lake Ranger District

Date

## Biological Assessment Stimson Access Sema Creek

### Appendix

Map of spring habitats within Kalispell-Granite BMU

Map of summer habitat within Kalispell-Granite BMU

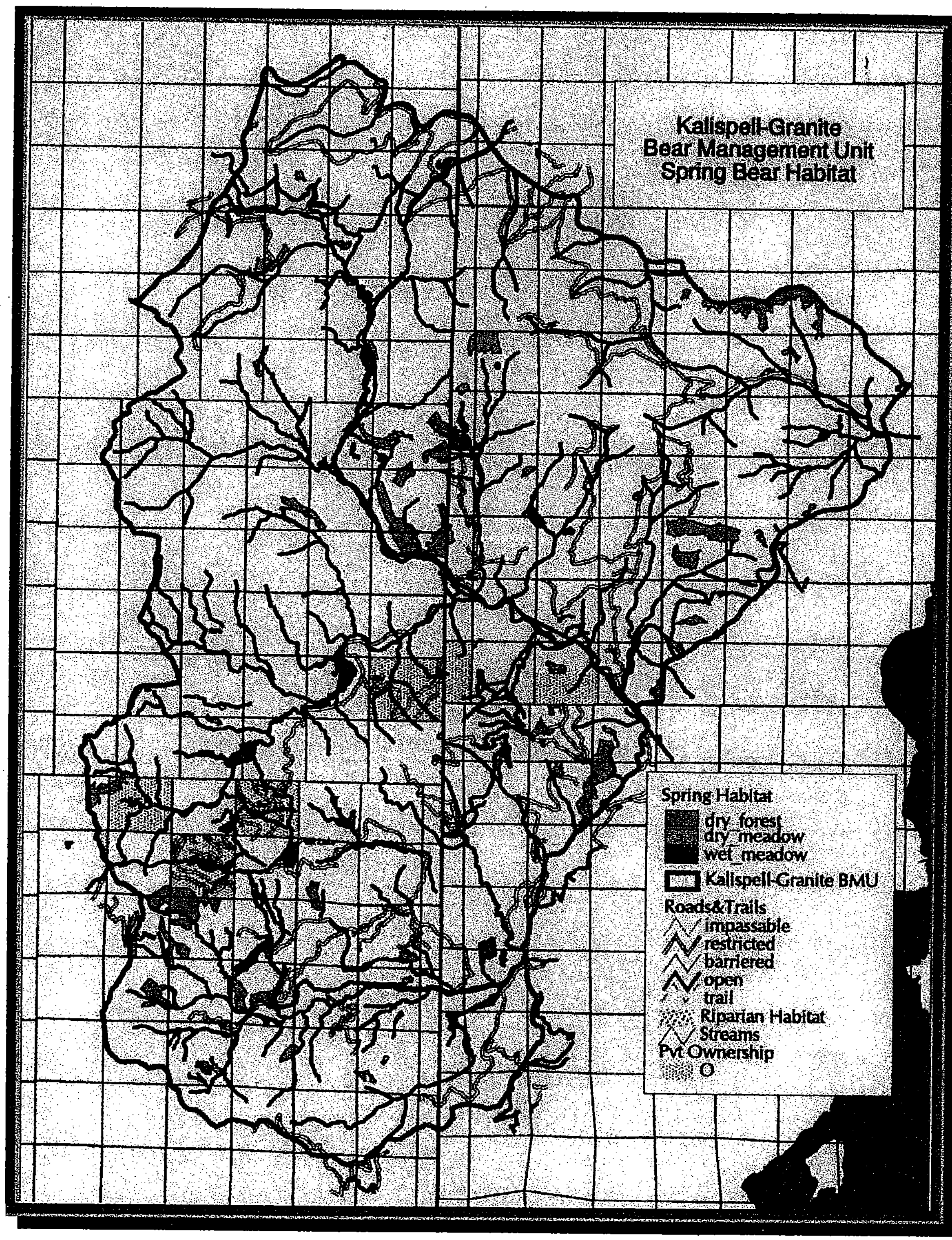
Map of fall habitats within Kalispell-Granite BMU

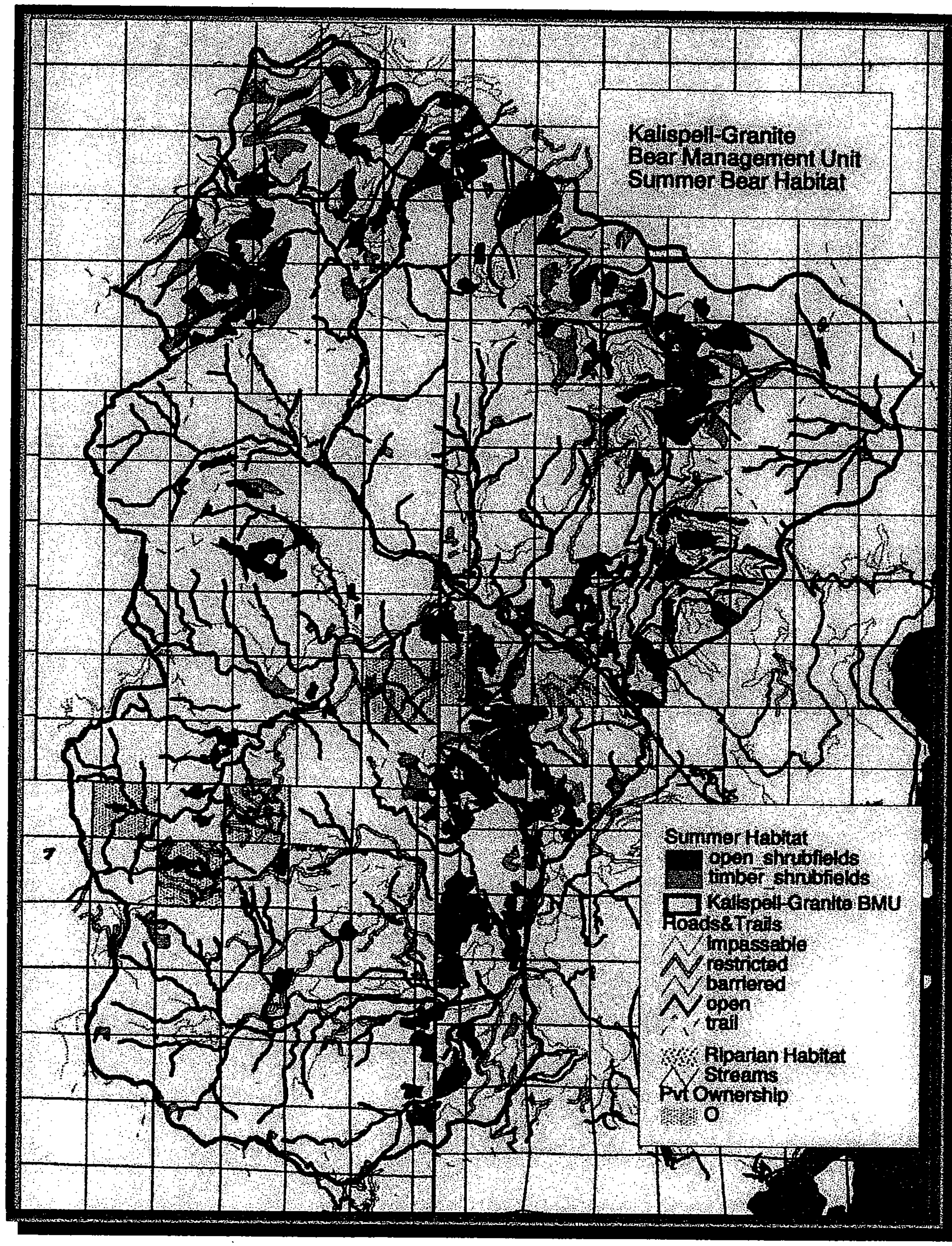
Map of total road density before obliteration of the Harvey-Granite and Cache Creek road systems

Map of total road density existing condition

Map of total road density within implementation of the Stimson Access proposal.

Map of total road density with proposed Stimson Access and Beaver Road (Roads 1323 and 1323a) road obliteration.


Kalispell-Granite
Bear Management Unit
Spring Bear Habitat
Spring Habitat
dry_forest
dry_meadow
wet_meadow
Kalispell-Granite BMU
Roads&Trails
impassable
restricted
barriered
open
trail
Riparian Habitat
Streams
Pvt Ownership
0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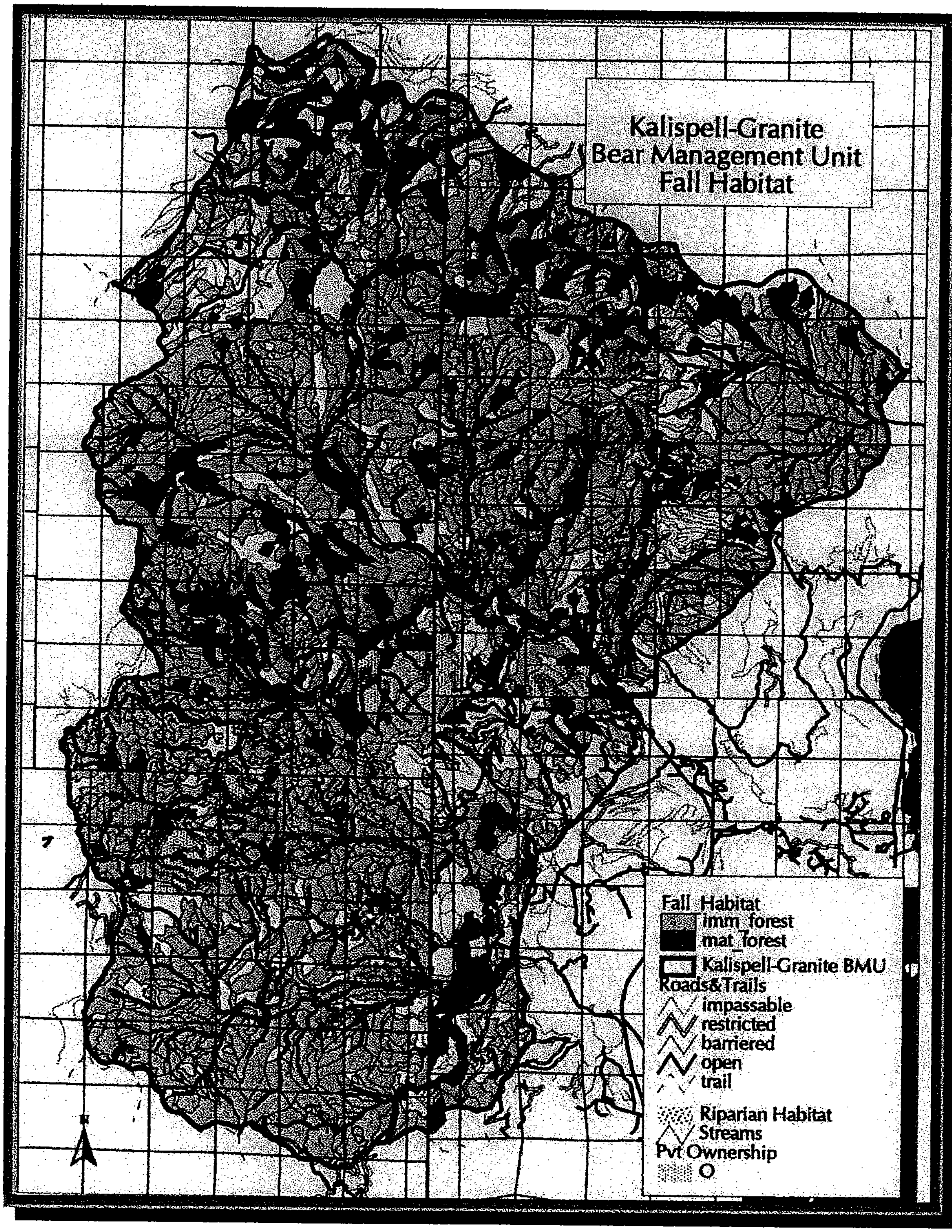
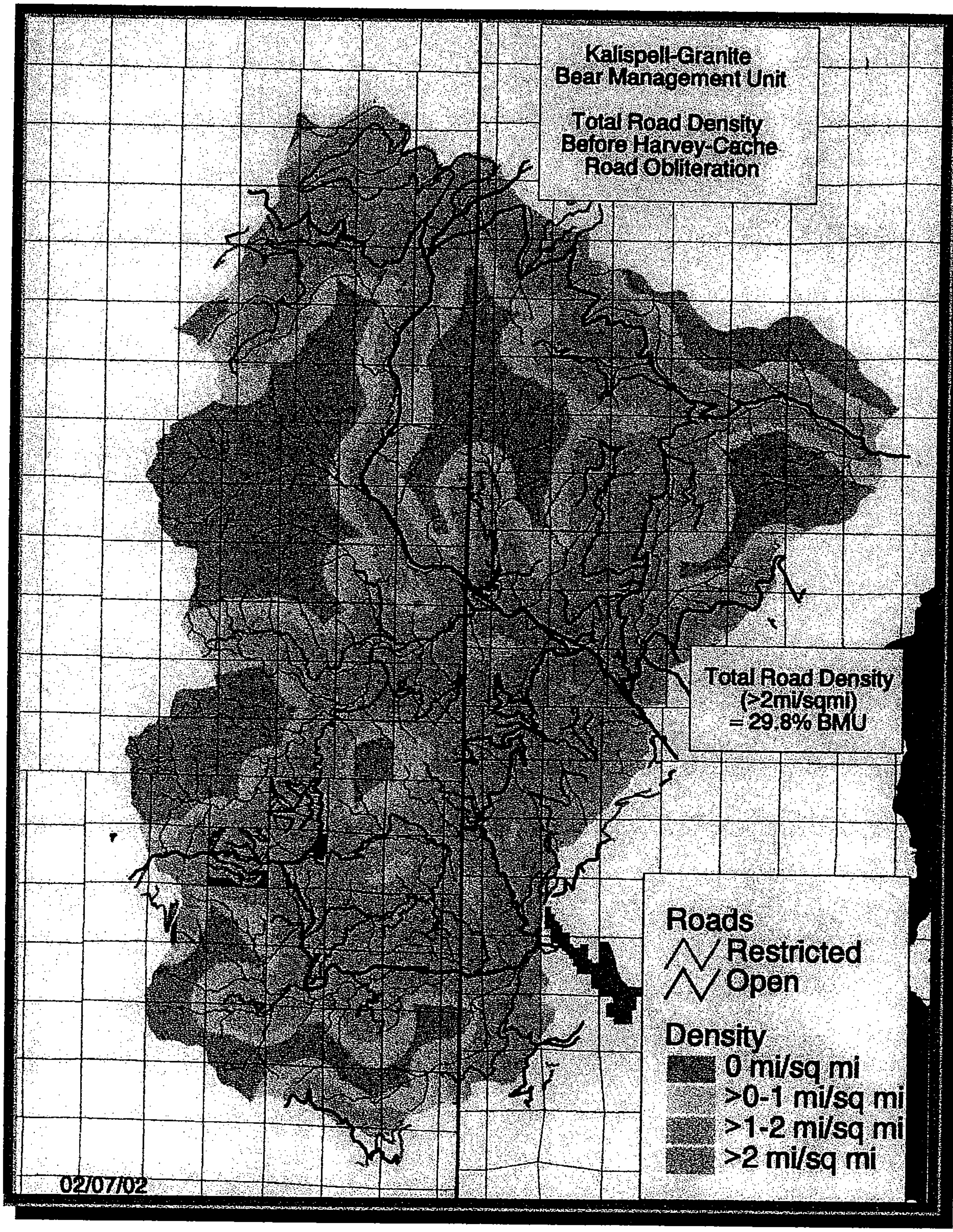
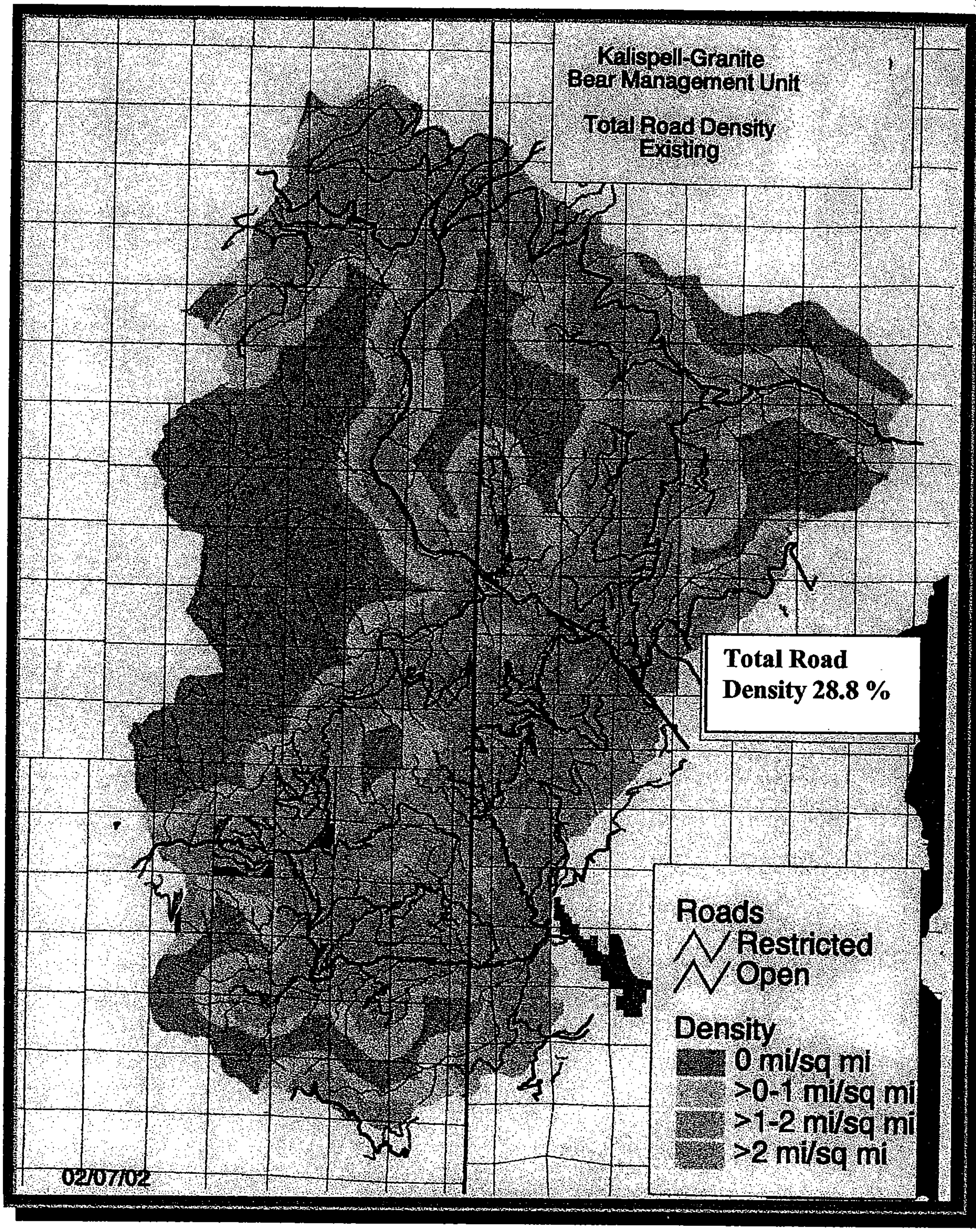
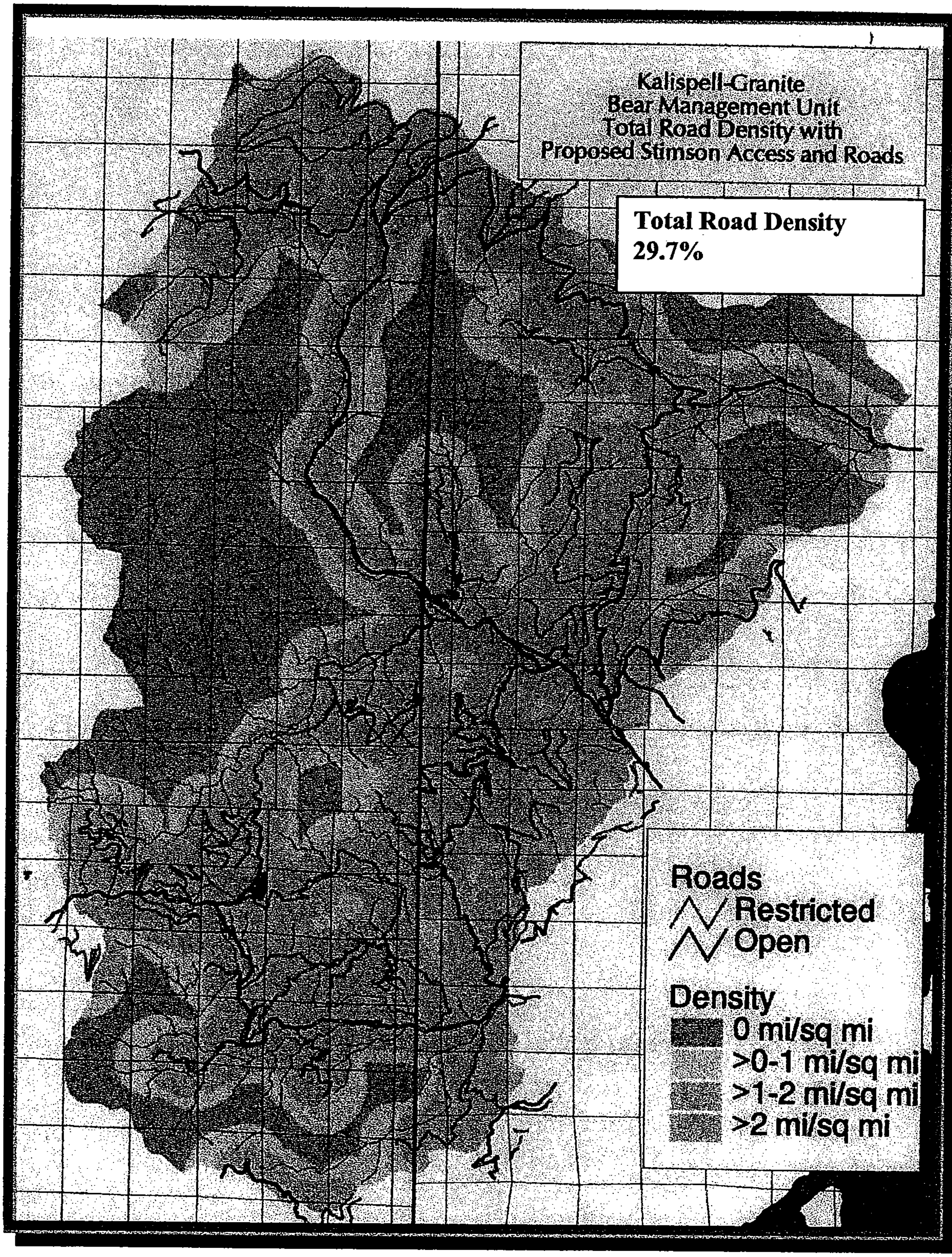
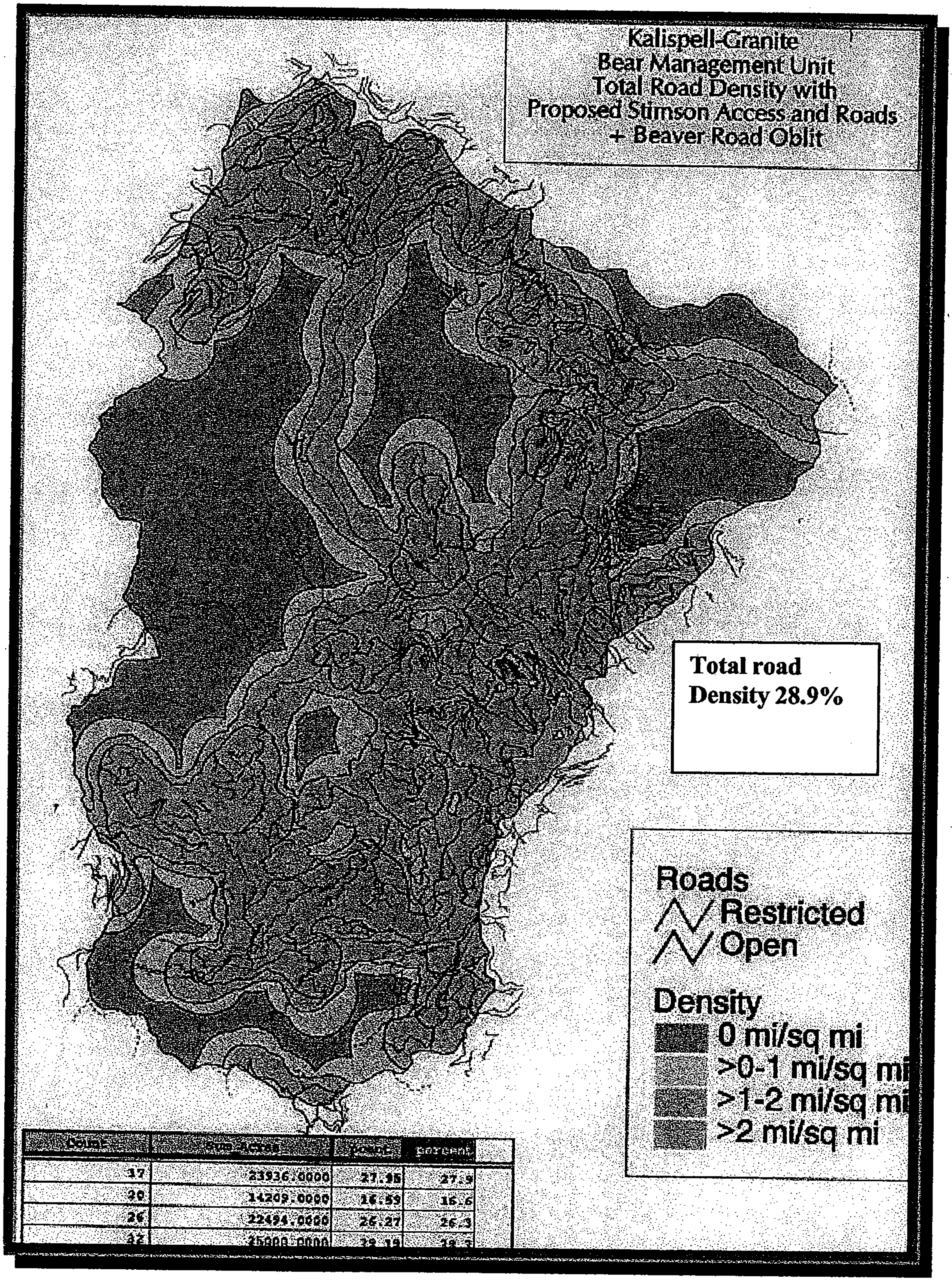
Bear Management Unit
Summer Bear Habitat
Summer Habitat
open_shrubfields
timber_shrubfields
Kalispell-Granite BMU
Roads&Trails
impassable
restricted
barriered
open
trail
Riparian Habitat
Streams
Pvt Ownership
O


Kalispell-Granite
Bear Management Unit
Fall Habitat
Fall Habitat
imm_forest
mat_forest
Kalispell-Granite BMU
Roads&Trails
impassable
restricted
barriered
open
trail
Riparian Habitat
Streams
Pvt Ownership
O


Kalispell-Granite
Bear Management Unit
Total Road Density
Before Harvey-Cache
Road Obliteration
Total Road Density
(>2mi/sqmi)
= 29.8% BMU
Roads
Restricted
Open
Density
0 mi/sq mi
>0-1 mi/sq mi
>1-2 mi/sq mi
>2 mi/sq mi
02/07/02


Kalispell-Granite
Bear Management Unit
Total Road Density
Existing
Total Road
Density 28.8 %
Roads
Restricted
Open
Density
0 mi/sq mi
>0-1 mi/sq mi
>1-2 mi/sq mi
>2 mi/sq mi
02/07/02


Kalispell-Granite
Bear Management Unit
Total Road Density with
Proposed Stimson Access and Roads
Total Road Density
29.7%
Roads
Restricted
Open
Density
0 mi/sq mi
>0-1 mi/sq mi
>1-2 mi/sq mi
>2 mi/sq mi




| [illegible] | Sum-Acres | [illegible] | percent |
|---|---|---|---|
| 37 | 23936.0000 | 27.95 | 27.9 |
| 20 | 14209.0000 | 16.59 | 16.6 |
| 26 | 22494.0000 | 26.27 | 26.3 |
| [illegible] | [illegible] | [illegible] | [illegible] |

# Daily Record of Events

01/07/2003

Telephone conservation with Bryon Holt, biologist, USFWS. Stimson Access. January 7, 2003

Discussed with Bryon, the Stimson Access project in regards to the recent Lynx lawsuit and the need for formal consultation on may effect , not likely to adversely affect determinations within lynx habitat. I wanted to discussed with Bryon the possibly of any need for further consulation on this project. We agree that as consultation has been completed on this project there would be no need for further consultation in light of the recent lawsuit. Consultation on this project is completed unless new information comes up such as a new species listing or a change in the proposed action.

IPNF Level 1 Consultation Meeting
July 11, 2002
SFD

**North Zone**

*Stimson Access*
Present: Tim Layser, Shanda Dekome, Bryon Holt (USFWS)

Presented the changes on activities on Stimson land. The biggest change is the SW corner of Section 5. Originally it was a no harvest area, but now they plan to helicopter log this area (~59 acres). Some additional harvest in other sections that were consulted on with the Colville and are now part of the environmental baseline and won't be consulted on here. No additional roads will be built.

**Lynx:** The changes will reduce the amount of suitable habitat.

*Sema LAU:* Alt B was originally 771 acres of low quality forage habitat being converted to unsuitable habitat. With the changes it has been increased to a total of 1099 acres unsuitable habitat. This increased the percentage of unsuitable habitat being created currently with this project and within the last ten years in the Sema LAU by 1%. This is well below the threshold for unsuitable habitat, so there is there is no change in the determination. No impact on additional denning or high forage habitat. No additional impacts from access (e.g., snowmobiling).

Sema LAU as initially proposed:

| **Habitat Parameter** | **Existing Condition** | | **Result of the Proposed Action** | |
|---|---|---|---|---|
| | **Acres** | **Percent of LAU** | **Change in Acres** | **Resulting Percent of LAU** |
| Denning Habitat | 5,983 | 25 | 0 | 25 |
| High Quality Forage Habitat | 2,193 | 9 | 0 | 9 |
| Low Quality Forage Habitat | 13,925 | 57 | -771 | 54 |
| Unsuitable Habitat | 2,247 | 9 | +771 | 12 |
| Unsuitable Habitat created in last Decade | 1,385 | 6 | +771 | 9 |
| Total | 24,348 | | | |

Sema LAU with new proposal:

| Habitat Parameter | Existing Condition | | Result of the Proposed Action | |
|---|---|---|---|---|
| | Acres | Percent of LAU | Change in Acres | Resulting Percent of LAU |
| Denning Habitat | 5,983 | 25 | 0 | 25 |
| High Quality Forage Habitat | 2,193 | 9 | 0 | 9 |
| Low Quality Forage Habitat | 13,925 | 57 | -1105 | 53 |
| Unsuitable Habitat | 2,247 | 9 | +1105 | 13 |
| Unsuitable Habitat created in last Decade | 1,385 | 6 | +1105 | 10 |
| Total | 24,348 | | | |

***Kalispell LAU:*** Also, 6 acres of harvest in Sec 9 falls in the Kalispell LAU located in low quality forage (no high quality forage and no denning will be affected). Provided we're within thresholds for lynx habitat parameters, we expect this 6 acres will not change the effects determination. If we are currently exceeding thresholds, then the determination will change (*We are not currently exceeding thresholds, so the determination remains the same. SFD 7/15/02)* Additionally further minimizing effects, the 6 acres is outside of an identified lynx travel corridor located along the ridge top delineating the boundary between Sema and Kalispell LAU.

Impact to Kalispell LAU: (This is outside of the cumulative effects area for the proposed action and will not be displayed within the EIS. These areas are just a display of what is connected to their ongoing activities.)

| Habitat Parameter | Existing Condition | | Result of the Proposed Action | |
|---|---|---|---|---|
| | Acres | Percent of LAU | Change in Acres | Resulting Percent of LAU |
| Denning Habitat | 3,225 | 16 | 0 | 16 |
| High Quality Forage Habitat | 2,883 | 15 | 0 | 15 |
| Low Quality Forage Habitat | 11,751 | 59 | -6 | 59 |
| Unsuitable Habitat | 1,908 | 10 | +6 | 10 |
| Unsuitable Habitat created in last Decade | 53 | <1 | +6 | <1 |
| Total | 19,767 | | | |

No change 7/17/02

**Grizzly bears:** Kalispell-Granite BMU

- No additional road construction or access, so Total and Open Motorized Road Densities will not be affected.
- Additional impact centers around new helicopter logging. Temporary impact to core that will be buffered for the one season (3 months) that the activities are expected to occur. So the long-term condition of core (i.e. no additional loss to core) is not changed from what was originally consulted on. We expect there will be no additional impact to high quality spring habitats or summer habitats. The 59 acres of helicopter logging are in fall habitat, which are abundant and well-distributed throughout this BMU.

**Bull trout:**

- No additional road construction and no additional stream crossings.
- The additional harvest will not change the NLAA determination because of the distance to occupied bull trout habitat.

Therefore, we agreed the determinations of NLAA for the above species are unchanged and there is no need to reinitiate consultation on this project. There is no change to the effects analysis for the other listed species (caribou and wolf).

*D7 Small Sales*
Present: Dave Roberts, Barry Wynsma (project leader), Bryon, Shanda.

Lynx:
Bryon said the language has changed in the Forest Plan amendment from what was in the Conservation Strategy---the new language gives more flexibility and needs to be looked at in terms of this project.

Dave wants to, in a subsequent meeting, define the sideboards for NLAA for lynx.

Model can be looked at (e.g., add in a variable that determines older stands that haven't been double-burned). Can also look at mitigation such as constructing/enhancing potential denning habitat, and leaving scattered wood for other small mammals.

Action items:

1. Need to get ahold of newer language in proposed FP amendment.
2. Get wildlife bios together to take a hard look at the model.

Bryon suggested the field trip to Grizzly LAU might be a good time to look at stand structures in the field will help with the modeling.

*Noxious Weed Treatments on Trails*
Present: Dave, Bryon, Shanda

Treating weeds on four trails. One restricted road (accounting for trips), two (Fault Lake trail and Bear Creek road) are behind permanent closures (core). Wants to use ATV on these. It's a violation of core in North Lightning and Myrtle BMUs. To use motorized vehicle will require formal consultation. One suggestion was to use horses.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
*Upper Columbia Fish and Wildlife Office*
*11103 E. Montgomery Drive*
*Spokane, WA 99206*

June 17, 2002

Kathy Anderson, District Ranger
Idaho Panhandle National Forests
Priest Lake Ranger District
32203 Highway 57
Priest River, Idaho 83856

Subject: Stimson Access Request Project: FWS Ref. 1-9-02-I-328

Dear Ms. Anderson:

Thank you for your April 8, 2002, letter referencing the Biological Assessment (BA) for the Stimson Access Request Project on Priest Lake Ranger District of the Idaho Panhandle National Forests (IPNF). The project involves constructing approximately 0.75 miles of road across federal land (Township 36 North, Range 45 East, Section 8) and the subsequent timber harvesting by Stimson Lumber Company of its ownership in the headwaters of Sema Creek (Township 36 North, Range 45 East, Section 5). Your letter was received in our office on April 11, 2002, and requested our concurrence with your determination of effect for the grizzly bear (*Ursus arctos*), Canada lynx (*Lynx canadensis*), woodland caribou (*Rangifer tarandus caribou*), gray wolf (*Canis lupus*), and bull trout (*Salvelinus confluentus*).

We have reviewed the information provided and concur with your finding that the proposed project "may affect, but is not likely to adversely affect" grizzly bears, Canada lynx, woodland caribou, gray wolves, and bull trout. Concurrence by the U.S. Fish and Wildlife Service is contingent upon implementation of the project as described in the BA.

While we agree with your effect determination for the grizzly bear, we believe it is necessary to provide clarification with respect to a statement contained within the analysis of effects for the grizzly bear (Page 10 of the BA) pertaining to the Interim Access Management Rule Set (Rule Set). In the analysis, the BA states that the Rule Set, among other things, provided goals for achieving total road densities of 2 miles/square mile that would not exceed 26% of a grizzly bear management unit. However, the Rule Set only actually established a goal of no net increase in total motorized route density on National Forest lands within the Cabinet-Yaak and Selkirk Grizzly Bear Recovery Zones. Further, the Rule Set was explicit, in that road density standards contained in existing Forest Plans and existing Incidental Take Statements (ITS) from the Service would remain in effect.

The IPNF Forest Plan has no standards requiring management for road densities (total or open). In addition, at the time the Rule Set was released, the Service had not required management for such road densities through terms and conditions of an ITS provided to the IPNF pursuant to a formal section 7 consultation. Thus, the only goal for total road density management on the IPNF, established pursuant to the Rule Set, was for no net increase. Since that time, a formal section 7 consultation on the IPNF Forest Plan has been completed, and an ITS issued. The ITS requires that, for BMUs with greater than 75% federal ownership, by March 31, 2007, no more than 26% of a BMU shall exceed 2 miles/square mile of total motorized access.

This concludes informal consultation pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended (Act). This project should be re-analyzed if new information reveals that effects of the action may affect listed species or critical habitat in a manner, or to an extent, not considered in this consultation; if the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; and/or if a new species is listed or critical habitat is designated that may be affected by this project.

If you have further questions about this letter, or your responsibilities under the Act, please contact Bryon Holt at the above address (telephone: 509-891-6839; fax: 509-891-6748).

Sincerely,

Antoinette Dail

for Supervisor

cc: IDFG, CdA
FS, CdA SO (Bob Ralphs)
FS, CdA SO (Shanda Dekome)

United States Department of Agriculture | Forest Service | Idaho Panhandle National Forests | Priest Lake Ranger District
32203 Hwy 57
Priest River, ID 83856

**File Code:** 2670

**Date:** April 8, 2002

Susan Martin, Field Supervisor
U.S. Fish and Wildlife Service
Upper Columbia River Basin Field Office
11103 East Montgomery Drive, Suite 2
Spokane, Washington 99206

Dear Ms. Martin:

The Priest Lake Ranger District has prepared biological assessments (BAs) that consider potential effects to federally listed terrestrial and aquatic species from the Stimson Access Project. This project has been discussed with your agency several times over the last few years:

- July 22, 1998: A consultation meeting was held in Usk, Washington, with representatives from the Forest Service, Stimson Lumber Company, the Kalispel Tribe, and the U.S. Fish and Wildlife Service (USFWS).

- January 17, 2001: A pre-consultation meeting was held between representatives of the Idaho Panhandle National Forests (IPNF), Stimson Lumber Company, and the U.S. Fish and Wildlife Service. One purpose of this meeting was to work out an agreement between the USFWS and Stimson Lumber Company regarding the effects of inter-related and inter-dependent activities on private land.

- February 22, 2001: A Level 1 meeting was held at your office between the Forest Service and USFWS. Draft BAs were given to Bryon Holt at that time. Those BAs covered both action alternatives because there was no preferred alternative at the time and the effects were similar. Shortly afterwards, it was decided that an EIS would be prepared for this action and consultation was postponed.

- January 31, 2002: This project was discussed at the Level 1 meeting.

- February 19, 2002: Draft BAs were delivered to Bryon Holt.

- March 25, 2002: After reviewing the draft BAs, Bryon Holt sent comments electronically to the IPNF.

- April 8, 2002: Final BAs were completed, incorporating Bryon's comments.

The final BAs are enclosed. It is the determination of Forest Service biologists that granting this access request, and the associated inter-related and inter-dependent actions, "may affect, but not likely to adversely affect" grizzly bear, caribou, gray wolf, lynx, and bull trout. No other listed terrestrial or aquatic species will be affected. I am requesting concurrence with these determinations. Please contact Tim Layser (Wildlife Biologist) or Shanda Dekome (Fisheries Biologist) for any additional information needs.

Sincerely,

Kathy Anderson

KATHY ANDERSON
District Ranger

Enclosures

**File Code:** 2670 **Date:** April 1, 2002

**Subject:** Biological Assessment for Stimson Access Request (Fisheries)

**To:** Bradley E. Powell, Regional Forester

## Introduction

U.S.D.A. Forest Service policy (FSM 2672.4) requires a Biological Assessment (B.A.) to be completed to review programs or activities in sufficient detail to determine how a project or proposed activity may affect any threatened, endangered, or proposed species. The purpose of this B.A. is to evaluate the potential effects of the proposed Stimson Access Request on proposed, threatened, and endangered fish species, and determine whether any such species and/or their habitat are likely to be affected by the proposed action.

## Proposed Action

Stimson Lumber Company has requested access to a section of land they own in the headwaters of Sema Creek (Section 5; see Figure 1). Access to Section 5 was originally requested in 1992, when Plum Creek Timber Company owned the parcel. Stimson Lumber Company acquired Section 5 in 1996, and continued pursuing access to this section. The application for access was submitted pursuant to the Alaska National Interest Lands Conservation Act (ANILCA).

This Stimson Lumber Company parcel is surrounded by National Forest lands and no other roaded access currently exists. ANILCA directs the Forest Service to grant landowners access when those lands are located within the National Forest boundary, when no other reasonable access exists, and the uses of the land planned by the landowner are determined to constitute "reasonable use and enjoyment." This alternative meets the purpose and need for access required by ANILCA and the Forest Plan of the Idaho Panhandle National Forests (IPNF) by granting the access as requested by Stimson Lumber Company.

The preferred alternative, Alternative B, will grant Stimson Lumber Company a road easement about 4,000 feet (0.75 mile) in length by 66 feet in width on National Forest in Section 8 as shown on Figure 2. This access will allow Stimson to construct a road that will be an extension of an existing road on Stimson property in Section 9. The road will be constructed in accordance with plans, specifications, and written stipulations approved by a Forest Service engineer prior to the beginning of construction work. These design standards provide for the protection of soil and water as well as other resource concerns.

Once access is granted, Stimson Lumber Company will be responsible for the following actions on National Forest lands:

- Removing all timber located within the clearing limits of the new road construction on National Forest lands. The timber will then be appraised and sold by the Forest Service.
- Constructing and maintaining a road to Forest Service specifications. Stimson Lumber Company will be required to construct the road in a manner that meets all federal requirements relating to public safety and protection of forest resources.
- Installing and maintaining all drainage structures on the access road.
- Keeping the road closed with a gate year-round to restrict motorized access.
- Implementing and complying with the design features and mitigation measures specified for Alternative B as described below.

***Features Designed to Protect Soil, Water, and Fish Habitat***

**Inland Native Fish Strategy (INFS) Guidelines** - All INFS standards would be met (USDA 1995) by incorporating the following standards into the road plan. Specific INFS measures applicable to this project on National Forest lands include the following (INFS, RF-2, p. E-7 and RF-4, p. E-8):

- RF-2: For each existing or planned road, meet the Riparian Management Objectives and avoid adverse effects to inland native fish by:
  Avoiding Sediment delivery to streams from the road surface (RF-2d):
  1. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe.
  2. Route road drainage away from potentially unstable stream channels, fills and hillslopes.

  Avoid disruption of natural hydrologic flow paths (RF-2e).
  Avoid sidecasting of soils or snow within RHCAs. (RF-2f).

- RF-4: All stream crossings would be designed and constructed to accommodate the equivalent of a 100-year streamflow event, including associated bedload and debris, where those improvements would pose a substantial risk to riparian conditions. Substantial risks include those that do not meet design and operation maintenance criteria, that have been shown to be less effective than designed for controlling erosion, that retard attainment of Riparian Management Objectives, or that do not protect priority watersheds from increased sedimentation. Construct and maintain crossings to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure. Crossings with a high risk of failure would be designed to pass flows without fill failure or significant erosion.

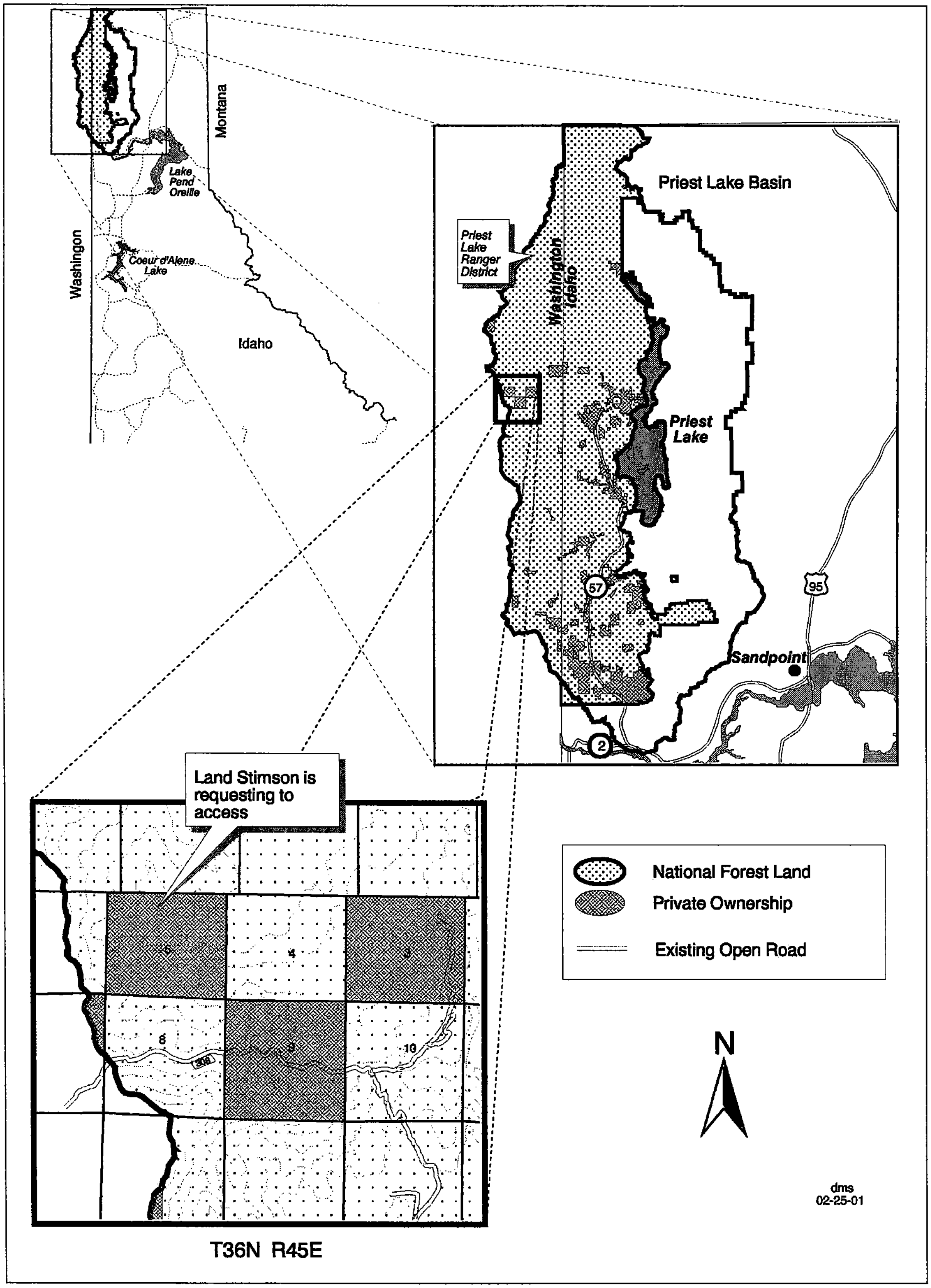



**Figure 1. Vicinity Map of the Project Area**

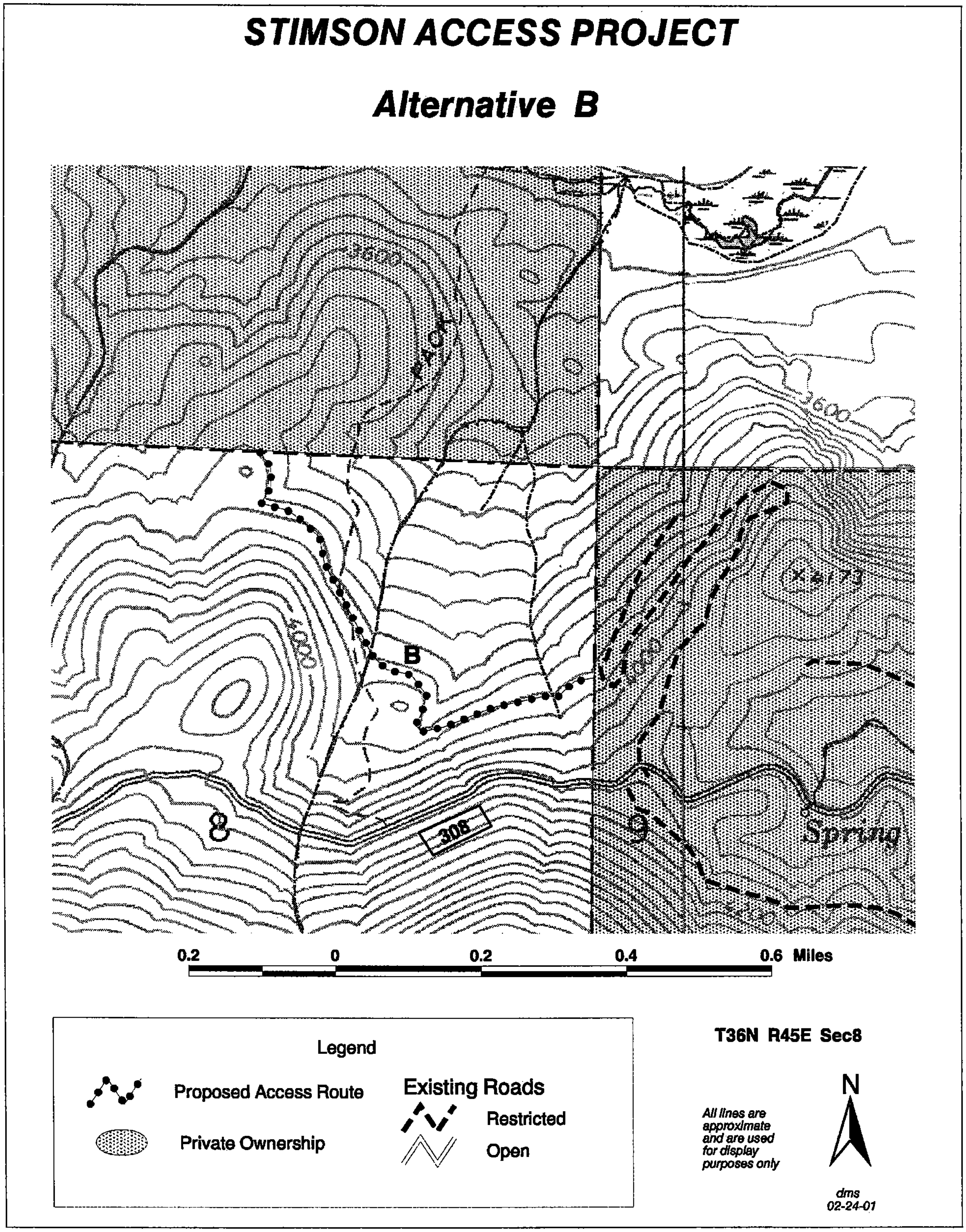



**Figure 2. Map of Alternative B—the Proposed Action.**

*Estimated Effectiveness:* **moderate**. In meeting these INFS standards, the risk of delivery sediment to stream channels would be minimized (INFS 1995, Furniss 1991; Furniss, et al., 1998, pp. 1-13; Furniss, Love, and Flanagan, 1997, pp. 1-11). These standards would be incorporated into the road construction plans for the access road on National Forest lands.

**Best Management Practices** - The use of Best Management Practices (BMPs), identified in the Memorandum of Understanding between the Forest Service and the State of Washington, ensures that non-point source pollution from Forest Service management activities meets state water quality standards established under Section 319 of the Clean Water Act. The objective of these measures is to minimize effects of management activities on soil and water resources. A list of the BMPs to be used for this project can be found in Appendix A. Several of these BMPs are referenced and supplemented by the additional design features discussed below.

*Estimated Effectiveness:* **moderate to high.** The BMPs would be incorporated into the road design for the proposed easement. A Forest Service engineer would monitor the road construction activities to ensure that the BMPs would be implemented. The effectiveness of each BMP is rated as discussed in Appendix A. Other publications (Seyedbagheri) also were used to estimate the effectiveness of the Best Management Practices.

***Additional Site Specific Protection Measures** – In addition to BMPs and the INFS guidelines, the following design features and protection measures would be followed:*

**Ditchline, Cutbank and Fillslope Stabilization**: The following design criteria would reduce sediment delivery to streams:

- Ditchlines feeding into any stream cannot exceed 100-150 feet on either side of a channel or spring. All ditchlines within 150 feet on any live stream crossing would be lined with angular coarse rock greater than 3 inches to prevent ditchline erosion as per BMP 15.06-(c) and (d) on page A-11.

- Installation of additional relief culverts would reduce the amount of water and sediment carried by and eroded from ditchlines as per BMPs 15.02-(6) and 15.07-(a).

- All disturbed soils would be fertilized, seeded and mulched as soon as practical after initial soil exposure as per BMPs 15.06-(a) and (b) on page A-11. No fertilizer would be applied within 100 feet of any stream or spring. Exposed slopes within 150 feet of live stream crossings would be hydroseeded. For each acre of disturbed soils, the following would be applied:
  - 10 lbs. highlander slender wheatgrass
  - 10 lbs. Bromar Mt. Brome grass
  - 10 lbs. Sodar streambank wheatgrass
  - 5 lbs. Sandberg bluegrass
  - 60 lbs. of nitrogen
  - 60 lbs. of phosphorous
  - 40 lbs. of potassium
  - 20 lbs. of sulphur
  - 3 bales of certified weed free straw OR hydroseeding

- Exposed soils above culvert inlets would be stabilized using angular rock measuring no less than 10 inches diameter. This rock would be placed on the raw soils above the culvert inlets for as high as the soils are exposed and for at least the width of the contributing cutbank, OR on either side of the culvert for 5 times the width of the stream, whichever is wider.

- Slopes that are identified by a geotechnical engineer as being unstable would be stabilized using geogrid materials as per BMP on 15.06-(e) on page A-11.

- Road construction would not occur during wet periods when there is a high likelihood of erosion and sediment delivery as per BMPs 14.17-(8) and 15.19-(8)on page A-9 and 15.10(c) on page A-12.

- Clearing slash will be placed at the toe of the fill slope as a filter windrow as per BMPs 13.05 on page A-7; 15.02-(7) on page A-10; 15.10 and 15.18 on page A-12. Windrows slow the velocity of any surface runoff from the road, causing deposition of most sediment (Burroughs and King, p. 7). Windrows would not be built across stream courses and would have breaks every 100 feet to allow for wildlife movement. All windrows would be constructed to maximize the interception of sediment moving downslope.

*Estimated Effectiveness:* **high.** These measures would reduce sediment production and delivery by minimizing mass erosion and existing surface erosion near stream crossings. Coarse rock in the ditch line and culvert inlets would resist erosion (Elliot, et al., p. 9; Furniss, p. 10; Burroughs and King, pp. 13-15; Seyedbagheri, p. 43). Relief culverts are an effective way of reducing sediment into streamcourses (Seyedbagheri, pp. 32-33, 43). Erosion control measures including fertilizing, seeding, and mulching would limit sediment generated from newly excavated sites (Burroughs and King, pp. 2-7; Seyedbagheri, pp. 46-47 and 50-52). Hydroseeding of cut and fill slopes can reduce sediment delivery up to 80 percent (Burroughs and King, 1989). Restricting construction during wet periods would reduce sediment yields (Seyedbagheri, pp. 32 and 49). Slash filter windrows can reduce sediment delivery 75 to 85 percent (Cook and King 1983, p. 1; Burroughs and King, p. 7; Seyedbagheri, p. 36 and pp. 59-60).

**Culvert Installation and Maintenance**: Specific design criteria to control sediment delivery during culvert installation and maintenance consist of the following:

- Standard erosion control measures during culvert installation such as temporarily diverting flow into a culvert, a plastic or rock-lined channel, pumping water below the site, or use of silt fences or hay bales would be used to minimize sediment transport downstream during culvert installation as per BMPs 14.17-(6) and (7); 15.19-(6) and (7), and 15.07(2) as discussed on pages A-8 and A-11.

- Ditch relief culverts would be installed at a skew of 3 percent perpendicular to the road grade and have a minimum of a 5 percent slope. This supercedes BMP 15.07-(2c) on page A-11. Placement of the culverts at a sloped angle would require less maintenance.

- Pipe locations would be marked with a flexible plastic marker to ease finding the pipes for future monitoring and maintenance.

*Estimated Effectiveness:* **high**. The prescribed BMPs in Appendix A which address standard erosion control measures during culvert installation would significantly reduce this risk of sediment delivery by controlling the water at the worksite and minimizing the contact of the water to the exposed soils (Seyedbagheri, p. 33). Installing relief pipes at a skewed angle allows the pipe to be somewhat self-maintaining (Seyedbagheri, pp. 33 and 44). Clearly marking the location of the relief pipes and stream crossings would allow individuals assigned to regular maintenance to more easily locate pipes and track maintenance needs.

**Armoring Road Prism:** To minimize the amount of sediment that could be delivered from the road prism, aggregate surfacing would be placed at a depth of 6 inches over the more sensitive areas. These areas would be designated by a geotechnical engineer.

*Estimated Effectiveness:* **high**. High quality aggregate surfacing of native surface roads has been shown to decrease sediment production 70 to 84 percent (Elliot, et al., pp. 8-9; Swift, 1984; Foltz and Truebe, 1995; Burroughs and King, pp. 1-2;). Burroughs and King (p. 1) found that graveled surfaces produced an average of 79 percent less sediment than bare roads.

**Rolling the Road Grade:** Roll the road grade to disperse water from the road surface as often as possible as per BMP 1502.6-(5) and (6).

*Estimated Effectiveness:* **high.** Graded rolling dips and drivable dips would reduce the amount of water that runs down the road surface (Seyedbagheri, p. 32; Furniss, Love, and Flanagan, pp. 8-11). This would reduce the loss of fine material from native and graveled surfaces. The potential for sediment production and delivery would be reduced because of the improved dispersion and re-infiltration of water.

## Action/Evaluation Area

The Action area includes:

Pend Oreille County, Washington
Idaho Panhandle National Forest
Priest Lake Ranger District
T36N, R45E, Section 8, W.M.

## Inter-related Inter-dependent Action Area

Pend Oreille County, Washington
Stimson Forest Products Land
T36N, R45E, Section 5 and 9 W.M.

The action area is considered the Federal lands where the proposed activity is to occur. Only perennial and intermittent non-fish-bearing streams are to be affected on National Forest lands.

The project may have the potential to affect listed species thought to be present in the South Fork of Granite Creek. Actions on private land will affect Sema Creek. Sema Creek is the largest tributary to the South Fork of Granite Creek. Upper Sema Creek is the cumulative effects analysis area (Figure 3).

## Listed Species

The USDA Forest Service has identified the presence or potential for the following listed fish species in the watershed within which this project is planned:

Bull Trout, *Salvelinus confluentus*

Another listed fish species, Kootenai River white sturgeon, *Acipenser transmontanus*, is found on the Forest. There is no known habitat for white sturgeon within the Priest Lake watershed. As a result, this project will have no effect on white sturgeon. This BA will only evaluate effects to bull trout.

## Analysis of Effects

### Bull Trout Presence Within the Watershed and Planning Area

Bull trout are found in cold-water streams, rivers, and lakes (USDA 1989). They appear to have more specific habitat requirements than other salmonids (Rieman and McIntyre 1993). Habitat characteristics including water temperature, stream size, substrate composition, cover and hydraulic complexity have been associated with distribution and abundance (Dambacher and others, in press; Jakober 1995; Rieman and McIntyre 1993).

Stream temperature (below 15 degrees Celsius; Goetz 1989) and substrate composition are important characteristics of suitable bull trout habitats. Bull trout have repeatedly been associated with the coldest stream reaches within basins. The lower limits of many strong bull trout distributions mapped by Lee et al. (1997) correspond to a mean annual air temperature of about 4 degrees Centigrade (ranging from 3 to 6 degrees Centigrade) and should equate to ground water temperatures of about 5 to 10 degrees Centigrade (Meisner 1990). Water temperature can be strongly influenced by land management (Henjum et al. 1994).

Stream channel equilibrium (stability) is the balance between sediment yield, water yield, and channel morphology which exists within a stream system. Studies indicate that shifts away from channel equilibrium can result in negative changes in the structure and function of stream ecosystems (Bilby and Likens 1980, Schlosser 1982) and their dependent fish populations.

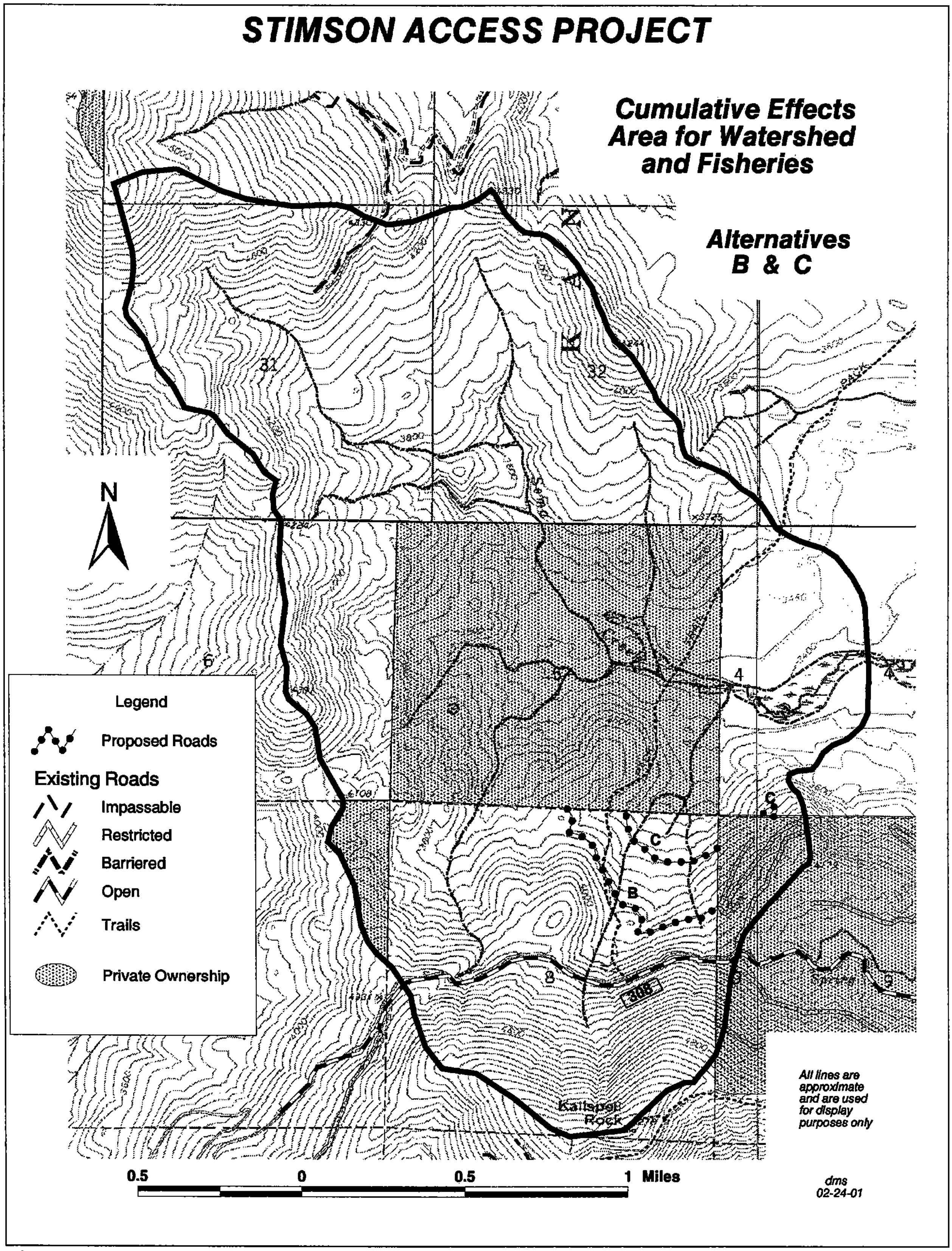



Figure 3. Cumulative effects analysis area for Water Resources and Fisheries. Alternative B is the preferred alternative.

Bisson and Sedell (1982) reported that where stream channels became destabilized, riffles elongated and in many cases extended through former pool locations resulting in loss of pool volume. They suggested that declines in older fish may be the result of their dependency upon deeper water habitats. The persistence of bull trout over time can best be provided by maintaining lateral and instream habitat complexity in association with channel stability (Karr and Freemark 1983, Karr and Dudley 1981, Gorman and Karr 1978).

Bull trout spawn in late summer through fall (August to November), often in areas of ground water infiltration. Fry hatch at the end of January and emerge in early spring (April). Juveniles remain near the stream bottom or in low velocity habitat (pools and pocketwater) for the first two years of their life. Unembedded substrate and dispersed woody debris are commonly used forms of cover. Most juvenile bull trout in North Idaho migrate at the beginning of the third growing season into larger rivers in lakes (fluvial or adfluvial life histories). Bull trout usually mature at age 5 to 6. Adult migration begins in early spring (March or April) and may extend through the entire summer and fall. Most fish are in spawning streams by August. Adults often spawn more than once during their lifetime, but usually not in consecutive years.

The precise historic distribution of bull trout in the larger watershed, Granite Creek, is unknown. Natural barriers do not inhibit bull trout from accessing the North or South Forks, but barriers do occur in many tributaries. Differences in geologies influence the quality of habitat in each tributary. For example, streams in South Fork of Granite Creek drain decomposed granites, where streams in the North Fork drain belts. These differences in geology influence the quality of spawning gravels. Spawning habitat in the South Fork of Granite Creek naturally has higher amounts of sand and fine sediment than habitat in the North Fork. This may have influenced spawning success and recruitment in the South Fork. Regardless of the availability of spawning habitat condition, all accessible streams – including Sema Creek - would have likely provided important rearing habitat to juvenile bull trout.

The introduction of lake trout, brook trout, kokanee salmon, and mysis shrimp have significantly changed the biotic interactions in Priest Lake and its tributaries. The expansion of lake trout has severely depressed bull trout in Priest Lake (Fredericks et al. 1999, Bowles et al. 1991). Although bull trout have coexisted with lake trout in Priest Lake since 1925, changes in lake conditions and other species introduction have tipped the balance against bull trout in the last 40 years. One of these changes was the introduction of mysis shrimp in 1967 which changed the lake's food web. Initially, mysis caused a dramatic increase in lake trout because they were a more available food source for juveniles. As a result, competition and predation by lake trout on bull trout increased thereby causing the bull trout population to decline. Mysis also reduced kokanee's food source causing the kokanee population to collapse by 1976. This severely impacted bull trout and lake trout to a lesser extent, because adults fed heavily on kokanee. It is suspected that lake trout have been able to switch to other prey species while bull trout have not.

Due to the presence of lake trout, hybridization of bull trout with brook trout, and habitat changes from fire and/or management actions, bull trout populations in main Priest Lake have declined and may now be functionally extinct (Bjornn 1957; Fredericks et al. 1999).

Only small runs of adult bull trout move into Granite Creek and its tributaries. Mauser and Ellis (1985) installed a weir in lower Granite Creek in 1984. Tributary trapping and spawning surveys indicated that bull trout abundance was low in all streams. Only twenty-seven adults and one juvenile bull trout were caught in the weir trap (Mauser and Ellis 1985). Irving (1985) found low densities (0.1/100m2) of bull trout in the South Fork of Granite Creek from the Granite Creek confluence to above Sema Creek in 1982, 1983 and 1984. The low bull trout densities Irving found might indicate that, as of the early 1980s, the effects of introduced species and habitat degradation had already greatly reduced bull trout recruitment from tributaries and adults coming to spawn from the lake.

Adult bull trout were last reported in Sema Meadows (South Fork of Granite Creek) in 1993, which suggests that some spawning may be taking place. The Kalispel Tribe did not find bull trout during snorkel surveys in the South Fork above the Sema confluence in 1997. Annual redd counts have not been conducted in Granite Creek, so the location and numbers of spawning adults are not known.

Bull trout have not been identified in surveys of Sema Creek (Irving 1985).

Based on the surveys described above, it is very unlikely that bull trout are found within an area that will be affected by the direct or indirect effects of this project. The last known bull trout locations within this basin are more than two miles downstream of the project. Although recent surveys have not been completed, bull trout numbers were low in these downstream reaches for more than 15 years. Since that time, bull trout populations have continued to decline within the Priest Lake Watershed (Fredericks et al. 1999).

**Status of Habitat in Analysis Area**

Based upon field reviews, habitat and biological data, the analysis is focused on the potential effects to bull trout as they relate to shifts in channel equilibrium, stream temperature, and increased fine sediment. Shifts away from channel equilibrium can result in negative changes in the structure and function of stream ecosystems (Bilby and Likens 1980; Schlosser 1982) and their dependent fish populations. Substrates with high amounts of fine sediment may be harmful for spawning bull trout and juveniles that enter substrate in winter. Biologically, areas with high amounts of fine sediment may also affect fish feeding because macroinvertebrates can be limited. Habitat condition was evaluated by looking at how riparian harvest and road construction affects residual pool volume, pool quality, cover and cover complexity, and spawning habitat (fry production) within this analysis area. Information on these variables is summarized below. Sema Creek is the stream most likely in the cumulative effects area most likely to be affected by the direct and indirect effects of the project. South Fork of Granite Creek is the nearest stream where bull trout are most likely to be found, greater than three miles downstream from Section 5 (Stimson property).

As part of the analysis, six separate watershed-related field reviews were conducted: *October 22, 1997 (Cobb, Hydrologist, and Chatel, Fish Biologist); October 24, 1997 (Cobb, Hydrologist), November 3,1997 (Pauk, Hydrological Technician), June 6, 2001 (Cobb, Hydrologist and Dekome, Fish Biologist), September 28, 2001 (Cobb, Hydrologist and Dekome, Fish Biologist) and October 3, 2001 (Cobb, Hydrologist; Niehoff, Soil Scientist).* The *October 1997* field reviews included a reconnaissance of both potential road locations and a stream survey of those tributaries that would be affected by the road location. The *November 1997* review documented the condition of the mainstem of Sema and the major tributaries that were crossed. *The June 2001* survey reviewed the roads that had been constructed by Stimson. Some of the same roads that were surveyed in 1997 were resurveyed at that time. The *September 28, 2001* was the most extensive survey of the stream system that was completed for this project. The review in *October 3, 2001* focused upon a specific road segment of Alternative B. Previously, Bio-West conducted a habitat survey in 1992.

<u>Sema Creek- Habitat Condition</u>

*<u>Information based on 1992 Bio-West survey, 1997 field reviews</u>*
Bio-West classified the entire Sema channel as a meandering, meadow stream. Aerial photos show that Sema Creek is very complex. The channel consists of three meadows divided by short sections of confined Rosgen (1996) C channel types. Each meadow has a meandering stream channel with sandy substrate. Beaver dams occur in each meadow, flooding the main and side channels. Many of the dams are old, filling with sediment and breaching in places. Stream banks are composed of silt and are densely rooted with grass sod mats and other shrub species. The vegetation makes this channel type very stable unless significant changes in sediment and/or streamflow occur.

Channels in the confined sections have grassy mats and/or trees down to the water's surface. Beaver dams are present, but are not as numerous as in the meadow channels. Substrate consists mostly of sand with pockets of gravels and larger substrate. Sand and gravel bars are present along the lateral channel edges. Channels can be very susceptible to change brought about by increased water and sediment yields.

Headwater reaches in Section 5 consist of A and B Rosgen (1996) channel types.

*Pool Condition*

The largest pools occur in the meadows and in confined channels near the confluence of the South Fork of Granite. Residual pool volume averages 54 cubic meters. This is comparable to volumes found in the South Fork of Granite Creek. Beaver-formed pools have the largest pool volume averaging 261 cubic meters, followed by meander formed pools averaging 26 cubic meters. Large pools are the habitat bull trout would most likely use if they were reestablished in Sema Creek.

*Instream Cover and Cover Complexity*

Pools, runs, and glides form most habitat in Sema Creek. Cover in these habitat types is created by aquatic vegetation rooted on the stream bottom, undercut banks, and small woody debris. Pool and runs/glides have moderate amounts of cover averaging 41 and 36 percent respectively. Cover complexity averages 31 percent in a moderate and 25 percent in a high complexity category. This indicates that most pools have spots where branches, undercut banks, and aquatic vegetation intertwine to form habitat complexes. But pools do not have complex cover over their entire surface areas. These more complex habitats are ideal for larger bull trout because it provides them the best slow velocity habitat to rest and feed. This may force less dominant fish to hide in the aquatic vegetation on the channel bottom or along the channel's edge beneath undercut banks.

*Spawning Habitat*

Sema Creek drains a geology of decomposed granitics so it naturally has a lot of sand and small pockets of gravel substrate. Headwater streambanks are easily eroded, transporting sand and gravel downstream. The 1926 fire may also have contributed to the large amounts of sand with headwaters downcutting from increased water yield. As beavers occupied some of these burned areas, their dams would have stored much of material moving downstream. This was one reason why so much sand was observed behind older dams during the 1992 Bio-West survey.

Substrate in pools consists of 90 percent fine sediment and sand, and only 3 percent gravels. Substrate composition is similar in runs and glides, with only 6 percent gravels. High quality spawning habitat for resident bull trout is characterized as gravel 0.6 cm to 6.4 cm in size, that are loose so a fish can excavate an egg pocket and are clean, free of excessive sand and fine sediment. Comparing these requirements to the information above, suggests even small bull trout have marginal spawning sites to choose from in Sema Creek. While spawning gravels are present, the high amount of sediment would make it difficult for bull trout to find sites that result in high egg survival. Introduced brook trout are more successful spawning in gravels with higher amount of sediment. This gives brook trout a competitive advantage over cutthroat and bull trout and could be one reason why they are the dominant fish in Sema Creek.

*Additional 2001 Field Review Information*

It was determined during the September 2001 field review that the channel was primarily an E4 (Rosgen 1996). E4 channel types are hydraulically efficient channel forms, which maintain a high sediment transport capacity (Rosgen, 1996, pp. 5.130; Rosgen, 1994, pp. 174-192). Typically E4 stream channels have high meander width ratios, high sinuosity, low width/depth ratios, and a well-developed floodplain (ibid). The meandering and sinuosity of this channel type cause a resistance to flow that causes the stream energy to dissipate (Leopold, p. 64; Ritter, pp. 236-240). The sediment load drops because the stream energy dissipates in this slower-moving channel-type. Flows greater than the bankfull stage overtop the streambanks and extend out onto the floodplain (Rosgen, p. 5-21; Pauk, field review, November 3, 1997). Finer sediments are widely deposited over the floodplain, concentrated behind obstacles such as vegetation (Gordon, et al., p. 305). The floodplain of Sema Creek is 600 feet wide in the meadow reaches (Pauk, field review, November 3, 1997). Valley floors are thus gradually built up of layers of coarse material from old streambeds and glacial deposits, and finer silts and clays which have dropped out of suspension onto the floodplain (ibid). Streambanks are composed of silt and are densely rooted with grass sod mats and other shrub species as noted in the field reviews. The vegetation within the riparian zone makes this channel type very stable (Rosgen, p. 5-130; Pauk, field review, November 3, 1997; Cobb; field review, September 28, 2001). E4 channel types are very stable unless the stream banks are disturbed, and significant changes in sediment supply and/or streamflow occur (Rosgen; p 5-130).

This E4 section of Sema Creek is a classic meadow stream characterized by a narrow width-to-depth ratio, stable channel slopes, and high entrenchment. The stream dissects three broad meadows at this lower end of the cumulative effects area (Cobb September 28, 2001). The overhanging channel banks are very well vegetated and stable (Pauk, November 3, 1997, Cobb September 28, 2001). Numerous side channels flow through the floodplain (Cobb, September

28, 2001, and are normally dry. During periods of peak flow, these side channels function to dissipate the flow. Within this specific portion of Sema Creek, field surveyors found several older beaver dams in the 1996 aerial photos and earlier field surveys. These beaver dams trapped natural sediment moving through the system, moderated the streamflows, and provided physical structure to the creek. The dams most likely slowed the water enough over the years to allow natural sediment to settle out. In 2001, the field review noted that most of the beaver dams had failed and only remnants of them remained (Cobb, September 28, 2001). It is most likely that these dams failed during the unusually high 1996-97 peak spring runoff. The channel is very sinuous and thus the debris from the failed dams settled out in close proximity to the points of failure. The low gradient of the channel and the natural sinuosity of the E4 channel adds to the tendency of the stream to drop its sediment load.

South Fork Granite Creek – Habitat Condition

*Overall Rearing Habitat Quality*

Strong bull trout populations require streams with high channel complexity (Rieman and McIntyre 1993). Complex habitat may be particularly important to juvenile bull trout because they may demonstrate fixed-site territoriality (Saffel 1993). Pratt (1985) suggested that bull trout densities may be controlled by the availability of areas providing visual isolation and refuge from higher water velocities. Older fish often need pools (Hoelscher and Bjornn 1989) and areas with large or complex woody debris and undercut banks (Pratt 1985). Data collected the South Fork of Granite Creek suggests that accessible reaches lack complex habitat. Most of this habitat lacks the depth, cover, and cover complexity to support diverse age classes of fish. Habitat along channel margins is complex enough to support young-of-the-year fish; however, mid channel habitat appears to have limited complexity to support high densities of older fish age classes.

Complex habitat does exists in the lower reaches of the South Fork of Granite Creek in the form of deeper habitat with high amounts of cover. These high quality habitats occur infrequently over the length of accessible reaches.

*Spawning Habitat*

The amount and quality of spawning habitat within the Granite Creek Watershed varies by geology and steepness of each channel. The dominant geology of the South Fork of Granite Creek watershed is decomposed granitics. As a result, most substrate naturally consists of sand and gravels in low gradient channels. Logging and roads have been limited in the South Fork of Granite drainage (Table 1) so spawning habitat should be similar to natural conditions.

Table 1. Road densities.

| Drainage | Size ($mi^2$) | Current Road Density ($mi/mi^2$) | Road Density with 0.75 miles road construction on National Forest land ($mi/mi^2$) | Total Road Density with road construction on NF and Stimson lands ($mi/mi^2$) |
|---|---|---|---|---|
| Sema Creek | 8.7 | 0.50 | 0.59 | 0.93 |
| South Fork Granite Creek | 20.6 | 1.50 | 1.54 | 1.68 |

Information from the Kalispel Tribe's survey in 1997 indicates that spawning gravels were common for both spring and fall spawners. There were adequate amounts of "fair" spawning gravel for bull trout ranging in the 2-5 pound range (Kalispel Tribe 1997).

Comparing the spawning habitat requirements to the existing conditions, it appears that spawning habitat is limited. While spawning gravels are present, the high embeddedness makes it difficult for bull trout to find a site that will maintain their eggs. An egg pocket needs substrate that has large enough pore spaces to supply the eggs with oxygen and remove wastes. The high amount of sand provides very little pore spaces in the substrate to sustain eggs. Highly embedded substrates may be particularly harmful for juvenile trout that typically enter substrate in winter. Biologically, areas with a high embeddedness have very little space for invertebrates or juvenile fish to hide. Chapman and McLeod's (1987) review noted salmonid density declined with an embeddedness of 50 percent or more. Most reaches in the South Fork of Granite Creek exceed this level of embeddedness. This condition would likely have occurred in the absence of management activities because the dominant geology in the watershed is decomposed granitics, which are naturally erosive.

Information on the influence of fine sediment on spawning habitat is limited because substrate composition was visually estimated. This technique, while giving a rough estimate of surface fine sediment, does not predict the fine sediment below the channel's armor layer where trout excavate their redds. Thus, it is difficult to conclude if fine sediment is high enough to begin negatively affecting spawning success, beyond those effects of embedded gravels. Weaver and Fraley (1991) found a significant inverse relationship between the percent of the substrate (< 6.35 mm in diameter) and emergence success for bull trout using substrate cores.

## Direct, Indirect, and Cumulative Effects

### Direct, Indirect and Cumulative Effects at the Analysis Area Scale

For simplicity, the effects of both Federal and private activities on the bull trout will be displayed in each section below. Evaluation will be based on habitat indicators. For this project these indicators will serve as the matrix for consultation.

**Riparian Harvest**: Riparian harvest can increase stream temperatures by increasing solar radiation to the stream. It can also reduce the potential recruitment of large woody debris into the channel.

*Riparian Harvest:* Riparian harvest can increase stream temperatures by increasing solar radiation to the stream.

*Direct and Indirect Effects:* Riparian harvest on National Forest lands is minimal and only occurs associated with road construction across non-fish-bearing streams. The loss of riparian vegetation on federal lands would result only from the timber removal associated with road construction in Riparian Habitat Conservation Areas (RHCAs; USDA 1995). There would be 0.5 acre of riparian harvest within designated RHCA buffers (i.e. 150 feet on permanent non-fish-bearing streams and 75 feet on intermittent streams) in Alternative B, assuming a clearing width of 36 feet at each steam crossing (Jackson, personal communication). The indirect effect of riparian timber removal would be limited to site-specific increases in water temperature no more than 150 feet downstream of where culverts would be installed because of the limited tree removal affecting shading of the stream. No direct or indirect effects to main Sema Creek or South Fork Granite Creek are expected.

*Cumulative Effects:* The proposed road construction would result in a loss of riparian vegetation on Stimson Lumber Company lands. For Alternative B, the loss of riparian vegetation would total 3.0 acres for the 27 stream crossings on private land assuming RHCA buffer widths and an average clearing limit at these road crossings of 36 feet. Because of the overall, gentle terrain within Section 5, however, the clearing limits at the stream crossings probably would be less than the 36 feet used to estimate the loss of riparian vegetation. The cumulative loss of riparian vegetation on both National Forest and Stimson Lumber Company lands would total 3.5 acres in Alternative B.

On the private land in Section 5, loss of riparian habitat would not only result from road construction but also the riparian buffers delineated in Washington Forest Practices which are narrower than those required by the Inland Native Fish Strategy (INFS) on Forest Service lands. Table 2 outlines the difference in riparian buffer widths between INFS and Washington State Forest Practices (WAC 222-030-022). These buffer widths consist of the stream and the area on either side of the stream extending from the edges of the active stream channel or channel migration zone (i.e. floodplain). On Forest Service lands, timber harvest and equipment is prohibited unless these widths are not needed to meet riparian management objectives as determined by a watershed analysis or otherwise documented.

Table 2. A comparison of stream protection widths defined by INFS (Riparian Habitat Conservation Areas) on Forest Service lands and Washington Sate Forest Practices (Riparian Management Zones).

| Stream Classification | Forest Service (RHCAs) | Washington State (RMZs) |
|---|---|---|
| Permanent, Fish-bearing (Type 3) | 300 feet | 110 feet (30-foot no harvest) |
| Permanent, Non-fish bearing (Type 4) | 150 feet | 50 feet |
| Intermittent (Type 5) | 75 feet | 30 feet |
| Wetlands/bogs | 150 feet | 50 feet |

On Stimson lands, an estimated 10,600 linear feet of Type 3 streams and 13,000 feet of Type 4 streams exist within the area of proposed activities. These streams would be buffered according to Washington State Forest Practices as outlined in Table 2. Approximately 41.7 acres would lie within these buffer zones. There would be no reduction in shade within 75 feet of the Type 3 streams according to Washington State Forest Practices. Limited harvest could occur within these Riparian Management Zones (RMZs) except within a 30-foot core zone of fish-bearing streams where no harvest or equipment is allowed. Logging is only permitted when the basal area for trees greater than six inches dbh (diameter at breast height) exceeds 150 square feet per acre. In this instance, the harvest must leave 50 trees per acre including the 21 largest trees, a basal area of at least 110 square feet per acre, and downed wood totaling 20 tons per acre. On

Type 5 streams, equipment and timber harvest would be allowed within 30 feet of the intermittent streams but disturbance cannot exceed 10 percent of the ground and any excess ground disturbance must be mulched or seeded. Because most of the riparian vegetation would remain on fish-bearing streams as required by Washington Forest Practices, implementation of either action alternative would not have a measurable effect on fish at the boundaries of the cumulative effects area (Upper Sema Creek).

**Sediment Delivery Risk:** The direct risk of sediment delivery is related to the length of new roads constructed and number of new stream crossings (Table 3). Roads can divert flow (Jones and Grant 1996) and sediment (Furniss 1991) to stream channels. This sediment can then be carried into fish-bearing streams. Any value greater than zero indicates additional risk over the current condition.

*Direct and Indirect Effects:* It is highly unlikely that sediment from the failure of stream crossings or roads on National Forest lands would reach the fish-bearing sections of Sema Creek. The reduced gradient of the tributary junction, from approximately 4% to less than 2%, and distance of the proposed roads from a fish-bearing river segment (over 0.5 miles to Sema Creek, and greater than 3.5 miles to the nearest known bull trout habitat) suggests that sediment would settle out before reaching Sema Creek.

*Cumulative Effects:* The cumulative effects analysis took the conservative approach and assumed the worst-case scenario - a massive failure at a stream crossing on National Forest or Stimson Lumber Company lands. There is a low probability of this occurring, since culverts would be designed for a 100-year flow event as required by Washington State Forest Practice Rules, and the stream gradient is low at all the crossings. Also, the mass failure hazard for all of Section 5 is rated as low, which reduces the probability of such an event occurring. If such an event were to occur, some small amount sediment could reach fish-bearing portions of Sema Creek.

Given the worst-case scenario, the direct effects of the action on Federal lands could be a measurable amount of sediment entering near where the tributaries flowing from Federal lands join Sema Creek. Under this scenario, the sediment would settle out quickly in the low-gradient (<2%), meandering, low-energy meadow mainstem of upper Sema Creek. If these minimal direct effects of the Federal action are combined with those on private land, the cumulative effects of this project could be to reduce habitat diversity and alter channel morphology in the meadows of Sema Creek.

The cumulative effects may be to prolong the time necessary to reestablish healthy populations of the bull trout in upper Sema Creek. The data suggests that bull trout have not been found within this section of creek for almost two decades, this sediment is highly unlikely to result in the take of bull trout.

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**Table 3. Approximate relative sediment delivery risk associated with road building and culvert placement in stream channels.**

| **Length of road (ft.) / # of culverts installed** | |
|---|---|
| **Ownership** | **Alternative B** |
| Federal | 4,000/5 |
| Private | 16,000/27 |
| Total | 20,000/32 |

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**Fish Passage:** It has been well documented that most culverts increase the difficulty of passage of fish though streams (Behlke 1991). Flow velocities within a culvert either make passage impossible or increase the energy expenditure over that which would be expended under natural conditions. As a result, the placement of any culvert within a fish-bearing stream has negative consequences on fish species that migrate. Bull trout have been documented migrating long distances (Jakober 1995).

*Direct and Indirect Effects*: Because no culverts are planned for placement in fish-bearing streams on Federal lands, no direct, indirect, or cumulative effects to fish passage are expected from implementation of the project.

*Cumulative Effects:* Four culverts are planned in fish-bearing streams on Stimson lands in Section 5 within the cumulative effects area. A hydraulics permit would be required by the State of Washington prior to placement of any of culverts (WAC 220-110-010 and WAC 220-110-030). In fish-bearing waters, culverts shall be designed and installed so as not to impede fish passage (WAC 220-110-070). Although these culverts would be designed in accordance with Washington State law, it would likely have some indirect effect to fish passage. The most likely effects are a slight delay in migration timing or minimal increases in energy expenditure. If placed in accordance with law, these pipes should have almost no effect on bull trout, since the culverts would be at the upper extent of the historic range of these fishes.

## Rationale for Determination of Effects Under All Federal Action Alternatives

Activities proposed by the USDA Forest Service are highly unlikely to have any measurable effects to fish-bearing streams, let alone current bull trout habitat. The only possible direct effect would to be to deliver some immeasurable amount of sediment to Upper Sema Creek. The beaver ponds in this portion of the creek would provide a settling basin for this sediment, preventing it from reaching bull trout habitat in South Granite Creek, and no changes in channel morphology would result.

Activities proposed by Stimson are likely to have effects on fish-bearing portions of Sema Creek. First, construction of roads and logging of riparian habitat will likely increase fine sediment in this creek. This is especially true if the activities in Section 5 are combined with other Stimson activities in sections 3 and 9. Sediment increases may be difficult to measure in Sema Creek because it will take time for sediment to route from headwater channels downstream and most current stream substrate is already sand. In high runoff years, however, increased sediment delivery may reduce the quality of spawning habitat in Upper Sema Creek. The construction of a culvert in the fish-bearing portion of stream may also increase the time necessary for fish passage as well as slightly increase stream temperature near the culvert.

The activities proposed on private land would greatly increase the road density in Sema Creek. High road densities have been found to be inversely correlated with bull trout densities (Lee et al 1997). Managed watersheds also tend to have higher densities of brook trout. Because this watershed has experienced little management activity, most of its physical processes are still functioning as they did historically. The cumulative effect of either action alternative would be that bull trout might have more difficulty in becoming reestablished within Upper Sema Creek. Overall, however, neither action alternative would have a measurable effect on the persistence of bull trout within the Priest Lake watershed.

## Determination of Effects

Based on the above analysis, the proposed federal action by itself would have **No Effect** on bull trout or its habitat. There will be no change to bull trout habitat and no effect to bull trout individuals from the construction and maintenance of the access routes across National Forest lands.

When Federal actions are combined with the effects of Stimson Lumber Company's activities there will likely be a downward trend in fish habitat conditions in Upper Sema Creek. Based on surveys, Upper Sema Creek is not currently and has not recently been utilized by bull trout. As a result this project will not result in the "harm" (take) of bull trout. Because the action does modify habitat that could, someday in the future, serve as habitat to a growing bull trout population, my determination for this project is it is **Not Likely to Adversely Affect** bull trout populations in the Granite Creek drainage.

## Recommendations and Conditions

Inland Native Fish Strategy (1995) standards and guidelines must be met on the Federal portion of this project.

**Revised by:** /s/ Shanda Fallau Dekome **Date:** 4/1/02

Shanda Fallau Dekome
Idaho Panhandle Forest Fisheries Biologist

Earlier versions of this BA were written by Brett Roper and John Chatel. Brett currently works at the Aquatic Ecology Unit in Logan, Utah. John is the Assistant Forest Fish Biologist on the Umpqua National Forest (Roseburg, Oregon).

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# APPENDIX G – Response to Comments

**PROCESSING AND EVALUATING PUBLIC COMMENTS**
A total of 14 comment letters were received during the 45-day public comment period after the release of the Draft Stimson Access Project Environmental Impact Statement. These letters have been arranged according to the date they were received. The letters were scanned into the IBM computer system and only the main content of each letter related to comments on the DEIS are shown here. With the exception of the letter from the U.S. EPA, which is included at the end of this appendix, all original letters are located in the Project File.

The responses to comments have been added to the letters following each comment. The responses are denoted in bold and italics for easier recognition.

**LETTER #1 -** Rachel Thomas

**Comment:** I totally support providing access to the private property across the Forest Service Lands. Request that I be provided a copy of the Draft EIS.

**RESPONSE:** ***Thank you for your comment.***

**LETTER # 2** - Russell and Vickie Riley

**Comment:** It is our understanding that inholders have a legal right to access, and that agencies have no right to contravene that. Requiring an EIS for access to private property ought to be considered unconstitutional.

The continual addition of incidents against private property rights is slowly creating a tremendous backlash for federal agencies, U.S.F.S., Fish and Wildlife, the EPA in particular, and any agency charged with dealing with the ESA. For a lot of us, the backlash can't come soon enough, but come it will. Your action on this access petition will either be reasonable to the property owner, or will add to the enormous list of egregious and unreasonable acts of federal agencies. Your choice!

**RESPONSE:** ***ANILCA is a statute that mandates the Forest Service to grant landowners access to their lands when those lands are located within the National Forest boundary, when no other reasonable access exists, and the uses of the land planned by the landowner are determined to constitute "reasonable use and enjoyment". ANILCA does not relieve the Forest Service from fulfilling the requirements of the National Environmental Policy Act (NEPA). As was stated in Chapter II, an EIS was prepared because the project proposed road construction in an inventoried roadless area.***

**LETTER # 3** - Roberta Ulrich

**Comment:** Of the two alternatives you allowed yourselves you have selected the one that certainly appears to do the least damage to the Priest Lake ecosystem.

**<u>RESPONSE</u>**: ***We did further analysis on the alternatives based on the comments we received to the DEIS. Alternative B would be the least impactive to the environment as discussed in Chapter II, Comparison of Alternatives. The Record of Decision also explains why Alternative B would cause the least impacts on National Forest lands.***

However, it appears to me that too little consideration was given to several issues. First, there probably is no more endangered animal than the woodland caribou. The biologists' most recent count of this last remaining herd in the lower 48 states was down to 30. At that level, even the "slight increase in the risk of mortality" deemed possible in your report (Page III-8) might be more than the species could survive. That circumstance would seem to require that the U.S. Fish and Wildlife Service sign off on this plan before the caribou are further endangered. Your report states that, if there is evidence of caribou presence, you will then consult with USFWS. But by the time a logging truck hits a caribou irreparable damage may have been done to the herd.

**<u>RESPONSE</u>**: ***As part of our responsibilities under ESA, we have conducted ongoing consultation with the USFWS concerning this project. As one of the mitigation measures (Chapter II), any TES species (i.e. caribou) discovered during use of the easement would be reported as soon as possible, and immediate consultation with the USFWS, if needed, would occur. The consultation would determine if any site-specific measures would be needed. Moreover, public access to the new road would be restricted. These factors would result in not likely to adversely affect the caribou populations or caribou habitat.***

**<u>Comment:</u>** I realize that ANILCA requires you to provide reasonable access, but ANILCA is a statute and so is the ESA. ANILCA cannot automatically override ESA.

**<u>RESPONSE:</u>** ***Access rights under ANILCA must provide reasonable access to private landowners. However, ANILCA does not take precedence over other laws and regulations. The statute must be exercised in a manner that ensures that the use and occupancy of federal lands for access purposes complies with all applicable laws and regulations, including such statutes as the Endangered Species Act (ESA), the National Historic Preservation Act (NHPA), etc. as discussed in Chapter I.***

**<u>Comment:</u>** The operative word, of course, is reasonable. Your report discounts helicopter access as an alternative because it was not proposed by Stimson (DEIS Page II-19, 20). Under ANILCA is the land owner the one to define reasonable? You note that the Bismark timber sale is being logged by helicopter (DEIS Page III-27), which would indicate that it is a reasonable method of operation in the area.

**<u>RESPONSE:</u>** ***In response to your comment and others, we added Alternative D, which is a helicopter alternative. A description of this alternative is located in Chapter II. This alternative would be similar to the No Action Alternative as there would be no federal action (i.e. granting of an easement), but this alternative would assume that Stimson Lumber Company would log Section 5 by helicopter and would use helicopter for their future management.***

**<u>Comment:</u>** Your report raises another concern. You state in several places that the Forest Service will monitor road construction, road use and their effects to assure that Stimson complies with your standards. However, there is no indication what, if any, penalty will result if Stimson does not comply. Will the company be fined? Will the road be closed? Or will it simply be told it shouldn't have done that and no action taken? Without some defined penalty violations the company has no incentive to meet your standards.

**RESPONSE:** ***As stated in Chapter I, there would be certain mitigation that would be applied during construction and use of the road on National Forest lands. These design criteria and specifications would be incorporated into a road construction contract. A certified road construction inspector would inspect the construction. If the contract specifications, quality of material, concurrent erosion control work, etc. are not being followed, the contractor would be issued a non-compliance order by the Forest Service. If the contractor does not correct these contract deficiencies, the contract would be shut down or defaulted. If any resource damage were caused by negligence, damages would be assessed and repaired at the expense of the contractor. Similarly, Stimson Lumber Company would need to comply with the terms of the easement in regard to the use of the road.***

**Comment:** Several times you state that effects will be minimized because the road will not be open to the public. While that is a good thing, logging trucks are certainly more disruptive to the forest than almost any other kind of traffic.

**RESPONSE:** ***Logging traffic including logging trucks would cause impacts to various wildlife species and other resources as discussed in Chapter III. However, the closure of the road to other users would reduce the short-term and long-term impacts of the road more than if public access was also allowed. The effects of this mitigation measure are discussed in the various resource sections of Chapter III.***

**Comment:** Last, why a 66-foot width? That's wide enough for the trucks to travel sideways.

**RESPONSE:** ***The standard easement across National Forest lands is 66 feet. This width, which equates to the engineering measurement of a chain, allows for the normal 12-foot or 14-foot minimum road width, cut and fillslopes, any necessary turnouts and curve widening, and right-of-way clearing.***

## **LETTER # 4** - John H. Larson

**Comment:** I would like to see the logging road for Stimson given the ok to access the endangered species area.

After the logging is completed the road will probably be gated or blocked off – with the amount of land set aside for endangered species. This shouldn't have too much of an impact on the species.

**RESPONSE:** ***Thank you for your comment. The effects to threatened and endangered species as well as other wildlife species is discussed in the Wildlife section of Chapter III.***

**LETTER #5** - Roger Gregory

**Comment:** In reference to the proposed road to the timber holdings of Stimson Lumber, I am in support of giving the access.

I thought for one thing that there is an Idaho Law on the books whereas property owners are guaranteed access to their property. Or at least, that access cannot be denied.

**RESPONSE:** ***As stated in Chapter I, the Alaska National Interest Lands Conservation Act (ANILCA), is a federal statute that directs the Forest Service to grant landowners access to their lands when those lands are located within the National Forest boundary, when no other reasonable access exists, and the uses of the land planned by the landowner are determined to constitute "reasonable use and enjoyment." In consideration of this statutory requirement, the Purpose and Need of the project is "to meet the Agency's responsibility to provide access to non-federal land, and to do so in a manner that minimizes adverse effects on public lands and resources."***

**Comment:** In reference to the grizzly bear area, when this issue first came up, probably 20 years ago, the Priest River Chamber of Commerce went on record opposing the closing of roads for grizzly bear. We were told that people would not be denied access.

Also there are others, including a leading member of the Inland Empire Lands Council, who gets to their property through Forest Service lands. What is good for the goose is good for the gander.

Common sense is not prevailing here at all. Stimson is entitled to access one way or another and you should provide it. The other option is for the people who are opposing it is to purchase the property at appraised value.

**RESPONSE:** ***In Chapter I, the FEIS discusses that the Forest Service, under ANILCA, must grant access that minimizes impacts on Federal resources while meeting all applicable laws including the Endangered Species Act. In 1995, the Priest Lake Ranger District completed the environmental analysis for access management in the Kalispell-Granite Bear Management Unit [in which the proposed activities will occur]. In the Decision Notice for that project, it was stated: "under ANILCA, rights to access to non-federal landowners would be maintained in the Selected Alternative."***

**LETTER # 6** – Idaho Fish and Game - Voice Mail - Information request, no comments.

**LETTER #7** - Kootenai Environmental Alliance

**Comment:** K.E.A. mailed 4 pages of written comments to the Acting District Ranger on April 2, 2001 regarding the Stimson Access Project E.A. A number of issues were raised in our letter, including cumulative effects/watershed/fisheries, CWA, NEPA, and roadless impacts.

The DEIS did not address the specific issues raised in our April 2, 2001 letter. There is no explanation in either Chapter II or III of the DEIS as to why there is no expert agency comment, as required by NEPA at 40 CFR 1500.1(b), regarding each of the following issues described in detail on pages 1, 2, 3, and 4 of our letter.

**Cumulative effects/culverts/cfs flows:**
Page 2 of our letter raised a number of issues, including cumulative effects relating to the 20 stream crossings on Stimson lands. The DEIS on page II-23 continues to show the 16,000 feet of road construction with 20 stream crossings. The NEPA issues relating to the culvert installations were listed on page 2 of our letter.

The cumulative effects analysis in Chapter III, pages 45, 46, 47, and 48 does not meet NEPA requirements of 40 CFR 1508.7 and 40 CFR 1508.8. There is no analysis of the cumulative effects to the drainage from the need to install a minimum of 24 culverts, over the 3 miles of new road construction, and the logging that would occur in Section 5 of the Stimson lands.

Table 7 on page III-58 of the DEIS continues to show the total of 25 culverts that would be installed under Alt B and the 24 culverts that would be installed under Alt C, but the cumulative effects analysis in Chapter III of the DEIS failed to address the issues relating to the installation of culverts on Stimson lands along with the culverts that would be installed on Federal lands.

**RESPONSE:** ***We added additional discussion of the cumulative effects on Stimson lands in the watershed and fisheries portions of Chapter III of the FEIS. This analysis includes the road construction, culvert installation, and logging that would occur in Section 5.***

**Comment:** The cumulative effects analysis on page 45 thru 48 of Chapter III of the DEIS also did not address the issues cited on page 3 of our letter concerning peak flows. The cumulative effects analysis did not examine the significance of increased water quantity in Sema Creek and tributaries, the associated new logging, new road construction and installation of either 24 or 25 culverts. NEPA at 40 CFR 1508.27(a)(b) and 1508.27(b)(7) were cited in our letter by the DEIS did not address these NEPA regulations.

**RESPONSE:** ***WATSED was used to analyze the effects to peak flows in the FEIS. The results of this analysis are presented in the watershed portion of Chapter III.***

**Comment:** A number of issues were raised on pages 2 and 3 of our letter regarding the sizes of the culverts that would be installed and the estimated cfs flow that the pipes were designed to handle. No data is supplied in Chapters II and III of the DEIS regarding the sizes of the 24 or 25 pipes that would be installed. There is no analysis in either Chapter regarding the expected cfs flows that would move through the pipes and there is no analysis in either Chapter as to whether the cfs flows during an r-o-s event would cause coarse bedload movement problems in any tributaries within the cumulative effects analysis area. NEPA at 40 CFR 1500.1(b) requires accurate scientific analysis, high quality information, and 1500.1(b) also requires that information be made available to citizens before decisions re made and before actions are taken.

**RESPONSE:** ***In response to your comments, we included a description and map of the culverts that would be installed as Appendix C to the FEIS. An analysis of the culverts is included in the watershed and fisheries portions of Chapter III. Prior to the installation of these culverts on private land, Stimson Lumber Company would need to obtain a hydraulics permit from the Washington Department of Fish and Wildlife as per WAC 220-110-070. The***

***agency is responsible to ensure that the culverts would maintain structural integrity to 100-year peak flows with consideration of debris.***

**Comment:** Pages 3 and 4 of our letter cited the CWA, degradation of waters, and cumulative effects to fisheries due to logging and road building on Stimson lands. 40 CFR 130.12(c), which pertains to the CWA, has specific requirements regarding federal activities, including the discharge or runoff of pollutants that may occur on federal lands. It is indicated that actions of Federal agencies on federal lands shall comply with all Federal laws that concern the control and abatement of water pollution.

**RESPONSE:** ***The regulatory framework for water resources is discussed in the beginning of the Water Resources section of the FEIS. This section discusses the laws and regulations, and how the Forest Service complies with the Clean Water Act. The effects analysis in the watershed resources portion of the document describes the anticipated effects for each alternative. Given the design features of the road construction, INFS standards and site-specific BMPs for the construction of the road on federal lands, there would be a limited increase in sediment delivery to the streams and all beneficial uses would be protected.***

**Comment:** The DEIS did not cite each specific section of the CWA, nor any specific section of 40 CFR part 130 or part 131 that allows for the continued introduction of sediment into water bodies within the analysis area that currently are in a degraded condition. Sediment problems within the cumulative effects analysis area are described on pages III-39, 40, and 43 of the DEIS. There is no discussion with accurate scientific analysis in Chapter III that indicates the logging, road building, and culvert installations on Stimson lands will meet the requirements of the CWA regarding protection of the fisheries within the cumulative effects analysis area. Tables 10 and 11 on page III-61 [of the DEIS] show that under both Alternatives the activities on private lands are likely to result in long-term risk to Management Indicator Species.

**RESPONSE:** ***The effects analysis is included in the watershed and fisheries sections of Chapter III of the FEIS. The Water Pollution Control Act and the Water Resources Act of 1971 generally guide the anti-degradation policy of the State of Washington. Pursuant to these acts, existing beneficial uses shall be maintained and no further degradation that would interfere with or become injurious to existing beneficial uses shall be allowed. Rules to protect water quality from forest practices are jointly adopted by the Washington Department of Ecology and the Washington Forest Practices Board. State requirements in accordance with the Clean Water Act for protection of the waters of the State of Washington are addressed through the use of Best Management Practices (BMPs) adopted and designed for every project. The U.S. Environmental Protection Agency has certified the Washington Forest Practices Rules and Regulations as BMPs. The Washington Department of Natural Resources administers and enforces the Forest Practices Rules and Regulations on private lands to ensure compliance with the Clean Water Act.***

**Comment:** On pages III-37 and 38 there is a discussion of the X-DRAIN model and WEPP in relation to sediment delivery to streams. Elliot 1996 is cited as a reference. There is a discussion by W.J. Elliot in the USDA Forest Service Southern Research Station General Technical Report SRS-39, "Drinking Water from Forests and Grasslands" that concerns computer models and sediment. Chapter 9 of the Report is titled Roads and other Corridors. On page 90 of Chapter 9, under the paragraph titled Reliability and Limitations of Findings, there are the following sentences. "Even a well-designed erosion experiment frequently results in variations from the mean of up to 50 percent. This high variability should be considered when interpreting any research or monitoring results, or any erosion prediction value. Managers would exercise caution when applying any model to an area where it has not received some validation. Predictive technology for one climate, soil, and topography does not translate well to other conditions unless the model is able to incorporate those site-specific characteristics." [Drinking Water from Forests and Grasslands, a synthesis of the Scientific Literature, George E. Dissmeyer, Editor, Sept 2000].

***<u>RESPONSE</u>*: We used the X-DRAIN model to assess the impacts of roads on National Forest lands. X-DRAIN is an analysis tool designed to estimate potential sediment yield from roads, landings, and similar features as affected by climate, soil, local topography, and the design of the road. Data from the nearby Bunchgrass Meadows were used for the climate variables. The soil type used in the model was a sandy loam, which is characteristic of the soils in the project area. The model used site-specific measurements of road grade, road width, length between road drainage features, fill grade, fill width, buffer grade, and buffer width to determine the amount of erosion and resulting potential sedimentation to stream channels from the proposed roads (project file).**

***Models are designed to address a number of conditions, and organize the evaluation according to rule sets established by the author. In the case of X-DRAIN, the rule sets are based on research, and the data are collected locally. Models, however, include simplifying assumptions, and cannot include all possible variables. Field research showed that the range of sedimentation amounts observed would vary by at least 30 percent from the mean of predicted X-DRAIN values (Elliot et al. 1998, p. 3). Validation work has shown predicted values generally fall within this range of observed values (ibid).***

***However, we did not rely solely on the X-DRAIN model for our sediment delivery analysis. Several field reviews were conducted by the project hydrologist and fisheries biologist as well as by the soil scientist, a geo-technical engineer, and the project engineer. These field reviews were documented in reports and photographs. The WATSED model also was run to assess the effects on sediment delivery. Various scientific references also were used to predict the possible effects of the actions on sediment delivery to streams. See Chapter III for further information.***

## <u>Letter #8 -</u> American Wildlands

**<u>Comment:</u>** Our biggest concern with this project lies in the fact that this proposal is within the South Fork Inventoried Roadless Area (IRA). This project would result in the loss of 150 acres of Inventoried Roadless Acreage, which is a significant amount for an area that is only a little over 5,000 acres. We are not supportive of this project due to the irreversible loss of roadless acreage.

Just to be on the record, we want to express our support to have a land exchange or purchase of inholding within the roadless area. The DEIS discusses the fact that you have approached Stimson Lumber about a land exchange, and they declined, which is very unfortunate. We encourage you to continue to pursue such solutions in the future. We see that it is obviously time to deal with the problems that inholdings pose in roadless acreage. We would like to discuss this situation further with you, since there is a great deal of private land within Idaho Panhandle roadless areas. I realize that it is impossible to conduct a land exchange or purchase without Stimson's approval and interest, but it is time to start discussing ways to solve the inholding problem. It seems the first step to dealing with this problem is to deny access to the private inholdings. By denying the access under ANILCA (based upon the fact that it will cause the Forest Service to violate natural resource protection laws) it will make Stimson realize that having inholdings in roadless areas is not the best-case scenario. They would be much better off selling these and taking the money, or gaining better timberlands that are easier to access. How can this be economical for Stimson? They are having to build a road, they have a fairly long haul distance, and they are only logging 640 acres. Will the money they make from the 640 acres even equal the cost for the road and the legal challenge they have mounted for this? We have to wonder if this is just a foreshadowing of future proposals.

**RESPONSE**: ***These alternatives were considered, but were dropped from detailed analysis for the reasons discussed in Chapter II. Stimson Lumber Company has been unwilling to consider a land exchange or purchase.***

**Comment:** The DEIS gave the impression that the road that is being built to access the Stimson parcel is not going to be removed after use by Stimson, but is going to stay in place for future use. If the road must be built, we would advocate for trying to work out an agreement with Stimson that requires the road to be obliterated after logging is completed. There is no reason to leave such a road in place. If the road is in place it will be utilized by bikers, motorized vehicles and others.

In addition, it will act as a movement barrier for wildlife, as well as causing damage where is crosses the streams. Did Stimson ask for a road that would be kept in place forever, or just access? We urge you to require Stimson remove this road as soon as it is utilized for logging.

**RESPONSE:** ***The easement for the road would be permanent. As stated in Chapter I, the use of the road on the easement, however, is limited to operational and administrative activities associated with long-term timber management on the private land in Section 5. Such activities such as thinning, burning, planting, brush disposal, and additional timber harvest are examples of long-term timber management practices that would occur through time. As described for each alternative, the road would be closed with a gate year-round to restrict motorized access.***

**Comment:** The DEIS states that "Section 7 of the ESA directs Federal agencies to ensure that actions funded or carried out by the agency are not likely to jeopardize the continued existence of any threatened or endanger species or result in the destruction or adverse modification of their critical habitat. Under ANILCA, the Forest Service must authorize access that minimizes impacts on Federal resources while meeting all applicable laws and regulations of National Forest management, including the Endangered Species Act. For these reasons, this issue has been eliminated from further analysis." I do not understand why this issue has been eliminated from further analysis? We are not convinced that threatened and endangered species will be protected under this proposal and the ESA is being complied with. How can a road into a roadless area and associated logging not cause massive impacts to wildlife? I do not think there was adequate analysis under the DEIS to determine if they will be impacted.

**RESPONSE:** ***One of the key issues that were identified was the effects to grizzly bear, lynx, and their habitat as discussed in Chapter II of the document. The effects to wildlife species,***

***including the above species and other listed species covered under the Endangered Species Act (ESA), are fully analyzed in the FEIS (Chapter III, Wildlife Section) and in the Biological Opinion and Assessment for the project. The effects to bull trout, a listed threatened species, also were identified as a key issue, as well as the effects to TES and Rare Plants (see Chapter II). The statement that you quote above was written in the Stimson Access Project Environmental Assessment, which was issued February 28, 2001. In the DEIS, the statement was removed because TES species were fully analyzed. As stated above in your comment, the Forest Service needs to comply with all applicable laws and regulations such as the Endangered Species Act in our management, which includes projects such as the issuance of access across National Forest lands.***

<u>Comment:</u> What is road #308 utilized for? Is it opened to motorized vehicle use? This road goes right through Section 8 of the inventoried roadless lands. When was this road built? If this proposal moves forward, we would like to see the road density in this section decreased by closing #308.

<u>RESPONSE</u>: ***As described in Chapter III, the Kalispell-LeClerc Forest Road 308 serves as the main route through the area and to destinations such as Petit Lake and the trailhead to Kalispell Rock on the Priest Lake Ranger District, and continues westward to the Pend Oreille River. This collector road is a system road designed as a Maintenance Level 4 Road, which is conducive to passenger car traffic. Road 308 was originally constructed in the early 1930s during the Civilian Conservation Corps (CCC) era.***

***In 1995, the Priest Lake Ranger District completed its analysis for the Kalispell-Granite Access Management Project to establish the Kalispell-Granite Grizzly Bear Management Unit. In the Decision Notice for that Environmental Assessment, Road 308 was to be maintained as an open road because of its importance and high level of recreation use. In 2001, the traffic count for vehicles using this road exceeded 5000 vehicles. Road 308 forms the southern boundary of the South Fork Mountain IRA. It does not go through the IRA.***

<u>Comment:</u> The DEIS stated that "The Harvey-Granite Road, which serves as the inventoried northern boundary of the South Fork Mountain IRA, was decommissioned (partially obliterated) in 1998. At that time, the culverts were removed and the road surface scarified and re-vegetated. Decommissioning this road essentially removed the boundary that separated the South Fork Mountain IRA from the adjacent Grassy Top IRA to the north." Does this mean that the South Fork MTN IRA is now considered part of the Grassy Top IRA, and it will be combined into one total acreage? Does this ensure that if the Stimson access road is built that the South Fork IRA will still be considered an Inventoried Roadless Area? That is one of our main concerns is that this Inventoried Roadless Area will no longer qualify for as a roadless area, and lose it status as inventoried. Please ensure that this is not going to happen. We firmly feel that there is a very limited amount of roadless lands left in the United States, and they need to be maintained in any way possible.

The DEIS discusses the fact that there is a great deal of unroaded acreage in the area. "Combined, the two IRAs—South Fork Mountain and Grassy Top—along with the unroaded adjacent lands meeting roadless character (Sections 6, 31 and 36) total 23,552 acres." Is there anyway that these unroaded adjacent lands (Sections 6, 31, and 36) could be added into the inventoried roadless category? Due to the fact that the South Fork Roadless Areas is potentially losing acreage through this proposal it seems perfect to add in more acreage at this time. We urge you to consider this as part of this project in order to ensure that the three sections mentioned above are not lost to road building and logging.

**RESPONSE:** ***In 1972, the Forest Service initiated a review of roadless areas on National Forest lands larger than 5,000 acres to determine their suitability for inclusion in the National Wilderness Preservation System. The second and final review process, known as Roadless Area Review and Evaluation II (RARE II), resulted in a nationwide inventory of roadless areas. The South Fork Mountain and Grassy Top RARE II areas were designated during this process and evaluated in the 1987 IPNF Forest Plan (Appendix C) as per requirements of the National Forest Management Act (NFMA).***

***Both RARE II areas were included in the Forest Service Roadless Area Conservation FEIS of November 2000, which analyzed future management strategies. On January 12, 2001, the Roadless Area Conservation Rule was published in the Federal Register. This rule was to take effect March 13, 2001, and the implementation was later delayed until May 12, 2001. There were eight lawsuits filed against the Roadless Area Conservation Rule. On May 10, 2001, the Idaho District Court issued a preliminary injunction halting its implementation. Subsequent to that ruling, a "Notice of Appeal" was filed on the District Court's issuance of the injunction. A decision on the appeal was issued by the 9th U.S. Circuit Court of Appeals on December 12, 2002, that reversed the District Court's injunction (Kootenai Tribe et al. CV-01-00010-EJL, 2002). On July 14, 2003, the United States District Court for the District of Wyoming permanently enjoined the Forest Service from implementing the Roadless Area Conservation Rule. This decision has been appealed to the United States Court of Appeals for the 10th Circuit by the defendant-interveners. A decision on this appeal has not been rendered by the court. As a result, the Roadless Area Conservation Rule is not in effect, and the Forest Plan for the Idaho Panhandle National Forests govern the management of inventoried roadless areas on the Forest. The rule, if it would become effective, would supersede existing forest plan management direction. In either case, the proposed action would be consistent with the Roadless Area Conservation Rule. The rule allows for the continuation of activities associated with reserved or outstanding rights provided by statute or treaty as stated in the Forest Service Roadless Area Conservation FEIS Summary (USDA 2000d, p. S-22).***

The unroaded adjacent lands (Sections 6, 31, and 36) to which you refer are all located on the Sullivan Lake Ranger District of the Colville National Forest, not the Idaho Panhandle National Forests. The question of whether to add these sections of land to the existing inventoried roadless area is beyond the scope of this proposal, which pertains to granting a special use authorization, under the auspices of ANILCA, across National Forest System lands administered by the Idaho Panhandle National Forests.

**Comment:** There are some reasonably foreseeable actions that may occur adjacent to or within the South Fork Mountain IRA in the future that could potentially change the existing roadless character. "The reasonable foreseeable action is: Implementation of the Stimson ANILCA Access Easement Final Environmental Impact Statement, Sullivan Lake Ranger District, Colville National Forest, Pend Oreille County, Washington, September, 2000. If this project is implemented, approximately 89 acres on the eastern side of Section 6, T36N, R45E, W.M. would be removed from roadless character due to road construction on National Forest lands. This reduction would leave a total of 21,497 acres in the cumulative effects area (RAC) in roadless character after this action."

Is this proposed action described above entering the same roadless area? What roadless areas is it entering? What other solutions are there to address this obvious trend of entering roadless areas for industrial logging? Land exchanges, purchase of Stimson's inholdings or complete denial of ANILCA access? We are firmly supportive of trying to find a solution to this access problem, and would prefer that it is a permanent fix, such as purchase or exchange. Would public pressure on Stimson help to convince them that entering roadless areas is not appropriate in this day and age? We must find a solution to this problem. Stimson cannot continue to get away with roading public roadless lands.

**RESPONSE:** ***Thank you for your comment as we found a mistake in the description of the reasonably foreseeable action. This parcel described above is located on the western edge of Section 6, and not the eastern edge as was described in the DEIS. A correction was made to the FEIS.***

***For this project (i.e. Stimson Access Project), the activities in Section 6 were identified as a Reasonably Foreseeable Action in Chapter I and the discussion of effects that you quote is located in the Roadless section of Chapter III. The 89 acres do not lie within an Inventoried Roadless Area (IRA), but are located on the Colville National Forest in an unroaded area contiguous to the South Fork Mountain IRA as described in the Roadless analysis. This unroaded area contiguous to the South Fork Mountain IRA is displayed on Figure 13, and the reasonably foreseeable action is depicted on Figures 14 and 15. The area is composed of three sections, Section 36, T37N, R44E; a portion of Section 31, T37N, R45E; and Section 6, T36N, R45E, W.M. Section 36 was acquired by the Colville National Forest through a land exchange with the State of Washington in June 1991.***

***The Forest Service has authority to acquire lands through direct purchase and equal value exchange. Our lands program works with voluntary, willing sellers. As discussed in Chapter II, Stimson Lumber Company does not wish to exchange or sell their lands. Therefore, the Forest Service has statutory responsibilities to provide access to these properties.***

**Comment:** The DEIS explains "In September 2000, a lawsuit was filed by Stimson Lumber Company because of the unreasonable delay in providing access to their land. Access to Section 5 was originally requested in 1992. A motion to stay proceedings was granted January 18$^{th}$; this stay directed the Forest Service to prepare an Environmental Assessment by February 28, 2001. On February 1, 2001, a new scoping notice was sent to 36 members of the public, tribes, agencies, organizations, and to those who commented or expressed interest previously." Did this stay direct the Forest Service to do anything else? It did not say that the Forest Service must grant access did it? Just conduct an environmental assessment and determine if the access complies with applicable statutes?

Why did the Forest Service not appeal this decision? Are there any cases where the Forest Service has decided to not grant ANILCA access, been sued and won the suit?

**RESPONSE:** ***The statement above is correct in that the Forest Service was directed to prepare an Environmental Assessment (EA) by February 28, 2001, for the ANILCA request into Section 5. It did not direct the Forest Service to grant access, but to proceed with responding to the access request by preparing an EA. The stay was in response to a lawsuit by Stimson Lumber Company against the Forest Service, filed on September 28, 2000. The suit was filed because the Forest Service had not acted on repeated requests for permanent road***

***access "in violation of ANILCA, the Roads and Trails Act, Forest Service regulations, and the Administrative Procedures Act" as explained in Chapter II.***

***As stated in Chapter I, ANILCA directs the Forest Service to grant landowners access to their lands when those lands are located within the National Forest boundary, when no other reasonable access exists, and the uses of the land planned by the landowner are determined to constitute "reasonable use and enjoyment." As stated in Chapter II of the FEIS, the Forest Service published a Notice of Intent to prepare an Environmental Impact Statement on April 30, 2001. This was because of revised Forest Manual direction, and a second stay dated April 4, 2001.***

***There are examples of ANILCA access requests in which the Forest Service denied the request. In these instances, the requestor had existing or alternate access or did not meet the statutory requirements.***

**Comment:** Are there any restrictions that will be placed on road use and road building to protect grizzlies and other sensitive species? It seems that limiting activity during times when wildlife is most vulnerable is important to mitigate the impacts of this project.

**RESPONSE:** ***Chapter II contains mitigation measures to reduce the impacts to Threatened, Endangered, and Sensitive (TES) species discovered during construction or use of the road; this mitigation includes grizzly bear, which is listed as a Threatened species. TES sightings would be reported as soon as possible. For Threatened and Endangered Species or proposed listed species, the Forest Service wildlife biologist would implement immediate consultation, if necessary, with the U.S. Fish and Wildlife Service. For Sensitive species, the Priest Lake District Ranger would be consulted. These consultations would determine if any site-specific measures would be needed to protect the species and/or its habitat.***

***For Alternative C, there is an additional mitigation measure restricting the construction of the road outside of the lynx denning period, April 1 through July 1. This alternative-specific mitigation was developed because of lynx denning habitat located in Section 4, as displayed on Figure 6 in Chapter III of the Wildlife analysis.***

**Comment:** The DEIS discusses the fact that utilization of a helicopter to access the inholding was considered by the Forest Service. The DEIS states that "This alternative would not require an easement across National Forest lands because no roads would be constructed. Therefore, no direct or indirect effects would occur, as no easement would be granted. Helicopter logging of Section 5 would be an alternative to using conventional harvest systems such as tractor and cable logging. The only access to the private property would be by helicopter. The reduction in the number of roads would reduce the effects to aquatic, soil, roadless, sensitive plants, and several wildlife species in the cumulative effects analysis area."

Unfortunately, the Forest Service did not analyze the utilization of a helicopter by Stimson as an action alternative. We feel that this is a serious problem with the DEIS, since the use of a helicopter to access this private land is very much a reasonable alternative that should have been analyzed. Pursuant to ANILCA, the Forest Service must provide access to activities which constitute 'reasonable use and enjoyment" of the lands by the landowner." What is unreasonable about requiring them to access their lands with a helicopter? It seems that this is just part of the difficulty that they must experience in their own land that are located within a roadless areas. We urge you to consider additional action alternatives, with one of these being access by a helicopter.

**RESPONSE:** ***We added a third action alternative in response to your comment and other commentors. Alternative D would assume that Stimson Lumber Company would log Section 5 by helicopter. A description of this alternative is located in Chapter II, and analyzed in Chapter III.***

**LETTER #9** - Friends of the Pond

**Comment:** Other reasonable access to their lands does exist for this multinational timber corporation. This option was not given adequate consideration in the DEIS. The proposal does not contain a reasonable range of alternatives for access.

**RESPONSE:** ***An adequate range of alternatives was considered in the analysis. As stated in Chapter II, the action alternatives are limited to considering only the least impactive alternate routes on National Forest lands that provide access to Stimson Lumber Company lands in Section 5. The No Action Alternative and three action alternatives were considered in detail in the FEIS and are described in Chapter II. There were eight other alternatives that were considered, but eliminated from detailed analysis; these alternatives are also described in Chapter II. Four alternative locations were considered, but these alternatives would cause greater impacts to various resources. Other alternatives considered included three various land acquisition alternatives and a mitigation alternative.***

**Comment:** Consideration and protection of the TES species in this proposal is subjugated to the interests of greed. The ESA does not agree that one alternative with fewer effects than another alternative is adequate protection. It appears that you have a real problem rationalizing the effects of the project on Canadian lynx and grizzly bear. The project will effect all TES species, especially when consideration is given to the massive extraction planned by this multinational timber corporation. Your rationale, for "no further analysis" is flawed. USFWS consultation is required for this project, and by law needs to have occurred prior to this stage of the proposal.

**RESPONSE:** ***As stated in Chapter I concerning ANILCA, the Forest Service must authorize access that minimizes impacts on Federal resources while meeting all applicable laws and regulations of National Forest management, including the Endangered Species Act. Forest Service policy regarding TES species is discussed in Chapter III in the Wildlife analysis. Through the analysis of this project, our biologists have been consulting with USFWS. Copies of the Biological Assessment are included as Appendix F to the FEIS. . USFWS has also provided a Biological Opinion with respect to the effects of the project on grizzly bear and lynx. The USFWS concluded that the project would not jeopardize the continued existence of either grizzly bear or lynx (Biological Opinion for the Stimson ANILCA Access Project, pp. 39 and 40). Further, the USFWS did not anticipate that the selected alternative will incidentally take any grizzly bears or lynx, therefore, no terms and conditions to minimize take were required (Ibid, p. 41).***

**Comment:** The proposal enters and builds roads in a RARE II area. This is just not acceptable at this time.

**<u>RESPONSE:</u>** ***As explained in Chapter I, the Roadless Area Conservation Rule was to take effect on May 12, 2001, but was litigated prior to its enactment. On July 14, 2003, the United States District Court for the District of Wyoming permanently enjoined the Forest Service from implementing the Roadless Area Conservation Rule. This decision has been appealed to the United States Court of Appeals for the 10th Circuit by the defendant-intervenors. A decision on this appeal has not been rendered by the court. As a result, the Roadless Area Conservation Rule is not in effect, and the Forest Plan for the Idaho Panhandle National Forests govern the management of inventoried roadless areas on the Forest. The rule, if it would become effective, would supersede existing forest plan management direction. In either case, the proposed action would be consistent with the Roadless Area Conservation Rule. The rule allows for the continuation of activities associated with reserved or outstanding rights provided by statute or treaty as stated in the Forest Service Roadless Area Conservation FEIS Summary (USDA 2000d, p. S-22). ). Forest Plan land allocation for the affected section (Section 8) of the South Fork Mountain IRA is MA1. Management emphasis for this management area is timber production (IPNF Forest Plan, p. III-2). The standard for road facilities is to "utilize the lowest standard road meeting transportation objectives compatible with resource protection requirements and area management goals." The proposal; therefore, is consistent with existing Forest Plan land management allocations.***

**<u>Comment:</u>** The proposal does not adequately consider the options of buying or condemning or trading this parcel of land. In fact, the proposal does not demonstrate that Stimson has valid legal title to the original railroad lands that they are requesting that the public subsidize access into.

**<u>RESPONSE:</u>** ***The alternatives of buying, condemnation, and land exchange are discussed in Chapter II. In a land purchase, Stimson Lumber Company acquired Section 5 on October 16, 1996, from Plum Creek Timber Company. We have no reason to question the validity of the legal title as it is appropriately recorded in Pend Oreille County.***

**<u>Comment:</u>** It is our considered opinion that this proposal is illegal, not complying with the ESA, NEPA, NFMA, Clean Water Act, TES interim guidelines, the roadless policies, FSM, and the Forest Plan.

**<u>RESPONSE:</u>** ***In Chapter I, there is a discussion regarding the compatibility of the proposal with NFMA, the roadless policy, etc. Throughout Chapter III as part of the effects analysis, there is discussion concerning the regulatory framework for various resources and how the alternatives are consistent with the IPNF Forest Plan and applicable laws. In the Record of Decision, you also will find discussion on how the selected alternative is consistent with various laws and regulations.***

## <u>LETTER #10</u> - Stimson Lumber Company

**<u>Comment:</u>** We have made extensive field review of Alternative B and C road locations. It is our firm belief that the Alternative C is not a preferred alternative for the following reasons:

1. The switchback location in SW1/4 Section 4 is on a ridge with 35% side slopes, which will require extensive amounts of cut and fill excavation to build a switch back with suitable adverse grades and a safe turning radius.

2. The side slopes on the immediate approach into and out of the switchback cross side slopes of 60% which also require extensive cuts, full bench construction, as well as end haul an disposal of excavated material
3. The last approximate ¼ mile of existing road across Stimson land in NW ¼ Section 9 was designed and located as a dead end spur road having 12% adverse grade pitches. While this is acceptable for dead end spur roads which have very short periods of use and then are put to bed with intense BMP measures, such steeper adverse grades were not and are not preferred for access roads used for longer time periods with more extensive hauling.

**RESPONSE*:*** ***In response to your three comments above, Alternatives B and C were again field-verified by the project engineer and a geotechnical engineer on October 1, 2001. It was their finding that a properly designed road at the proposed location of Alternative C would not increase the probability of a large-scale mass failure. However, the location would result in extensive cut and fill slopes at the switchback location in Section 4 and in the locations of the steep side slopes you addressed in comment (2). They also identified some potential small-scale stability problems where there is subsurface flow. The steeper grade in Alternative C would make it more difficult to install rolling dips or vary the location to avoid wet or unstable areas. Based on their review as well as input from the soil scientist and project hydrologist, Alternative B would have less potential impact to water resources than Alternative C.***

**Comment:**

4. The Alternative C location in NE ¼ Section 8, just south of the property line is literally on top of a den site (species unidentified) located among huge boulders. Adjusting the Alternative C road location substantially away from the den site should that be determined to be necessary may be difficult to do.

**RESPONSE:** ***This location was field-verified. There was animal scat at the location, and it was suspected that the site was used by a hoary marmot. This species is common on the Priest Lake Ranger District.***

**Comment:**

5. Table 7, on page III-58 shows 16,000 feed of private road built under Alternative C. This is incorrect in that it does not capture the .28 miles of road required on Stimson land under Alternative C. The miles of road under Alternative B & C are essentially the same, (see page S-4), thus the relative sediment delivery risks are essentially equal under Table 7.

**RESPONSE:** ***Thank you for your comment. The mistake was corrected in the FEIS.***

**Comment:**

6. Lastly, unilaterally requiring stacking of switchbacks on top of each other on a single side slope as in Alternative C, is simply not a situation any landowner likes to do unless it is absolutely unavoidable because of potential resource and operational resource and operation problems. In fact programs such as the Cooperative Road Construction and Use agreements, which was unilaterally terminated in the S.F. Granite area by the USFS, were designed to avoid these types of circumstances by a process of landowner cooperation and not unilateral decisions and actions. Alternative B certainly seems to adhere closer to least the spirit and intent of that terminated agreement.

**RESPONSE:** ***See our first response to your comments (1), (2), and (3).***

**Comment:** Under Section II, page 20, the discussion of land exchanges fails to document one important letter dated 6/23/97 in which the USFS declined to pursue an exchange proposed by Stimson in 5/9/97. Public comment has continually faulted Stimson as the obstacle for not pursuing an exchange to solve these access issues so perhaps the public needs the benefit of full information disclosure on the long history of various exchange alternatives. Stimson's proposal was made before the ongoing insect infestation and it's associated losses we continue to face today.

**RESPONSE:** ***We included reference to that letter in the FEIS as indicated in Chapter II. Additional correspondence regarding land exchange or purchase also were cited.***

## LETTER #11 - The Selkirk Conservation Alliance

**Comment:** After reviewing the DEIS for this project, SCA has a number of concerns that we feel were not adequately addressed in the document. We recognize the difficult position the Forest Service is in as Stimson Lumber Company has adamantly refused to work toward, or even discuss, meaningful solutions that would protect the public's resources and interests in this Analysis Area. Stimson's intransigence however, does not, in our opinion, tie the hands of the Forest Service nor compel the agency to accede to the corporation's demands. Our observations re the DEIS follow:

Our attorneys advise that the Forest Service's Stimson access decision proceeds from a flawed assumption. The Forest Service assumes the ANILCA inholder access provision applies nationwide, rather than only in Alaska. However, as the Supreme Court made clear in Amoco Production Co. v. Village of Gambell, 480 U.S. 531, 549 (1987), the provisions of the ANILCA *"need not be extended beyond the State of Alaska in order to effectuate their apparent purposes."* In so stating, the Supreme Court explicitly referenced ANILCA Title XIII, which contained the inholder access provision upon which the Forest Service has rested its decision. See id. N. 19. Thus, the entire predicate for the Forest Service's Stimson access decision-the applicability of the ANILCA inholder access provision to lands outside of Alaska-is incorrect.

Consequently, SCA maintains that the Forest Service should deny Stimson Lumber Company roaded access across the South Fork Mountain Inventoried Roadless Area (IRA).

**RESPONSE:** ***The Alaska National Interest Lands Conservation Act of 1980 (ANILCA), Section 1323, granted non-federal landowners, whose ownership lies within the boundaries of the National Forest System (NFS), or is surrounded by public lands administered by the BLM in Alaska, the statutory right of access over public lands when such federal lands are needed to provide for the reasonable use and enjoyment of non-federal lands. Section 1323(a) of ANILCA applies to NFS lands throughout the United States, but Section 1323(b) applies only to public lands administered by BLM in Alaska (see The Principal Laws Relating to Forest Service Activities, p. 861). Therefore, ANILCA would apply to this access request. This issue also is discussed in Chapter II of the FEIS.***

**Comment:** By failing to include an adequate range of alternatives, the DEIS is in violation of NEPA (40 CFR 1502.14). NEPA clearly states that environmental impact statements should

*"Rigorously explore and objectively evaluate all* reasonable alternatives... "(emphasis added) Similarly, case law states that NEPA documents shall be rendered *"inadequate by the existence of a viable but unexamined alternative.* " Methow Valley Citizens -Council v. Regional Forester 833 F. 2d 810, 815 (9th Cir. 1987).

This point is reinforced by the recent Ninth Circuit Court of Appeals decision (Huckleberry Land Exchange). This has been determined to include all alternatives that are practicable... even if such alternatives are outside the (supposed) legal Jurisdiction of the agency.

The Forest Service publication entitled "Questions and Answers About Forest Service NEPA Procedures"-states, *"An alternative that is outside the (supposed) legal jurisdiction of the Forest 'Service must still be analyzed if it is reasonable.* "(page 7)

In addition, the Forest Service Handbook states that *"The range of alternatives must not foreclose prematurely ANY option that might protect, restore, and enhance the environment.* " (FSH 1909.15, 23.2)

Certainly, the proposed access project will have very significant detrimental impacts to the environment. The proposed logging and road building will take place on soils that have been determined to be severely erosive and pose an extreme risk for mass wasting/debris torrent events. Furthermore, these activities will take place in habitat used by ESA listed Threatened and Endangered species including grizzly bear, mountain caribou, Canada lynx, gray wolf and bull trout. Numerous Sensitive species will also be detrimentally impacted as a result of project implementation. Analysis has also indicated that mechanized incursion into the roadless area will provide a means to facilitate extensive noxious weed infestations with consequent negative impacts to wildlife forage, enhanced erosion and peak flows, loss of biological diversity, enhanced fire risks, etc.

Moreover, the proposed road construction will eliminate from the South Fork Mountain IRA hundreds of acres of extremely important roadless land. Other reasonable alternatives exist and, according to NEPA and case law, must be examined. These alternatives include:

**Helicopter Access:** By any reckoning, destructive impacts could be at least somewhat ameliorated by helicopter access (for instance) and, according to law and regulations, should have been examined. It is interesting to note that the Forest Service admits that helicopter logging is a *"technologically reasonable alternative.* " (page 11-20, DEIS) NEPA clearly states that the agency must consider "all *reasonable alternatives, whether the agency considers them outside its supposed legal jurisdiction or not.* " Since even the Forest Service, in the DEIS, considers helicopter access reasonable", it is incumbent upon the agency to provide the public a thorough assessment of the relative costs and impacts of this mode of access.

**RESPONSE:** ***In response to your comment as well as other comments received during the review of the DEIS, we examined the helicopter alternative in detail. A description of the alternative is located in Chapter II of the FEIS, with the effects analysis included throughout Chapter III.***

**Comment: Mitigation Alternative:** Another alternative that should be included in the analysis is a true Mitigation Alternative. Under this scenario, the agency would examine possible mitigation strategies that would add acreage to restore those acres no longer qualifying for roadless status, close additional roads to reduce road densities, provide additional core area to meet minimum guidelines for grizzly bears and to eliminate the deleterious consequences of further loss of existing core areas, and examine restoration opportunities to improve watershed conditions for bull trout/cutthroat trout and enhance reintroduction potential to areas that will be degraded and that currently (may) lack these species.

**RESPONSE:** ***In response to your comment, the Interdisciplinary Team considered this alternative as discussed in Chapter II of the FEIS. We dismissed the alternative, however, since it would not address the Purpose and Need of providing access to Stimson lands in Section 5. Moreover, several of the restoration opportunities you describe already have been done or are a part of our ongoing and planned restoration efforts. As an example, one multi-purpose project was the obliteration of the Harvey-Granite and Cache Creek Roads in 1998. This project improved watershed conditions in the South Fork of Granite Creek by obliterating roads adjacent to the streams, increased grizzly bear core habitat and reduced road density in the Kalispell Bear Management Unit, and removed the boundary separating two roadless areas (South Fork Mountain and Grassy Top). A similar project is being developed in the Willow Creek drainage on the North Fork of Granite Creek that would have similar beneficial effects to these resources.***

**Comment: Condemnation Alternative:** The fact that Stimson is apparently opposed to a land exchange or purchase is not sufficient for this alternative to be dismissed from consideration. Condemnation is a viable alternative that would protect the public's resources. Funds are available for agencies to acquire lands that have significant value to the public. By virtue of their roadless status, Threatened and Endangered species habitat, etc., the lands in question are of extremely significant value to the public. It is a *"reasonable "* alternative and as such, should be examined. While we disagree with the Forest Service's "effects" determination, it is nevertheless obvious that the lands within the South Fork Mountain IRA have important Threatened and Endangered wildlife habitat value and as such, merit consideration for acquisition through condemnation, exchange, or purchase proceedings.

**RESPONSE:** ***This was another alternative that was considered, but dropped from further consideration. A description of the alternative, and reasons for its dismissal, is located in Chapter II.***

**Comment:** SCA contends the Forest Service should, in light of recommendations like those found in the Lynx Conservation Assessment and Strategy (LCAS), investigate acquisition opportunities. The LCAS, for instance, encourages the agency to actively explore opportunities to acquire lands important for lynx management. At the programmatic planning level, the LCAS urges *"Work towards unified management direction via habitat conservation plans, conservation easements or agreements, and land acquisition.* (page 89, LCAS) At the project planning level, the LCAS states that planners are to *"develop and implement specific management prescriptions to protect/enhance key linkage areas "* and "*evaluate proposed land exchanges, land sales, and, special use permits for effects on key linkage areas.* (page 89, Ibid) While the LCAS does not say who must "propose" these exchanges, sales, etc., it would nevertheless by instructive if the agency had investigated acquisition opportunities to effect habitat consolidation for Threatened and Endangered species like lynx and grizzly bears.

**RESPONSE:** ***Three variations of land acquisition alternatives were discussed in Chapter II of the DEIS including land exchange, purchase, and condemnation. As documented in the***

***description of these alternatives, the Forest Service approached Stimson Lumber Company, and earlier the Plum Creek Timber Company, regarding a potential land exchange of purchase of Section 5. Stimson did not wish to decrease their land base. The bottom line is that the Forest Service has no authority to force or require a land exchange or purchase with an unwilling private entity (36 CFR 251.110).***

**Comment:** The 1998 (draft) watershed assessment admits that the cumulative effects analysis was *"cursory, limited by the scope of data available, and relies upon the conclusions of specialists contracted by Stimson Lumber* (page 2, hydrology discussion). SCA sees nothing that has transpired in the interim that would alter the original assessment that this analysis was "cursory", "limited in data", and subject to bias due to the fact that the contractors were hired by Stimson Lumber Company.

Indeed, the findings in the draft BA (likely to adversely affect bull trout) would appear conservative in light of subsequent activities in the Analysis Area. Instead, however, the current DEIS downplays detrimental impacts identified in the 1998 BA despite no improvement in baseline conditions or significant improvements in the mitigation strategy.

**RESPONSE:** ***The portions of Chapter III covering watershed and fisheries were expanded from the DEIS. Several field trips were conducted in 2001 documenting the existing condition on both National Forest and Stimson lands. A WATSED analysis also was completed to assess the cumulative effects of sediment delivery and peak flows in the Upper Stimson drainage. To analyze the effects of road construction and timber harvest on Stimson lands, Washington State Forest Practices were outlined and assessed as well as other mitigations that would be implemented on Stimson lands. Other pertinent information and scientific references also were included in the FEIS.***

***You cited the draft watershed assessment that was completed in 1998 in your comment. This assessment was based on preliminary data and other information without an in-depth effects analysis or fieldwork. This six-year old document also did not include any mitigations that were developed specific to the road construction on National Forest lands or the mitigations that would occur on private lands. This document was indeed a "draft" assessment of effects done early in the environmental analysis process.***

**Comment:** As mentioned earlier, current analysis lacks critical information necessary to make an informed decision about project impacts to watershed function and fisheries. This lack of information includes:

- A thorough long-term sediment delivery analysis.
- inclusion of data sufficient to analyze quantity, timing and magnitude of peak flows attributable to activities on private lands (which can only occur subsequent to the Forest Service enabling action).
- a thorough assessment of all road construction impacts including those roads constructed on Stimson land made possible by the Forest Service enabling action.
- inclusion of scientifically defensible survey data (biologically defensible timing of surveys etc.) as well as inclusion of survey data for all potential fish-bearing streams,
- an adequate and detailed analysis for changes in water yield attributable to Stimson's logging and road-building plans.
- incorporation of a comprehensive "rain-on-snow" analysis for Stimson's fee land logging and

road-building activities (connected to the Forest Service's implementation of the ANILCA request.)
- comprehensive analysis for flow changes to Sema Creek.
- accurate data identifying intermittent and perennial streams lacking from previous analysis.

**RESPONSE**: ***See the watershed analysis portion of Chapter III. There is a thorough discussion of sediment delivery. WATSED was used to assess long-term sediment delivery and peak flows. The impacts of road construction are analyzed including the impacts of roads constructed on Stimson lands. Maps of these roads and other supporting documentation are included in Appendices C and D of the FEIS. The discussion of the impacts of the road construction and the effects of the mitigation are in the watershed analysis of the FEIS.***

***A description of survey information is included in the fisheries analysis of Chapter III. The last survey over the entire Sema Creek drainage was completed in 1997. Several earlier surveys also are cited. In September of 2001, the project hydrologist and fisheries biologist also conducted a presence/absence survey and did not locate any bull trout or westslope cutthroat trout. Bull trout and westslope cutthroat trout numbers have been declining over the past decades as discussed in Chapter III. The effects analysis, however, is based on maintaining the habitat conditions for this species, whether these species are present or not.***

***As discussed in Chapter II of the FEIS, the Sema Creek drainage was evaluated for rain-on-snow events. The typical snowpack in this drainage is deep, ranging from 6-8 feet. This snowpack rarely ablates, or melts, during mid-winter. The snowpack easily absorbs mid-winter rains, when they occur, without substantial melt. No rain-on-snow risk analysis therefore was conducted for this project. The project file also contains further explanation concerning rain-on-snow analysis.***

***There is a discussion of the permanent and intermittent streams on National Forest lands that would be directly affected by the road construction included in Alternatives B and C; this discussion is located in the watershed analysis of the FEIS. There is also discussion on the number of permanent and intermittent streams that would be affected by the proposed road construction on Stimson Lumber Company lands. Appendix C includes a map of the streams, and identification of the type of stream (i.e. permanent or intermittent) that would be affected. Figure 10 is a map of the cumulative effects area that depicts the permanent streams within the analysis area in the FEIS.***

**Comment:**

- failure of the U.S. Fish and Wildlife Service to approve the efficacy of Washington Department of Natural Resources (DNR) new Forest Practices Act (FPA) rules for the protection of bull trout on private land. Such approval would be through issuance of a section 10 (a)(1)(B) permit (with an accompanying Habitat Conservation Plan), or a final 4(d) rule. Neither of these has occurred to date. In addition, we point out that case law clearly establishes that routine deferment to state BMPs is insufficient in satisfying NEPA requirements. *Evidence* is required which substantiates and supports the effectiveness of BMPs to mitigate project impacts. Since FWS has not determined the efficacy of state BMPs for protection of bull trout, reliance on these same standards is premature. We reiterate a point made earlier in our comments to the Forest Service. Namely; the agency is obligated to retain and *restore* habitat suitable for the recolonization of bull trout in their historic range... if indeed they are currently absent from affected streams or reaches.

**RESPONSE**: ***As stated in the Water Resource section, the Washington Department of Natural Resources (DNR) is currently in consultation with the U.S. Fish and Wildlife Service (USFWS) over the modification of Forest Practices Rules. This consultation is focused on the buffer strip requirements (i.e. riparian management zones) that were modified in April 2001 (Holt personal communication 2002); the buffer widths and other protections had been increased from the old rules. The effects analysis is based on the existing (i.e. April 2001) rules. If buffer widths are increased or other changes are adopted by the Washington DNR, private landowners would be required to comply with the changed rules.***

***Supporting documentation regarding the effectiveness of buffer strips and other Best Management Practices is referenced in Chapters II and Chapter III, with the references located in the project file.***

**Comment:**
• Lack of monitoring information such as fry emergence success, presence (or absence) and quantification of spawning and rearing habitat, redd counts, and accurate and defensible survey information for all streams.

**RESPONSE:** ***Survey information was discussed in response to an earlier comment above, and is included in the FEIS in the Fisheries analysis of Chapter III. Fry emergence as a monitoring tool is also discussed. Further documentation explaining the reasons why fry emergence is not a good monitoring tool to report stream health is included in the project file.***

**Comment:**
• Over-reliance on occular methods to assess conditions.

**RESPONSE**: ***There were a variety of methods used in the analysis and these are outlined in the methodology section of the Fisheries analysis. The effects analysis was based on all these various tools.***

**Comment:**
• Failure to discuss how project activities will influence inter-species competition (i.e. brook trout habitat enhancement etc.)

**RESPONSE**: ***A discussion of inter-species competition of bull trout and westslope cutthroat trout with brook trout is found in the Fisheries analysis of the FEIS. As stated in this section, the introduction of brook trout and lake trout is a primary reason for the declining population of the native fish species. Without a reduction in these exotic species, it may be difficult for bull trout and westslope cutthroat trout to persist regardless of management activities.***

**Comment:** SCA would like to emphasize that failure to prevent declines in Sensitive (and threatened) species and their habitat violates the Forest Plan. The agency is obligated to *"manage fisheries habitat to provide a carrying capacity that will allow an increase in the Forest's trout populations. "* (IPNF Forest Plan 11-1, Item 11) and (Item 13. Clearly, project implementation will not accomplish this directive.

**RESPONSE**: ***Management goals of the IPNF Forest Plan for fisheries, including the citation above, are listed in the Fisheries section of the FEIS. The project is consistent with the Forest Plan as stated at the end of that section. The USFWS has concurred with the IPNF's***

***determination that the proposed action "may affect, but is not likely to adversely affect bull trout (Appendix F).***

**Comment:** There appears to be a remarkable disconnect from the 1998 (draft) Watershed Analysis warnings and the current sanguine assessment of project impacts. Regarding peak flows, for instance, the 1998 Watershed Analysis (draft) states *"The combined effects of the related and concurrent actions within the watershed would likely, alter the quantity, timing, and magnitude of peak flows within the upper Sema watershed. Timber harvest in Section 5 will further reduce the small amount of areas with high infiltration rates. A large percentage of the area consists of rock outcrop and scree.* Disturbance of these areas by tractor yarding and post-harvest silvicultural *activities is likely to significantly reduce the overall permeability of these soils. High intensity precipitation events are likely to produce large, flashy flows from section* 5. " (page 5, emphasis added)

These predicted "large and flashy flows from Section 5" are particularly significant in that the channel types in the meadow complex (for instance) that are relied upon to retain increased sediment etc. are only considered stable in the absence of "major changes in sediment and/or stream flow...." (page III-55, DEIS and elsewhere) (emphasis added).

**RESPONSE:** ***As stated in the first response to your comments regarding Watershed/Fisheries, the 1998 watershed analysis was draft and not supported by field reviews, scientific references, or watershed analyses. As an example, the statement, "a large percentage of the area consists of rock outcrop and scree" is not correct and there are minimal, if any, of those features present within Section 5. The underlying geology of much of the Sema Creek drainage is granitics with a deep overburden of glacial till. Rock boulders do occur, but are erratics deposited by the glacial action.***

**Comment:** Also very interesting is the Forest Service's refusal to consider the impacts of Stimson's extensive logging and road construction activities relative to rain-on-snow events. Despite our previous comments, the Forest Service DEIS, in "Issues Not Addressed in Detail" (page 11-6) dismisses the impacts from rain-on-snow events as pertaining only to the access roads *"on National Forest land" "because they are narrow linear features and do not create the expansive and unobstructed openings necessary to escalate peakflows. "* (page 11-6, DEIS) This facile dismissal of an extremely significant factor in any scientifically valid cumulative effects analysis is, quite frankly, indefensible.

We have emphasized, in the past, and again now, that it is precisely those activities on Stimson land in Section 5; activities that are known to create the *"expansive and unobstructed openings necessary to escalate peakflows, "* that will lead to severe rain-on-snow and peak flow impacts...not the arbitrarily constricted impacts associated with the *"narrow, linear access roads on National Forest land."*

We also reiterate that these impacts will only take place as a result of the federal enabling action of access implementation. Moreover, these impacts will, without question, resonate throughout the watershed, including public land. Consequently, these impacts must be incorporated into the cumulative effects analysis.

**RESPONSE:** ***This response relates to the several previous paragraphs regarding rain-on-snow. In response to your comments, additional discussion of rain-on-snow events was added. This discussion is located in Chapter II of the FEIS and in the project file.***

***As discussed previously, the Sema Creek drainage was evaluated for rain-on-snow events. While a large percentage of the Sema Creek drainages falls within the elevational band suggesting the likelihood that it would be sensitive to rain-on-snow events, its position at higher latitudes and its topography moderates the sensitivity. The typical snowpack in this drainage is deep, ranging from 6-8 feet. This snowpack rarely ablates, or melts, during mid-winter. The snowpack easily absorbs mid-winter rains, when they occur, without substantial melt. Therefore, no rain-on-snow risk analysis was conducted for this project.***

**Comment:** The draft Watershed Assessment emphasizes this point when it warns that *"drainage structures are likely to fail Failure probably will occur during snow melt* <u>or rain-on-snow events,</u> *when maintenance is unlikely until after failure.* " (page 11)

**RESPONSE:** ***See the previous comments regarding the 1998 draft watershed assessment.***

**Comment:** We remind project leaders that destructive impacts from rain-on-snow events as well as enhanced peak flows resulting from reduced infiltration and evapotranspiration (for example), despite their origination on private land, are the result of the federal enabling action of access approval. As such, these impacts must be included in the cumulative effects analysis as well as their consequent impacts on federal land. These impacts would include altered stream channel morphology, enhanced sediment delivery, impacts to (Threatened) bull trout and (Sensitive) westslope cutthroat trout and their habitat, etc.

**RESPONSE:** ***The impacts of the activities on private land were fully analyzed in our watershed effects analysis. Past, existing, and future activities on private land are discussed in Chapter I and analyzed in Chapter III. Maps of the proposed activities on private land also are included in Appendix C. The WATSED model was used to assess the cumulative effects of sediment delivery and water yield on both federal and private lands.***

**Comment:** The Forest Service also relies on the presence of beaver dams in Sema Meadows to retain sediment produced by project activities. These beaver dams also appear to be instrumental in determining the delineation of the cumulative effects analysis area boundaries.

We argue here as well as in the cumulative effects discussion, that the cumulative effects (watershed) area is not defensible. The draft watershed analysis for this project (and the DEIS) admits that the E4 channel types are only stable if there are no "significant changes in sediment supply and/or streamflow... " (page 111-40, elsewhere DEIS and 1998 draft BA)

Removing a very large percentage of the canopy and reducing infiltration and transpiration rates on over 558 acres is certain to lead to increased water yields and exacerbated rain-on-snow events which will likely impact these E4 channels and the beaver dams being relied upon to retain excess sediment and even-out peak flows. We remind decision makers that these dams were described in the draft as being *"... old, filling with sediment and breaching in places.* " The draft watershed assessment also clearly states that the extensive logging and roadbuilding activities on Stimson's land will produce *"large flashy flows from Section 5."* Despite these warnings, the Forest Service cumulative effects boundaries are spatially truncated at the westernmost beaver dam complex and rely totally on these structures to mitigate project impacts. Failure of the *"old, sediment filled and breaching "* beaver dams as well as destabilization of the E4 channels consequent to increased flows would, of course, resonate throughout the watershed and extend well beyond the current spatially limited cumulative effects boundaries.

**RESPONSE:** ***The cumulative effects area for watershed is discussed in the Water Resources analysis of the FEIS. The low gradient of the channel and natural sinuosity of an E4 channel type causes the stream to drop its sediment load as discussed on these pages. The E4 meadow complex, which is the terminus of the cumulative effects analysis area, is very stable. Stream banks are well vegetated and densely rooted with grass sod mats and shrub species. The numerous side channels flow through the wide floodplain, and dissipate the flow during periods of peak flow.***

***As part of the effects analysis, the WATSED model was used to assess the effects of a stand-replacing fire such as the 1926 fire, which was a stand-replacing fire that burned the majority of the Sema Creek drainage. The modeled water yield increase from this event was 51 percent, which far exceeds the predicted water yield of the proposed activities. The channel of Sema Creek naturally evolved under such high peak flow regimes with the E4 meadow complex functioning to dissipate the increased water and sediment yields when such stand-replacing fires occurred.***

As the 1998 draft BA notes: "..- *the cumulative effects of Stimson Lumber Company's activities in the Sema Creek will likely cause a downward trend in habitat conditions in Reach 1 of Granite Creek. This is likely to adversely affect bull trout in Granite Creek* " (emphasis Forest Service's) (draft BA, Determination of Effects, no page number).

**RESPONSE:** ***The draft 1998 Biological Assessment (BA) for bull trout was based on the 1998 draft watershed analysis. As discussed in previous comments, the 1998 watershed analysis was faulty because it was not based on fieldwork, in-depth analysis, or models such as WATSED. It was a preliminary look at the effects without considering mitigation. Please review the fisheries portion of Chapter III of the FEIS and the BA for bull trout, which is included in Appendix F.***

**Comment:** The U.S. Fish and Wildlife Service Grizzly Bear Recovery Plan states: *"New actions must be evaluated on a regional basis to avoid the cumulative effects of several well planned individual actions impacting bears from too many directions simultaneously. Historical records indicate that at some point in time, probably associated with the degree of stress, grizzly bears will no longer use certain portions of their range. Therefore, each new action has the potential of being 'the last straw' from the standpoint of the bear, and every effort must be made to evaluate each new action with respect to former and future actions. "* (U.S. F&WS, Grizzly Bear Recovery Plan, 128 June 1993).

**RESPONSE:** ***The above comment is located on page 109 of the Grizzly Bear Recovery Plan (USDI 1993a), and is under the heading of "Monitor the Cumulative Effects of Management Actions in Grizzly Bear Habitat (S226)." The role of the U.S. Fish and Wildlife Service is to perform this evaluation role in the consultation process to ensure the recovery of the species across its range. This process is being followed as part of this environmental analysis.***

**Comment:** As to emphasize this point, the 1997 FWS Biological Opinion (BiOp) for the Stimson ANILCA Project on the Colville NF stated on page 31, that proposed road building and logging in the LeClerc GBMU "*...will make management for the grizzly bear in other federal BMU's even more important.*"

It is important to note that the referenced LeClerc GBW immediately adjoins the Kalispell-Granite GBMU and is currently experiencing a Stimson Lumber Company ANILCA access demand in several sections of land on the boundary of the two bear management units.

**RESPONSE:** ***In response to your specific comments above, our Wildlife Biologist contacted Suzanne Audet of the USFWS Spokane office to verify whether the Forest Service should be looking at both the LeClerc and the Kalispell Granite BMUs or individually to fully evaluate the cumulative impacts of Stimson's access. (Audet 2001 personal communication). She concurred that the individual BMUs were designed to assess the evaluation of cumulative effects (ibid). Each BMU has criteria and thresholds for management (ibid). If a project would have adverse effects, the USFWS would need to look at the larger area to assess the impacts to the species as per their policy and direction.***

***As discussed in the Wildlife analysis of the FEIS, the Interdisciplinary Team did consider the LeClerc BMU in its analysis of cumulative effects. The conclusion of the analysis was that because the potential activities within the Kalispell-Granite BMU related to Stimson access are minimal, the most likely potential effect would be that bears would be displaced from LeClerc to the Kalispell Granite BMU. During Stimson's activities the Kalispell-Granite BMU would continue to provide adequate habitat attributes to support bears that may be in the area (FEIS, p. III-33).***

**Comment:** Various documents emphasize that *"The Selkirk Ecosystem is not meeting any of the recovery goals outlined in the Recovery Plan* " (Wakkinen, pers comm. 1999, page 31, Colville Stimson BiOp) and that *"the current mortality goal is actually* zero *because of the small number of bears in the population" Ibid, page 32.*

**RESPONSE:** ***The grizzly bear recovery goals for the Selkirk Ecosystem are stated on page 101 of the 1993 Grizzly Bear Recovery Plan. The goal is that 7 of the 10 Bear Management Units (BMUs) would have occupancy (i.e. females with young) for a period of six years. This would show distribution and reproduction within the ecosystem (Audet 2001 personal communication). This goal has not been achieved. The 1993 Grizzly Bear Recovery Plan also states that the mortality goal shall be zero known human-caused mortality. Though the population goal has not yet been achieved, the Forest Service has contributed to several other objectives in the Grizzly Bear Recovery Plan (IPNF 1999 Forest Plan Monitoring Report, p. 20).***

The current access proposal on the IPNF will reduce core habitat for bears and while very commendable progress has been made by the district biologist to improve the situation, the minimum 55% threshold for core has not been reached and proposed activities will yet again reduce existing core percentage for this GBNM.

***RESPONSE:*** ***The Selkirk/Cabinet-Yaak subcommittee, at the request of the Interagency Grizzly Bear Committee, developed an Interim Access Management Strategy to address impacts related to motorized impacts as discussed in the Wildlife analysis of the FEIS; this***

***document is included in the project file. This strategy (IGBC 1998) was to be implemented on National Forest lands beginning on January1, 1999, and would be in effect for three years, or until Forest Plans were revised, or until the Selkirk/Cabinet-Yaak Grizzly Bear subcommittee determined a need to modify this direction (IGBC 1998). The Forest Service recently completed an Environmental Impact Statement (EIS) to amend their Forest Plans to incorporate the 1998 Interim Access Management Strategy. The FEIS was completed in March 2002.***

***The Interim Access Management Rule Set specifies standards on National Forest lands including "maintaining habitat security with a goal of 70 percent" and "working toward achieving a core habitat encompassing 55 percent of each priority Bear Management Unit" (ibid). Road density standards for open motorized roads and total motorized roads also were included. The Interim Rule states that "no net loss of existing core area will occur on federal ownership."***

***Since 1997, habitat security for the Kalispell-Granite BMU has exceeded 70 percent (IPNF 1999 and 2000 Monitoring and Evaluation Reports). As you state above in your comment, the Priest Lake Ranger District has made commendable progress to increase core habitat. Before the Interim Rule, core habitat in the Kalispell-Granite BMU was 39.6 percent in 1995, and increased to 41 percent by 1997. Core habitat was 44.1 percent when the Interim Rule was established in January 1999, and was increased to 46 percent by the end of the year. Currently, core habitat is 48.2 percent (see wildlife analysis). As stated above, an FEIS for a Forest Plan amendment incorporating the Interim Access Management Rule Set was completed in March 2002. The District feels confident that core habitat and other requirements would be met for the Kalispell-Granite BMU within the timeframe and conditions outlined in the Forest Plan Amendment decision. Full implementation of the actions needed to reach the prescribed standards is estimated to take 5-9 years from the date of decision on the Grizzly Bear Forest Plan Amendment (USDA 2002, pp. 2-15.)***

**Comment:** SCA believes that the refusal to consider the cumulative impacts resulting from project activities in the adjoining LeClerc GBNM (and others) along with the proposed activities in the Kalispell-Granite unit, will yield an inaccurate picture of the true impacts to grizzly bears in the Selkirk Recovery Area.

The Forest Service contention that GBMU boundaries limit the spatial extent of the cumulative effects analysis is inaccurate. In the document entitled "Cumulative Effects Analysis Process for the Selkirk Cabinet-Yaak Grizzly Bear Ecosystems 1988" states on page 19, *"The CEM process is a resource management tool with broad application to grizzly bear recovery efforts. Alternate management choices may be rapidly analyzed and potential impacts predicted. The Cumulative Effects Model may be applied to a larger analysis area, providing a more appropriate evaluation of agency activities.* " (emphasis added) Clearly, the cumulative effects model was not designed to be limited to the boundaries of a single GBMU if a broader analysis yields results more appropriate to answer questions related to habitat, displacement issues, and mortality.

As an analogue, we suggest the Lynx Conservation Assessment and Strategy where it states: *"... measurement of cumulative effects may consider activities occurring in one or more LAUs"* (LCAS, page 96).

**RESPONSE:** ***The effects on the adjoining LeClerc BMU were considered in the cumulative effects analysis as discussed in the Wildlife analysis.***

***In response to your comments from the preceding three paragraphs, the cumulative effect analysis process follows the guidelines outlined in the IPNF Forest Plan. Recovery zones were established to identify areas needed for recovery of grizzly bear, and divided these zones into areas designated as Bear Management Units (BMUs). Each BMU was to include an area large enough and of sufficient habitat quality to support a recovered grizzly bear population (USDI 1993, p. 17). The Cumulative Effects Model evaluates the impacts of management activities on bears and their habitat (USDA et al. 1988, p. 1). BMUs are defined as being the units suitable for application of the cumulative effects model (CEA) (ibid, p. 110; USDA 1983, p. 3). The USFWS agreed that the individual BMUs were designed to assess the evaluation of cumulative effects (Audet 2001 personal communication).***

***In Chapter I of the FEIS, cumulative effects on non-federal lands are discussed, including the sections in the Stimson ANILCA Access Easement. Several of these sections lie outside the Kalispell-Granite BMU, but were considered in the effects analyses for other resources.***

**Comment:** This management unit boundary contention is confirmed by a conversation I (Mark Sprengel) had with the USFWS (Spokane, WA Office, telephone conversation on August 3, 2001.) I was told that grizzly bear management unit boundaries were created to *"facilitate* cumulative effects analysis, not limit them, " (emphasis added)

**RESPONSE:** ***Since beginning the environmental analysis on this project, the Forest Service has been working with the USFWS (see Biological Assessment, Informal Consultation ,Appendix F and Biological Opinion, Project Record). As part of this informal consultation, our biologist discussed the level of analysis and determination of effects. The USFWS agreed that the BMU was appropriate for the analysis of cumulative effects (Audet 2001 personal communication).***

**Comment:** SCA maintains that proposed activities reducing core areas, while increasing total and open road densities in other GBMUs in the Selkirk Recovery Area, resonate across the Selkirk Recovery Area and thus must be analyzed in the cumulative effects discussion for this project. Indeed, the 2001 amended BiOp for the IPNF states that "*... at least 55% of a BMU should be in core habitat to avoid displacement* of bears. " (emphasis added) (page 30, April 9, Amended Biological Opinion, IPNF LRMP).

Since existing core is below the 55% threshold and project activities will reduce this percentage even further, displacement must be assumed and consequently, the impacts of project activities could easily extend beyond the GBMU boundary (which was selected by the Forest Service as the limit for the CE analysis.) We point out as well, that the non-discretionary Terms and Conditions in the Incidental Take Statement in the new BiOp for the IPNF state that *"all IPNF actions impacting core habitat within any of these BMUs (BMUs that are predominantly FS lands) shall result in an improvement in core habitat.* (page 62, Ibid). Reducing the core from a percentage already less than this minimum is a violation of the Terms and Conditions that exempt the IPNF from Section 9 of the ESA.

We point out as well that the USFWS has stated, *"any deficiency in meeting survival and recovery targets for individual GBMUs is the basis for a jeopardy call in a biological opinion. In other words, if an action results in one GBMU not being able to provide adequate available habitat, the survival and recovery of the grizzly bear in the* <u>entire recovery-zone *is* *compromised.*</u>*"* (emphasis added) (See page 7, 1993 draft BiOp, Colville ANILCA Access Project)

Furthermore, the adjoining LeClerc GBMU fails to meet almost all standards while the Kalispell-Granite unit is also, as we have pointed out, deficient in minimum core percentage. With this in mind, it seems clear that the "not likely to adversely affect" determination is unsupported.

We re-emphasize the point we made earlier. While commendable progress has been made by the district biologist to increase security in this GBMU, the fact remains that project activities will reduce existing core in violation of the recent Incidental Take Statement. According to the new BiOp, Terms and Conditions are *"non-discretionary upon the agency, and must be undertaken by the agency so that they become a binding condition of any grant or* <u>permit issued</u> *under the IPNF Forest Plan.* " (emphasis added) (page 58, April 9, Amended Biological Opinion, IPNF LRMP)

In the amended BiOp, it states "... <u>*until these BMUs achieve 55% core habitat, all IPNF actions impacting core habitat within any of these BMUs (Priority 1 BMUs) shall result in an* ***improvement*** *in core habitat.*</u>" (page 62, Amended BiOp).

**<u>RESPONSE:</u>** ***See the analysis for grizzly bear in the Wildlife analysis section of Chapter III. All three alternatives would meet the guidelines for habitat security and open road density as established by the Interim Rule. The effects to core habitat and total road density also are displayed. While core habitat and total road density are below the recommended management goals outlined in the Interim Access Management Rule, the District feels confident that both standards would be met in the future in the timeline established in the Grizzly Bear Forest Plan Amendment EIS discussed above.***

***As stated above in a previous response, the Interim Access Management Rule stated that "no <u>net</u> loss of existing core area will occur on federal ownership." Though there would be a reduction in core habitat for the action alternatives, the core habitat created through the obliteration of the Harvey-Granite and Cache Creek road systems "offset" the anticipated core reduction associated with Stimson's planned activities. The road obliteration was initiated in 1998 when the Priest Lake Ranger District was initially analyzing the Stimson access proposal (see October 19,1999, meeting notes of the IPNF and Colville National Forests and Stimson Lumber Company). Discussions regarding these compensatory actions also occurred with USFWS biologists.***

***This action is consistent with the Interim Rule which states, "To compensate for a loss of core habitat, new core habitat that is created must: 1) be in place prior to conducting the activity that reduces existing core; 2) be equivalent to or greater in habitat quality; 3) be of equivalent block size; and 4) kept in place through the interim period." The Stimson Access Biological Assessment further explains this compensatory gain in core habitat, and compares the two actions. The Harvey-Granite and Cache Creek road obliteration resulted in the creation of 2043 acres of core habitat, a 2.4 percent gain, compared with 794-acre reduction of core habitat, or .9 percent of the BMU (for Alternative B. The project also reduced total road***

***density. Summer habitat also would be enhanced. In comparing the two actions, there is an improvement to core habitat.***

**Comment:** Moreover, project activities will negatively impact important Spring habitat (Sema Creek etc.). (Spring habitat has been identified as the most limiting habitat for bears in this recovery area.) Without identification of seasonal habitat "Proportionate to its availability in the BMW", the loss of further Spring habitat should have resulted in a "likely to adversely affect" determination.

**RESPONSE:** ***The Biological Assessment for the Stimson Access Project (Appendix F) includes a description of spring grizzly bear habitat activities within the Kalispell-Granite BMU and the effects of the project. A comparison of spring habitat between the Sema Creek Access and the Harvey-Granite/Cache Creek road obliteration is included.***

MOUNTAIN CARIBOU:

We repeat comments we submitted to the Forest Service earlier. While proposed activities are not within an existing Caribou Management Unit, caribou have nevertheless been sighted in this area and proposed activities will potentially displace caribou and result in an increase in the risk of mortality.

**RESPONSE:** ***As part of our responsibilities under ESA, we have conducted ongoing consultation with the USFWS concerning this project. One of the mitigation measures listed in Chapter II states that any TES species (i.e. caribou) discovered during use of the easement would be reported as soon as possible, and immediate consultation with the USFWS, if needed, would occur. The consultation would determine if any site-specific measures are needed. Public access to the new road also would be restricted. These factors would result in not likely to adversely affect the caribou populations or caribou habitat.***

**Comment:** SCA believes that if caribou are using this area, even if sporadically, then current CMU boundaries are inadequate since any increased risks to a population of (approximately) 31 animals is unacceptable.

**RESPONSE:** ***As discussed in the Wildlife analysis in Chapter III, the project lies outside of the designated caribou recovery area and is not deemed critical to the species' recovery in the Selkirk Mountains. Caribou habitat conditions in the project area are not considered high quality because of the overall low elevation and generally young forest age.***

***The existing boundaries of the Caribou Management Area were developed based on the best information including scientific literature and caribou use patterns (Forest Plan, Appendix T, p. 30). It would be outside the scope of this project to alter the current boundaries. A change in the boundaries would need to be recommended by the International Mountain Caribou Technical Committee, who coordinates management and research activities, and approved by the Caribou Steering Committee, a group of upper level agency managers formed to guide policy direction (Technical/Agency Draft: Selkirk Mountains Woodland Caribou Recovery Plan, p. 19). The resultant change also would need to be incorporated into the IPNF Forest Plan.***

**Comment:** SCA is concerned that the "not likely to adversely affect" determination for Canada lynx is premature. The Forest Service is currently proposing to amend the Forest Plan in order to conserve habitat for lynx and this process is just beginning.

Even if information from the LCAS is followed, the DEIS leaves a lot of questions unanswered. 1. Connectivity. The one map provided in the DEIS is very hard to read and lacks section numbers etc. that would be useful in extrapolating actions (such as found in FPAs) into a contextual relationship. The DEIS assures us that connectivity will be maintained and uses as confirmation of this the Lynx Habitat Management Plan Biennial Report (Duke Engineering and Services 1998) to be employed by Stimson Lumber Company. While we have grave doubts as to the reliability of this assurance, we nevertheless are provided no information as to where these corridors are located, either on Stimson land or how they might connect to corridors on Forest Service land. In fact, corridor/connectivity information is simply not provided in the DEIS despite being critical to any affects determination. As the Lynx Science Report states *"... engage in spatially explicit landscape planning within very large management areas. Lynx metapopulation dynamics operate at regional scales.* " The LCAS emphasizes that key linkage areas must be identified *"within and between geographic areas, across all ownerships.* " (page 87, LCAS, emphasis added). Certainly, connectivity information must be provided in the DEIS.

**RESPONSE:** ***Thank you for your comment regarding the map of lynx habitat. In copying the DEIS, some of the detail and clarity of the maps was not reproduced. We tried to improve the clarity of the maps in the FEIS. Compact discs (CDs) have a clearer image than the hard copy, and you may wish to request a CD of the FEIS and ROD instead of a hard copy. We also have included a map (figure 7) depicting existing corridors in the lynx discussion in Chapter III in response to your comment.***

***Those topographic features that link fragmented forested landscapes of primary habitat and provide dispersal movements and interchange among individuals and subpopulations of lynx are vitally important on a landscape basis. Landscape connectivity may be provided by narrow forested ridges or plateaus connecting more extensive mountain forest habitats. Highways, railroads, and wide utility corridors; urban expansion; and development of ski areas and large resorts have been identified as predominant risk factors affecting lynx movement within southern ecosystems (Ruediger et al. 2000, pp. 32-33).***

***The "Shedroof Divide," the ridgeline separating the Pend Oreille and Priest River watersheds, has been identified as the key linkage corridor that provides connectivity for lynx and other wildlife species within a predominantly north-south orientation within the ecosystem. An important consideration for lynx in the Northern Rocky Mountains Geographic Area is maintaining connectivity with Canada and between mountain ranges (Ruediger et al 2000., p. 49). The lateral ridges radiating from the "Shedroof Divide" and the riparian corridors of the major drainages likely provide connection and movement to and from the "Divide" as well as between and within Lynx Analysis Units (LAUs). Sema Creek in Section 5 was identified by the wildlife biologist as a corridor; the riparian area adjacent to this stream would be protected by Washington Forest Practice Rules.***

***As your comment stated, Stimson Lumber Company maintains connectivity and provides dispersal opportunities by identifying lynx movement corridors on their lands, and developing local management guidelines (Gilbert 2000, p. 14). The site-specific guidelines include: 1) harvest units should be 20-40 acres in size and designed to provide maximum edge and avoiding openings greater than 300 feet in width; 2) foraging and denning habitat must be connected by travel cover and/or corridors (300 feet wide at minimum); 3) travel corridors should be located on ridges, saddles, or riparian areas; and 4) harvests of adjacent stands***

***should be delayed until the previously harvested unit is providing lynx cover (Gilbert 1996, p. 8). The lynx corridors are maintained during harvest operation, and reported in biennial reports (Gilbert 2000, pp. 8-11; Duke Engineering 2000, pp. 5-11).***

**Comment:** For just one example, we are not provided information about connectivity from denning habitat on public land south of Section 5 to suitable foraging habitat north of that section. If there is no access to suitable foraging habitat, it is hardly useful as denning habitat. This information, as well as any changes in habitat percentages as a consequence of incorporating this information, should be provided in the DEIS.

**RESPONSE:** ***Connectivity is provided by vegetative cover where it is in sufficient quantity and arrangement to allow for the movement of lynx (Ruediger et al. 2000, p. 100). Lynx seem to prefer to move through continuous forests, and frequently low topographic ridges, saddles and riparian areas (ibid, p. 7).***

***Current connectivity between and within foraging and denning habitats in the Sema LAU is considered to be abundantly available because of the extent of the forest cover and the overall moderate topography. This general description of the Sema LAU also applies to the Stimson land in Section 5, which can be characterized as an east-facing bowl. Lynx utilization within and through Section 5 is not restricted to such topographic features as ridges or riparian areas because of the gentle terrain.***

***Following the proposed harvest and related activities in Section 5, connectivity would be maintained. The proposed harvest would result in a temporary loss of cover over portions of the section where a majority of the trees are removed, and large openings created. Riparian management zones (RMZ), which are mandated by the Washington Forest Practices Act (Department of Natural Resources, Forest Practices Rule Book, 2000, pp. 16-15 and 16-16), would be maintained and therefore would provide connectivity through Section 5 between foraging and denning habitat (Biological Opinion, p. 38). A map of these travel corridors in Section 5 (i.e. Stimson Access and Lynx Habitat) is included in figure 7 of the FEIS.***

**Comment:** 2. Habitat immediately adjacent to the northern boundary of Section 5 and to the southeast corner of Section 5 on public land.

This denning habitat in both cases ends abruptly at Denning habitat. A look at the map on page III-16 of the DEIS however shows denning [habitat on the outer edges of] Section 5. Unless we are to assume that by a freak of nature, this denning habitat just happens to follow the section lines, we must assume that this habitat extends into Section 5 and presumably will be logged. (In fact, the DEIS states that all lands in this section will be logged except 59 acres in the southwest corner.) (page 1-8, DEIS) We are unsure if this information has been considered in the determination of percentages of relative habitat. We also question the effectiveness of any denning habitat south of Section 5 due to the heavy use of Road 308 and the aforementioned connectivity issue.

**RESPONSE:** ***As discussed in the FEIS, the standard for denning habitat was established in the Canada Lynx Conservation Assessment and Strategy (LCAS). Denning habitat should comprise at least 10 percent of lynx habitat within each LAU in patches generally larger than 5 acres (Ruediger et al. 2000, p. 79). Denning habitat is associated with mature and old-growth forests having closed canopy (Koehler and Aubry 1999, p. 88).***

***National Forest lands are divided into "stands," which are a series of defined areas. These "stands" are used to maintain and track information on the vegetative and land characteristics for a particular unit of land. The boundaries of a "stand" reflect changes in species composition or differences in other vegetative characteristics such as age or distribution of trees, land ownership, management history, topography, and other features.***

***The analysis process for determining the type of lynx habitat, including denning habitat, is discussed in the Lynx analysis of the Wildlife Affected Environment section. Specific stand information was used in a computer model to determine the type of lynx habitat and the effects of the proposed activities on habitat. Information for physical attributes such as slope and aspect, habitat types, forest type, stand age and composition, past management history, etc. was obtained for each stand from an existing data base (TSRMS) that was developed from on-the-ground inventory, historical records, and aerial photo interpretation.***

***The majority of the Sema Creek LAU burned in a wildfire in 1926, which covered over 100,000 acres of the Priest Lake Ranger District. An earlier fire in 1889 previously had burned the northern and eastern portions of the LAU. The 1926 fire was a stand-replacing event, killing all the trees in most locations except where fuel conditions were somewhat different such as areas of the 1889 burn or in more sheltered locations. In Section 5, the 1926 burn was stand-replacing except in a few locations near Sema Creek, where small pockets of trees survived as evidenced by aerial photos. These pockets of older trees generally are smaller than 1-2 acres, and would not meet the recommended stand size of five acres as discussed above. For a couple areas on National Forest land adjacent to Section 5, the stands contained a component of older trees that met criteria for denning habitat and exceeded five acres.***

***The second part of your comment questioned the effectiveness of the denning habitat lying south of Section 5 because of the heavy use of Road 308. To clarify, Road 308 is a gravel road that receives moderate recreation, administrative, and logging use seasonally. The highest traffic is during the late summer and fall periods. A traffic counter on a lower stretch of Road 308 outside of the project area measured approximately 5000 vehicles per season; this level of use is not considered as a high volume of traffic.***

***The majority of the particular stand identified as denning habitat lies over 1,200 feet south of Road 308 with the closest point being 700 feet. The habitat lies outside the activity acres of the proposed easement. There may be some level of disturbance from traffic on the road, but the effect of that noise is unknown. Several studies of lynx have been conducted in areas of relatively dense rural human populations and agricultural development, suggesting that lynx can tolerate moderate levels of human disturbance (Aubry, Koehler and Squires 1999, p. 20). Research also indicates that lynx appeared to readily cross highways, and established home ranges in proximity to roads (Aubry, Koehler and Squires 1999, pp. 15, 19, and 20). Lynx also frequently travel along roadways where adequate cover is present on both sides of the road (Koehler and Aubry 1999, p. 88). Though it is indicated that an important feature of denning sites is minimal human disturbance (Koehler and Aubry 1999, p. 88), the threshold level of that disturbance is unknown. Therefore, the stand was considered capable and suitable denning habitat based on the above research.***

**Comment:** 3. Lack of alternate prey species habitat information.

**RESPONSE:** ***Snowshoe hares are the primary prey of lynx, comprising 35-97 percent of the diet throughout the range of lynx (Ruediger et al. 2000, p.5; Koehler and Aubry 1999, p. 74). Hares seek dense conifer thickets to feed on woody seedlings and saplings and to escape predators and extreme cold (ibid). Red squirrels have been identified as an important alternate prey species; their habitat is primarily associated with coniferous forests (ibid, pp. 11-12). Other prey species include red squirrel, grouse, flying squirrel, ground squirrel, porcupine, beaver, mice, voles, shrews, fish, and ungulates as carrion or prey (Ruediger et al. 2000, p. 5; Aubry, Koehler and Squires 1999, p. 5). As stated in the Biological Assessment for this project, "although it is noted that lynx rely heavily on snowshoe hare as a primary food source, it is believed that within a portion of the project area, other species may play an important role in lynx ecology such as ruffled grouse, blue grouse, red squirrel which are in many years abundant within portions of the analysis area."***

***As recognized in the LCAS, more research is needed on habitat information for alternate prey species. Existing research has focused on the winter diet, and diets in the summer are poorly understood throughout the range. Indications are that the summer diet may include a greater diversity of prey species (ibid). As stated on page 94 of the LCAS, future (monitoring and inventory) work also should address summer versus winter forage abundance and availability, and use of alternate prey by lynx.***

**Comment:** 4. Population trend information.

**RESPONSE**: ***As discussed in the Lynx analysis, the Canada lynx was listed as a threatened species in March 2000. The listing resulted from a perceived downward population trend (Ruggeiero and McKelvery 1999, p 3). The present distribution of lynx populations and lynx habitat needs to be assessed more fully. A national field sampling survey is being conducted to delineate lynx distribution by collecting hair samples (Ruediger et al. 2000, p. 94). A survey benchmark included a portion of the Sema Lynx Analysis Unit. DNA analysis did not reveal the presence of lynx via this survey method (Appendix F, BioOp, p. 34).***

**Comment:** 5. Recreation/snowmobile impacts.

We also take issue with the assertion that there will be *"no net increase in-.. dispersed snowmobile use with implementation of any of the alternatives. "* (page III-32, DEIS). Obviously, since road closures on the Forest are largely ineffective in restricting snowmobile use, the combined effect of opening up forest cover on Stimson lands as well as the construction of roads on both public and private land, will likely lead to increased snowmobile use, especially as extensive use currently occurs in the area (Road 308, "play areas" etc.) These impacts are severe, consequential, and must be incorporated into the discussion and effects determination. In addition, as per the recommendations found in the LCAS, the DEIS should provide maps and monitoring information showing *"location and intensity of snow compacting activities that coincide with lynx habitat... "* (LCAS, page 82) (emphasis added)

**RESPONSE:** ***The standard "on federal lands in lynx habitat, allows no net increase in groomed and snowmobile play areas by Lynx Analysis Unit. Winter logging is not subject to this restriction" (Ruediger et al. 2000, p. 84).***

***Per your comment, a map of winter recreation is included in the FEIS (figure 8). As discussed in the lynx analysis, dispersed snowmobiling occurs on Road 308. Road 308 is not a***

***part of the groomed trail system, and snowmobilers are not encouraged to use this because of moose winter range. The road to be constructed has no direct link to Road 308. For both Alternatives B and C, the proposed access road across National Forest lands in Section 8 would extend from an existing restricted road on Stimson lands in Section 9 as shown in figures 2 and 3 in Chapter II. The existing road in Section 9 is physically closed (gated) year-round to all unauthorized motorized traffic (project file notes, Jan. 2001). There is potential for snowmobile riders to drive behind these gates illegally, but no unauthorized winter access has been documented on this road. When this area was monitored for use levels during the winter of 2000-2001 and in the spring of 2002 by the wildlife biologist, no use had occurred on the Stimson Road in Section 9. Snowmobile use of Road 308 was described as light. Therefore, it is reasonable to assume that there would minimal, if any, increased snowmobile activity resulting from the proposed activity.***

**Comment:** 6. Noxious Weeds.

The LCAS states that "*The impact of non-native invasive plants on biodiversity is a major concern in North America. "...the potential exists for large-scale impacts and alteration of habitat."Weeds such as diffuse and spotted knapweed, leafy spurge, rush skeletonweed, dalmatian toadflax, and Canada thistle have the potential to alter these habitats at both the local and ecosystem scale. "* (LCAS, page 92)

Most of the above listed species (and several more) exist in the planning area and are slated to increase significantly as a result of project implementation. Despite the above admonition, the DEIS fails to discuss the impact of invasives on habitat for lynx and their prey. The incursion of invasive plant species in the LAU constitutes a significant variable for recovery prospects for lynx. As such, the topic warrants discussion and analysis in the DEIS.

**RESPONSE:** ***The discussion of noxious weeds and effects analysis is located in Chapter III of the FEIS. As stated in this analysis, the impacts of noxious weed invasions on forest resources, including lynx and other wildlife species, are discussed in the 1997 Priest Lake Noxious Weed Control Project FEIS, which is incorporated by reference. On page IV-15 of that document, there is discussion of the indirect effect of noxious weeds on herbivore prey.***

***In its discussion of non-native species on page 92, the Canada Lynx Conservation Assessment and Strategy (LCAS) states "non-native invasive plant species have the potential to affect large areas, but have not been studied with regard to impacts on lynx habitat. Our primary recommendation at this time is to encourage further research on these topics. Although existing information is not sufficient to develop specific management direction, we have provided conceptual definitions and initial management considerations."***

***The LCAS includes these management considerations, as discussed in the previous paragraph, on page 93. It states, "Management activities should seek to minimize the loss or modification of lynx habitat as a result of the spread of non-native invasive plant species. Action(s) could include efforts to prevent the establishment of new populations, controlling the spread of existing infestations, providing information to the public, and cooperating with other agencies and landowners in developing and implementing prevention and control programs." These same guidelines were incorporated in the Priest Lake Noxious Weed Control Project (USDA 1997).***

**Comment:** As quoted from the LCAS above, *"The impact of non-native plants on biodiversity* is *a major concern in North America. "* (LCAS, page 92) In recognition of this extreme hazard, the Forest Service is admonished to emphasize prevention in all project planning efforts.

SCA contends that far from emphasizing "prevention" in this proposal, the emphasis appears to be on "slowing the rate of spread". Courts have clarified that merely listing mitigation measures is insufficient to qualify as reasoned discussion by NEPA. Environmental Impact Statements must analyze mitigation measures in detail and explain the effectiveness of such measures. (Northwest Indian Cemetery Protective Ass'n v. Petersen 795 F.2d 688 (9 Cir. 1986) The EIS also has failed to meet the NEPA requirement to *"state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not "* (40 CFR 1505.2 (c )

**RESPONSE:** ***The mitigation measures are listed in Chapter II of the FEIS. These measures are listed as "preventive and control measures" in FSM 2080, Region One Supplement No. 2000-2000.1. As stated in the Priest Lake Noxious Weed Control Project EIS and ROD, the Priest Lake Ranger District uses an integrated pest management plan that includes prevention as well as various control methods.***

***There are several references to the effectiveness of revegetating disturbed sites as a measure to prevent or retard the establishment of weed populations (Everett, comp. 1993, p. 49; USDA 1989b, pp. II-13 and 14.). Monitoring has occurred on the Priest Lake Ranger District (USDA 1997, p. III-3) that also has demonstrated the effectiveness of seeding.***
***Cleaning equipment was identified as another mitigation. Cleaning equipment between sites or infestations is a sanitary practical method of preventing weed spread (William et al., comp. 2001, p 1; Hobbs and Humphries 1994, p. 765). Restriction of vehicle movement is another obvious way to reduce weed invasions (ibid).***

**Comment:** The DEIS, while acknowledging that detrimental impacts will likely result as a consequence of project implementation, fails to make any assessment of the impacts enhanced incursions will have on resources in the area.

NEPA mandates cumulative effects assessments "quantify and analyze effects to resources." By limiting the cumulative effects discussion to a vague "rate of spread" prediction, the agency is (at best) analyzing the **cumulative effects to weeds... not effects to resources.**

For example, we do not learn or gain a clear picture of how invasive plant spread in the analysis area will impact wildlife forage, affect sediment inputs, soil productivity, biodiversity re native plant communities and wildlife, alter fire risks or exacerbate peak flows and erosion. It is not enough to predict that weeds will spread (at whatever rate). The agency has a NEPA requirement to analyze the **impacts** such weed incursions will have on the public's **resources.**

The Pend Oreille County Noxious Weed Control Board has refused to share the Forest Service's sanguine assessment about project impacts related to the spread of invasive plants. Moreover, the Board has stated that assessment and quantification tools are available (with adjustment) for analysis of weed incursions.

The Forest Service has a NEPA responsibility to disclose impacts. Moreover, the agency cannot claim that it is unable to quantify impacts (for whatever reason) without being subject to 40 CFR

1502.22 and its provisions requiring *"disclosure and analysis of the costs of uncertainty* as well as *the costs of proceeding without more and better information.* " (Southern Oregon Citizens Against Toxic Sprays, Inc. v. Clark, 720 F.2d. 1475, 1478 (9' Cir. 1983).

40 C.F.R. 1502.22 imposes three mandatory obligations on the agency in the face of any scientific uncertainty: (1.) a duty to disclose the scientific uncertainty; (2.) a duty to complete independent research and gather information if no adequate information exists and (3.) a duty to evaluate the potential, reasonably foreseeable impacts in the absence of relevant information, using a four-step process. The DEIS fails to discuss the degree of uncertainty regarding invasive plant incursion and spread and the expected impacts resulting from such incursion and spread.

**RESPONSE:** ***As stated in the Noxious Weeds analysis in Chapter III, the impacts of noxious weed invasions on forest resources are discussed in the Priest Lake Noxious Weed Control Project FEIS (USDA 1997). This document is incorporated by reference. The document describes the impacts of noxious weeds to wildlife species, soils, watershed, sensitive plants and other vegetation, as well as impacts to the human environment. The Noxious Weed Control Project FEIS also analyzes the effects of various treatment methods on noxious weed control and various resources.***

**Comment:** SCA finds the boundaries used for the cumulative effects analysis for watershed and fisheries inadequate. We find the Forest Service contention that project impacts will be limited to the westernmost beaver dam complex on Sema Creek unwarranted. Numerous documents mention the unreliability of the existing beaver dams as retention devices. Moreover, the Forest Service failed in the DEIS to assess the extreme impacts resulting from enhanced peak flows and rain-on-snow events on Stimson land in Section 5. These impacts must be considered as they are connected actions resulting from the Forest Service enabling action of access approval. The expected impacts from extensive roading and logging in section 5 will without doubt, have consequences in lower Sema Creek and Granite Creek. Consequently, detrimental impacts can be expected to bull trout and cutthroat trout as a result of approval of the access request. Because of the tenuous state of bull trout in the basin, project impacts are very likely to adversely affect bull trout.

**RESPONSE:** ***The cumulative effects analysis area is discussed in a previous response to your comments regarding watershed and fisheries, and also can be seen in figure 10 of the FEIS. The cumulative effects analysis considered the past, existing, and future activities on both federal and private lands as shown in Chapter III of the FEIS.***

**Comment:** We also find the cumulative effects boundary for grizzly bear inadequate. Very significant impacts to bears are expected as a consequence of approval of the Stimson ANILCA demand on the adjoining Colville NF. We emphasize that NONE of the recovery goals for the Selkirk grizzly bear population are being met. Moreover, because of the very tenuous state of this population, the mortality goal is zero.

The extreme likelihood of displacement of bears resulting from the LeClerc GBU activities as well as the failure to meet minimum core threshold percentage in the Kalispell-Granite GBMU will likely result in further displacement risks. These impacts could logically be expected to resonate across the entire recovery area and consequently should be analyzed in the cumulative effects assessment.

**RESPONSE:** ***Since initiation of the environmental analysis on this project, the Forest Service has been working with the USFWS (see Biological Assessment, Appendix F and Biological Opinion, ProjectRecord). As part of this informal consultation, our biologist discussed the level of analysis and determination of effects. In response to your specific comments above, our Wildlife Biologist contacted Suzanne Audet of the USFWS Spokane office to verify whether the Forest Service should be looking at both the LeClerc and the Kalispell Granite BMUs, or individually, to fully evaluate the cumulative impacts of Stimson's access. (Audet personal communication 2001). She concurred that the individual BMUs were designed to assess the evaluation of cumulative effects (ibid). Each BMU has criteria and thresholds for management (ibid). If a project would have adverse effects, the USFWS would need to look at the larger area to assess the impacts to the species as per their policy and direction. Further discussion of the cumulative effects analysis for grizzly bear also is located in response to your earlier comments in this letter.***

**Comment:** Without key linkage and connectivity information, it is difficult to assess the adequacy of the cumulative effects lynx discussion. Certainly however, the LCAS emphasizes the need to employ a regional assessment in any cumulative effects analysis pertaining to Canada lynx. Nowhere in the DEIS do we learn how project activities will affect corridors or habitat viability for lynx for instance. Without this information, it is impossible to assess the adequacy of the cumulative effects analysis area.

**RESPONSE:** ***As discussed previously in response to your comment regarding connectivity, a map of key linkages is included and the discussion of habitat connectivity has been expanded in the FEIS. The LCAS states that Lynx Analysis Units (LAUs) provide the smallest unit within which to begin tracking or evaluating cumulative effects (Ruediger et al. 2000, p. 97). This scale is used to evaluate the effects of management actions. Since beginning the environmental analysis on this project, the Forest Service has been working with the USFWS (see Biological Assessment, Appendix F, and Biological Opinion, ProjectRecord). As part of this informal and formal consultation, our biologist discussed the level of analysis and determination of effects, including defining the cumulative effects area for the lynx analysis.***

**Comment:** It is well-documented that noxious weeds are spread by a host of vectors that are not confined to any particular analysis area. Wind, water, wildlife, recreationists, motorized traffic, etc. all are instrumental in affecting the spread of invasive plants.

By segmenting and constricting the analysis area boundaries for cumulative effects assessments of invasives, the Forest Service consistently minimizes the impacts individual project activities have on forest resources. Consequently, the aggregate effects of invasive incursions are minimized.

SCA contends that as a consequence of weed incursion into Stimson's Section 5 and the access route opening up that section to activity; weed spread throughout the Analysis Area and beyond can be expected. The various vectors mentioned previously will without doubt effect the spread of invasive plants to lower Sema Creek and beyond to the Granite Creek watershed. This incursion can be expected to have severe detrimental impacts to numerous forest resources.

**RESPONSE:** ***The Priest Lake Noxious Weed Control Project FEIS is incorporated by reference as stated in the Noxious Weeds Analysis in Chapter III. As discussed in that section***

***and other references, areas of ground disturbance such as roads, trails, timber harvest areas, wildfires, etc. are the primary areas of noxious weed infestation.***

***The cumulative effects area for noxious weeds was identified as the Sema and Tobasco Creek drainages. Ground-disturbing activities would be limited to the road construction in Section 8 on National Forest lands, and the subsequent timber harvest, road construction, and related activities on private land in Section 5. Implementation of the mitigation measures as discussed in the analysis would reduce the incidence of weed introduction and spread along the proposed easement in Section 8. Continued noxious weed control of existing and new infestations also would continue on federal lands through the area as discussed in Chapter I. Control efforts on private land also would occur as required by state law and county ordinances. Therefore, it is reasonable to assume that effects of the action would be confined within the defined area.***

**Comment:** As a matter of principle, SCA is opposed to giving away public assets to a private corporation. Implementation of this proposal will result in sacrificing roadless lands, as well as incurring significant costs to the public for detrimental impacts to wildlife, fisheries, watershed integrity, fire risks, weed incursions, loss of productive lands due to road construction, degraded recreation opportunities, etc.

Any landowner, if compelled to allow easement across private property is entitled to be compensated for his/her loss. In this instance, however, Stimson Lumber Company is demanding a gift of public resources without any obligation of paying for the value of property taken from the public trust. SCA believes that Stimson Lumber Company should be expected to pay fair value for any public assets expropriated for the benefit of the corporation.

**RESPONSE:** ***This issue was raised during the scoping period, and is addressed in Chapter II of the FEIS. Under ANILCA, the Forest Service must grant access to private inholdings. The agency's discretion is limited to deciding the location and mode of access.***

**Comment:** SCA contends that the loss of the public's roadless resource has not been adequately analyzed in the DEIS. The loss of over 558 acres within the roadless area (Stimson) as well as 169 acres on public land, will significantly impact the efficacy of roadless lands to satisfy habitat, recreational and other functions. The ANILCA statute does not absolve the Forest Service from comprehensively analyzing the detrimental impacts to the roadless resource: impacts that can only occur as a result of project implementation.

The ICBEMP identified roadless lands as having the greatest ecological integrity of all public lands. Roadless areas provide a host of ecological and recreation functions and their value is instrumental in protecting numerous other resources.

The DEIS however, minimizes the impact that loss of hundreds of acres of roadless lands will have on the Priest Lake ecosystem and fails, in our opinion, to comprehensively assess the consequences that project approval will have.

RESPONSE: The roadless resource discussion and effects analysis follows the methodology outlined in Region One's "Our Approach – Desk Reference." This publication was developed to provide guidance to Interdisciplinary Team members in the documentation and analysis of effects to roadless areas. A copy of this publication is located in the project file.

The analysis in the final EIS also incorporates a discussion of effects to the South Fork Mountain IRA based upon the unique roadless area characteristics identified in the Roadless Area Conservation Rule (from 36 CFR Part 294.11). These unique roadless characteristics could include: high quality or undisturbed soil, water, and air; sources of public drinking water; diversity of plant and animal communities; habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large undisturbed areas of land; primitive, semi-primitive non-motorized and semi-primitive motorized classes of dispersed recreation; natural appearing landscapes with high scenic quality; traditional cultural properties and sacred sites; and other locally identified unique characteristics.

**LETTER #12** - John Wilson and family

**Comment:** I am writing again to voice strong opposition from our family for allowing Stimson Lumber Co. to build roads across public lands in critical caribou and grizzly bear habitat. I've talked to several people who wrote letters opposing this project before and all of them thought their previous letters would be considered in this review and did not plan on writing again. Since many people who wrote letters opposing this project before will think its not necessary to write again and since Stimson is promoting a vigorous letter writing campaign in favor of the Access Project it may seem that public opinion has shifted. It has not!

Aside from public opinion it is difficult to understand why public agencies mandated to protect endangered species under the Endangered Species Act would support activities which may push an already fragile population of caribou and grizzly bears over the edge to extinction. Have big money interests so corrupted our political system that governmental agencies charged with protecting endangered species, sell out because of political pressure?

I hope that those responsible for making these decisions will muster the courage to go against political pressure and do the right thing.

**RESPONSE:** ***It is the responsibility of the Forest Service to provide private landowners access to their inholdings within National Forest lands as explained in Chapter I. "Under ANILCA, the Forest Service must authorize access that minimizes impacts on Federal resources while meeting all applicable laws and regulations of National Forest management, including the Endangered Species Act."***

**LETTER #13** –The Lands Council, The Ecology Center, Alliance for the Wild Rockies, Friends of the Clearwater, Upper Columbia River of the Sierra Club, Forest Conservation Council, National Forest Protection Alliance, Defenders of Wildlife, Idaho Conservation League

**Comment:** The DEIS fails to take a hard look at Rain-On-Snow (ROS) risk and impacts from Stimson's plan to log and build roads in Section 5 T36E R45E. Legal obligations are require in assessing cumulative effects. One of the more obvious omissions is in the cursory way the DEIS deals with the project's cumulative effects in its relation to ROS events, one of the most critical factors affecting water quality. Sema Creek is extremely vulnerable to ROS risks and impacts from Stimsons plans. Further sediment loads into Sema Creek and the pools behind the beaver dams downstream would significant affect bull trout. It might be a fair assessment that beaver dams in the upper Sema Creek would block any further transport of sediment downstream, but only for the short term (DEIS p.III-50), however, we all know that beaver dams weaken and are always vulnerable to breaching. When this occurs there will be extensive transport of sediment downstream. Cutthroat trout exist in low densities at the confluence of South Fork Granite Creek, and even possibly as far up as the confluence of Tabasco Creek (DEIS p.III-53).

The FEIS views ROS only in terms of sensitive snowpack, watersheds that are sensitive to ROS events. Therefore, the percentage of the watershed that supports this sensitive snowpack is a measure that partially characterizes the overall sensitivity of the watershed. As a point of reference, watersheds with a small proportion of sensitive snowpack (less than 30%) do not appear to be very responsive to rain-on-snow events at the watershed scale. Watersheds with a large proportion (greater than 70%) of sensitive snowpacks are often highly volatile and are very sensitive to other disturbance regimes in terms of runoff from the stream system.

> *The sensitive landtypes and sensitive snowpack parameters characterize the inherent sensitivity of each watershed based on the natural conditions which it evolved. These parameters do not change with forest development, and therefore are not carried into the Environmental Consequence section of Chapter III. They do, however, provide a basis and reference point for the watershed effects estimated in the consequences section, as well in the design and location considerations of each alternative. FEIS at III-441.*

The sensitivity level might not change, but the cumulative amount of openings resulting from the Project's regeneration logging will change. These changes should have been evaluated and disclosed in the FEIS cumulative effects analysis. The FEIS does not disclose "design and location considerations of each alternative, " nor evaluate the cumulative increase in adverse watershed effects occurring from an increased ROS risk resulting from the additional Project regeneration openings.

The more heavily logged and roaded a drainage the greater the impact from ROS events. See Isaacson Declaration, p.31 last paragraph (Douglas-fir Bark Beetle Project)

Invariably, the more heavily managed watersheds are displaying significantly higher peak flows during the rain on snow events...it is reasonable to ascribe a portion of the increased peaks the effect of large openings in the forest canopy. *Fiscal Year 1991 IPNF Watershed and Fisheries Forest Wide Monitoring Results*, Introduction. EXHIBIT 4.

New openings from Stimson's road building and road building activities in Section 5 must be viewed cumulatively in terms of additive risk to stream damage from ROS events. These openings will be susceptible to ROS events until a sufficient canopy is re-established. Until then, these areas will be at risk for extremely damaging events that will significantly delay recovery of the affected watersheds.

This is explained in the Coeur d'Alene River Ranger District Callis Steward Environmental Assessment.

> *Bedload movement could be increased due to the lengthened time of risk for rain-on-snow events. The most recent large-scale harvest in Steward Creek occurred in the 1970's. Re-growth of canopy and the subsequent reduction in the 1.22 rain-on-snow risk associated with the 1970's harvest would occur after approximately 2010. The proposed 1994 harvest, with its associated (1.01) increase in rain-on-snow risk, would take approximately 40 years (2030's) before the trees grow back to the point where*

> *hillslope recovery would occur. Callis Steward Timber Sale Environmental Assessment (EA) 3/31/93, paragraphs 5 & 6, p. IV-45. EXHIBIT 7.*
> *The longer that a watershed remains at risk, the more likely that even a low probability event would eventually occur. An increase in bedload movement would likely aggrade the channel bed, further widen the channel, and further decrease bank stability. Id.*

This delay in recovery and increased ROS risk resulting from the addition road building is not fully considered and disclosed in the DEIS Watershed Environmental Consequences section.

The Doug Beetle Project FEIS acknowledges that ROS events are common occurrences in Priest Lake and Coeur d'Alene Project areas. See FEIS at III-434, 435 & 438. The FEIS also acknowledges that many streams in the CDA and Priest Lake Project area have been profoundly effected by ROS events. For example, the FEIS describes the effects of ROS on two Project area streams, the Upper West Branch and Lamb Creek.

The frequency and magnitudes of frequently occurring peak flows has likely been increased in the past due mainly to reductions of evaportranspiration, changes in canopy cover that decrease interception losses and increase susceptibility of sites to rain-on-snow events, and the extension of channel networks from road construction...Stream channel condition and stability have been altered due to changes in the timing, magnitude, and quantity of flows from historical disturbance. Changes in flows have generally exacerbated existing channel disturbances such as weakened stream banks or encroaching roads within channels or their active floodplain." FEIS III-458

Runoff patterns within the Lamb Creek drainage have been altered due to past disturbances. Tree removal from past harvest has increased water yield due to reduction of evaportranspiration. The timing and magnitude of peak flows have been altered due to changes in canopy cover which increase susceptibility to rain-on-snow events and due to the extension of channel networks from road construction. Id p. III 453.

Any new roads, both from the proposed access on Section 8 on National Forest lands and on Stimson land, Section 5, will function as "extension of channel networks" efficiently delivering these large, damaging ROS generated peak flows. The DEIS also ignores the recommendations presented in the *IPNF Guidelines for Watershed and Stream Channel Evaluations and Project Implementation* June 1993 that recommend the site-specific evaluation of ROS risk for all drainages that are proposed for logging activities.

Rain on Snow Risk Analysis will be conducted for existing condition and proposed actions. Analysis should be conducted for the head-water drainages (1st and 2nd order channels) as well as for the project area (3rd and 4th order streams) as needed to define cumulative effects. Guidelines Item 4.3, p. 6. EXHIIBIT 8

The ROS Risk Analysis that is referred to was developed by Gary Kappesser former IPNF Supervisory Hydrologist. It is not used in the DEIS even though it has been widely used in past IPNF EA/EIS and is employed in the Lakeface-Lamb Fuel Reduction Timber Sale EIS (12/21/2000) on the Priest Lake Ranger District. No explanation is given in the DEIS why this procedure was not employed.

"Hydrologically, streams were not adapted to the combined effects of natural disturbance, land management and fire suppression. On the hillsides, extensive timber harvest would cause large quantities of water, previously used by the trees, to remain in the ground or runoff. Miles of associated road networks on the hillside and in the valley bottoms delivered this excess water more quickly to downstream reaches. In addition, the impact of rain-on-snow events became more severe because openings in timber stands from fire, windthrow, disease and timber harvest were most susceptible to rapid snowmelt conditions.

The result was higher peak spring flows and greater flow volumes than had occurred previously." (Douglas-fir Beetle project III-435).
"Annual flow and peak flow from the clearcut watershed were increased significantly. The partial cut resulted in a significant increase in total water equivalent in the winter snowpack and an apparent increase in total annual streamflow that was comparable to the clearcut.." (King, 1989)

The DEIS failed to take the required "hard look" at the cumulative ROS impact resulting from the addition of Project regeneration units to an already disturbed system. The DEIS cannot support its conclusions that sediment will be reduced and the streams improved without factoring the increased risk for ROS.

**RESPONSE:** ***This response relates to the many previous paragraphs regarding rain-on-snow. In response to your comments, additional discussion of rain-on-snow events was added. This discussion is located in Chapter II of the FEIS and in the project file.***

***The Sema Creek drainage was evaluated for rain-on-snow events. While a large percentage of the Sema Creek drainages falls within the elevational band suggesting the likelihood that it would be sensitive to rain-on-snow events, its position at higher latitudes and its topography moderates the sensitivity. The typical snowpack in this drainage is deep, ranging from 6-8 feet. This snowpack rarely ablates, or melts, during mid-winter. The snowpack easily absorbs mid-winter rains, when they occur, without substantial melt. Therefore, no rain-on-snow risk analysis was conducted for this project.***

***There are drainages in the Priest River watershed where rain-on-snow events can occur. The Upper West Branch and Lamb Creek are two such drainages, and, therefore, a rain-on-snow risk analysis was completed for projects in those drainages. The snowpack is substantially less in these drainages than Sema Creek or drainages further north.***

**Comment:** The DEIS fails to take analysis the cumulative affects of headwater logging which in effect is directly correlated with ROS affects. Walter F. Megahan, a noted Former Forest Service Research Hydrologist, refutes the sediment-filtering notion.

I suspect that the primary source of downstream degradation is caused by the release of stored sediments on slopes and in channels in headwater watersheds in direct response to clearcutting and associated burning." Walter F. Megahan Research Hydrologist, in letter to William Morden, IPNF Supervisor, 8/20/84.

*"Downstream movement of material is a function of streamflow rates primarily in response to climatic conditions. Therefore, I would expect that movement of released sediment occurs even*

*without streamflow changes caused by increased water yields. However, any increased flows resulting from timber harvest would aggravate the situation." Id*

*The course bedload material moves downstream and is deposited at lower gradient reaches until the next large streamflow event redistributes it even further downstream. Channel aggradation at the low gradient reaches causes channel widening with associated bank erosion, filling of pool, etc. Id.*

*"I believe that much of the apparent increase in sediment loads in the fourth an fifth order streams are a direct response to the sediment routing mechanism described above. A time lag naturally occurs as sediment storage zones slowly shift from headwater to downstream locations mostly during the highest streamflow events." Id*

**RESPONSE:** ***The effects of the logging and road construction on National Forest and private lands was analyzed including those activities which would occur in headwater drainages as discussed in Chapter III. When Megahan's letter was written in 1984, current practices to reduce the effects of harvesting on headwater streams were not being implemented on National Forest lands including implementation of Best Management Practices (BMPs) and riparian protections included in the Inland Native Fish Strategy (INFS). Since that time, Washington State also has implemented riparian management zones and modified other Forest Practices to minimize sediment production. These practices are included in our analysis.***

**Comment:** We find the Stimson ANILCA cumulative effects analysis in the EA inadequate. The Forest Service **must** "consider" cumulative impacts. 40CFR § 1508.7. The agency is required to consider cumulative actions by NEPA.

NEPA emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that "the agency will not act on incomplete information, only to regret its decision after it is too late to correct." *Marsh,* 490 U.S. at 372, 109 S.CT 1851.

**RESPONSE:** ***Cumulative effects were fully analyzed for each resource as discussed in Chapter III of the FEIS. Additional clarifications regarding cumulative effects were added to the FEIS in response to comments we received to the DEIS.***

**Comment:** The Forest Service publication entitled *Our Approach to Effects Analysis: A Desk Reference* defines reasonably foreseeable actions thusly:

"Legal advice indicates that an action need only be a LOGICAL POSSIBILITY to be considered reasonably foreseeable. That is a considerably lower threshold than likely, proposed, certain or probable." (See Forest Service document: *Our Approach to Effects Analysis: A Desk Reference*)

Information contained in the analysis File for this project delineates stand data (size class-cover type) for Stimson lands in this project area. Furthermore, also in the Analysis File, is a copy of Stimson's *Sustainable Forestry Principles* (dated 3/9/99)

Under (1) of this document states: "The regeneration harvest of a forest stand WILL (emphasis ours) begin when it reached economic maturity (approximately 60 years of age with dominants having a DBH between 11.6 and 20.5 inches). "...the first harvest will generally be a shelterwood or seed tree cut."

Stimson stand data (see Analysis File) indicate extensive stands in the Analysis Area that are will beyond the stated minimum diameter for harvest. Furthermore, many more stand will qualify for Stimson's definition of "economic maturity" within a 10 to 20 year period, affecting lynx habitat-see section on lynx.

Based on Stimson's past record of logging, information contained in the draft and final (1997) FWS BO, plus Stimson's recommended guidelines for "harvest", it is much more than "reasonably foreseeable" (not to mention a "logical possibility") that Stimson will be logging extensively in this Analysis Area for years to come.

Stimson documents reveal their intention to return to the project area (and other) seed tree and shelterwood harvest areas with a 10-year period. Stimson has been aggressively logging their fee lands for years. This company's extremely well established rate of logging their lands is a reliable guide for projecting reasonably foreseeable activity in this project area. (Read LOGICAL POSSIBILITY)

To reiterate: "...an action need only be a logical possibility to be considered reasonably foreseeable. That is a considerably lower threshold than likely, PROPOSED, or probable. (See U.S. Forest Service document: *Our Approach to Effects Analysis: A Desk Guide.)*

**RESPONSE:** ***Stimson Lumber Company provided detailed information regarding their reasonably foreseeable harvest plans on all their lands within the cumulative effects areas for various resources. This information is discussed in Chapter I of the FEIS, and analyzed in Chapter III. The information that they provided regarding their past and existing activities has been accurate including their road system, years of harvest, logging system, level of canopy removal, and other related information. We therefore assume that the information that they provided for their future actions also is reasonably accurate. They also provided their Management Plan in lynx habitat that provides guidelines for their harvest scheduling to maintain lynx habitat through time.***

**Comment:** The DEIS completely fails to fully, or even partially analysis current soil conditions and cumulative effects of the activities proposed in each alternative. A full "hard on the ground-look" analysis must be completed before the completion of the FEIS, and the results incorporated into the document.

The soils resource is extremely important, that by law, regulation, and Forest Plan the District must protect the productivity of the soils. This project fails to do so as is stated in the DEIS, "road construction proposed under either alternative would be an irretrievable commitment of soil productivity" (P III-87). By saying either alternative, that usually refers to two. However this DEIS has three alternatives, the third being a no-action alternative that would not contribute to irretrievable commitment of soil productivity, which is insinuated.

**RESPONSE:** ***The analysis of effects for soils, including the analysis for the no action alternative, is discussed in Chapter III. The direct and indirect effects to soils are limited to loss of soil productivity on the road easement. In response to your comment, more discussion of the regulatory framework for protecting soil productivity was included.***

**Comment:** Sema Creek is a designated Riparian Management Area according to the Forest Plan Management Area Map. Its designation ends at the border of Stimson's land, even though the headwaters of Sema Creek extend onto Stimson's land. The entirety of Sema Creek must meet Riparian Management guidelines. The westslope cutthroat trout is a listed sensitive species by the USDA and is known to use streams in or near the cumulative effects area. Despite the fact the bull trout are currently not present in Sema Creek, they were last reported in Sema Meadows (South Fork of Granite Creek) in 1993, which suggests that spawning may be taking place.

**RESPONSE:** ***To clarify your comment, the management direction set forth in the Forest Plan of the Idaho Panhandle National Forests applies only to National Forest lands.***

**Comment:** Surveys and fish counts regarding bull trout existence are outdated. The DEIS reports that the last snorkel surveys were done in 1997 by the Kalispel Tribe in the South Fork Granite Creek above Sema confluence and that "annual redd counts have not been conducted in Granite Creek, so the location and numbers of spawning adults are not known" (DEIS p. III-54). Before the FEIS is issued it would be prudent for the Forest Service to conduct another bull trout survey within Sema Creek since adult bull trout were last report in Sema Meadows in 1993.

**RESPONSE:** ***Based on the surveys described above in addition to surveys conducted earlier, it is very unlikely that bull trout are found within the area that will be affected by the direct and indirect effects of this project. The last known bull trout locations within this basin are more than two miles downstream of this project. Although surveys have not been completed since 1997, bull trout numbers were low in the downstream stretches for more than 15 years. The 1997 survey should be considered as recent as it was completed seven years ago. In September 2001, the project hydrologist and fisheries biologist also conducted a presence/absence survey. The effects analysis, however, is based on maintaining the habitat conditions for this species, whether bull trout are present or not.***

**Comment:** Despite acknowledging that increases in water temperature, increase in sediment load, and additional culverts in fish bearing streams could reduce the survival rate of MIS, "if they ever become reestablished" in Sema Creek, these ramification are rationalized by the what if concept. This is a clear indication that active and positive management to get these MIS reestablished is a LOW priority.

**RESPONSE:** ***As discussed in the Fisheries analysis of the FEIS, much of the decline of bull trout and westslope cutthroat trout has resulted from the introduction of lake trout and brook trout into the Priest Lake watershed. Currently, the Idaho Fish and Game is attempting to change regulations to increase the harvest of lake trout and brook trout so that the survival of bull trout and westslope cutthroat trout is enhanced. Without a reduction in these exotic species, it may be difficult for bull trout and westslope cutthroat trout to persist regardless of land management activities.***

***The Forest Service is responsible for managing habitat conditions on National Forest lands. There have been several restoration activities that have occurred over the past several years including such actions as road decommissioning and culvert replacement to improve habitat conditions in the Priest Lake watershed.***

**Comment:** Furthermore, the determination of effect to MIS described on p. III-60 is premature, since a project Biological Assessment is non-existent. Mitigation measures in using certain culverts, upgrades predetermined *likely to result long term risk to individuals* (westslope cutthroat and bull trout) without consultation with US Fish and Wildlife is unknown. A project BA and further consultation with US Fish and Wildlife needs to occur for the FEIS.

**RESPONSE:** ***The Biological Assessment for fisheries is attached in Appendix F to the FEIS. Consultation with the U.S. Fish and Wildlife Service has occurred through the environmental analysis for this project. The Biological Assessment is not finalized until the Deciding Officer has made the decision of which alternative to implement.***

**Comment:** "The erosion potential of a given soil depends more on the vegetation cover than on the soil texture. Hence, only three soil types were selected for the X-DRAIN database, plus two addition types for graveled conditions." (Elliot et al) There are no variables in the program were vegetation is accounted for. The assumptions used in the X-DRAIN neglect major components of erosional events such as potential flow velocity (Froude Number), the density of sediment and water, and the complexity of grain size and shape. In the Hjulsrom/Shields diagram (Figure #) shows the critical current velocity for each size of quartz (G 2.65). The program over simplifies the velocity of water movement; there are more factors that control the rate water moves than the degree of the slope, such as piles of debris and sudden gradient changes. In the area of the Stimson accesses the area is predominately characterized by granitoid rocks. These rocks are comprised of large grained micas (G. 2.8-3.2), but are basal, which reduces the surface area, making it harder for transport; mix-grained quartz; and K-feldspar (G 2.57), which is usually rounded and massive making it more mobile. Refer to Figure 1. The water density can be affected by depth of water and amount of sediment accumulated in the water column.

**RESPONSE:** ***The X-DRAIN model was used to analyze the direct effects of the proposal. This model is designed to estimate potential sediment yield from roads, landings, and similar features as affected by climate, soil, local topography, and the design of the road. Data from the nearby Bunchgrass Meadows was used for the climate variables. The soil type was a sandy loam, which is characteristic of the soils in the project area. The model used measurements of road grade, road width, length between road drainage features, fill grade, fill width, buffer grade, and buffer width to determine the amount of erosion and resulting potential sedimentation to stream channels from the proposed roads (project file). The model assumes the road has a high level of traffic and therefore does not include vegetation as a variable. It assumes a worst case scenario as discussed in the Water Resources analysis. The application of design features such as gravel surfacing and slash filter windrows would reduce the sediment delivery by 80 percent.***

***The X-Drain model is not a model that estimates hydrological functions. It only measures potential sediment from roads. The model does not include the Froude Number, which is an expression of stream velocity, or the Hjulstrom-Shields diagram. Hydrologists use equations based on the Froude Number and Hjulstrom-Shields diagram when addressing streamflows and particle entrainment, not soil erosion. The X-DRAIN model is sound hydrologically in terms of estimating potential sediment, and incorporates basic hydrologic principles as described in Elliot's 1998 publication describing the model.***

**Comment:** Under the proposed alternative, the South Fork IRA could be reduced from a gross area of 6,530 acres to 4,528 acres. In 1982, the 9th Circuit Court found that the second Roadless Area Review and Evaluation (RARE II) violated the National Environmental Protection Act (NEPA). Consequently, the Forest Service adopted regulations requiring Environmental Impact

Studies for proposals that would substantially alter the undeveloped character of an inventoried area of 5,000 acres or more. In this case, the DEIS fails to adequately address the substantial alteration of the undeveloped character of the South Fork Mountain IRA that would result from Alternatives B and C.

**RESPONSE:** ***The Priest Lake Ranger District is completing an EIS for this project. The roadless resource discussion and effects analysis follows the methodology outlined in Region One's "Our Approach – Desk Reference." This publication was developed to provide guidance to Interdisciplinary Team members in the documentation and analysis of effects. A copy of this publication is located in the project file. The final EIS analysis also incorporates a discussion of effects to the South Fork Mountain IRA based upon the unique roadless area characteristics identified in the Roadless Area Conservation Rule (from 36 CFR Part 294.***11).

**Comment:** The DEIS incorporates uninventoried, unroaded areas that meet roadless characteristics into the total acreage in the Roadless Area Complex (RAC), which includes the south Fork Mountain IRA and the Grassy Top IRA. If this is the case, then why isn't those 1,241 acres officially designated by either IRA? Also, by incorporating the Grassy Top IRA and other unroaded areas with the South Fork Mountain area into the RAC, it is essentially making the area much larger in acreage, which decreases the percentage of affected area, making the cumulative affects seem minimum. Instead of comparing the affects on 6,530 acres, the EA compares it to 23,552 acres.

**RESPONSE:** ***The South Fork Mountain and Grassy Top RARE II areas were designated during this process and evaluated in the 1987 IPNF Forest Plan (Appendix C) as per requirements of the National Forest Management Act (NFMA). As explained in the Roadless analysis in Chapter III, the decommissioning of the Harvey-Granite Road in 1998 essentially removed the boundary separating the South Fork Mountain IRA and the Grassy Top IRA to the north. Additionally, there are portions of three sections on the Colville National Forest, which lie adjacent to the South Fork Mountain and contribute to the existing roadless character. This Roadless Area Complex (RAC) basically is all contiguous lands meeting roadless characteristics, and not divided by a road. Only the South Fork Mountain IRA and the Grassy Top IRA have been designated as roadless areas through another decision process, as explained above. Designating the status of a roadless area is outside of the scope of this project. As stated in our analysis, the Roadless Area Complex, as well as the South Fork Mountain IRA individually, is used to discuss the cumulative effects to the manageability/boundaries element. The cumulative effects of the other five roadless characteristics are analyzed only for the South Fork Mountain IRA.***

The ANILCA statute does not absolve the Forest Service from comprehensively analyzing the detrimental impacts to the roadless resource: impacts that can only occur as a result of project implementation.

The ICBEMP identified roadless lands as having the greatest ecological integrity of all public lands. Roadless areas provide a host of ecological and recreation functions and their value is instrumental in protecting numerous other resources.

**RESPONSE:** ***As stated above in a previous response, the effects analysis followed the prescribed methodology.***

**Comment:** The Lynx Conservation Assessment and Strategy (LCAS), USDI BLM et al. 2000 is a formal agreement that is mandatory for the Idaho Panhandle National Forest. The Forest acknowledges that Canadian Lynx occupy the Stimson Access project area. The project area contains the Sema Lynx Analysis unit (LAU an area of 25,419 acres). During the process of writing the Stimson Access DEIS, much about the importance of the Kettle Range area for the Canada lynx has been discovered.

The last survey benchmark was conducted two years ago using the "hair-snare method, and the results of the DNA analysis has still not been completed (DEIS p. III 14-15). We contend again that this vital information needs to be incorporated into the EIS. What population trends are for the lynx in the Stimson Access Project area and Selkirk Mountains in general?

**RESPONSE:** ***As discussed in the Wildlife analysis in Chapter III, the Canada lynx was listed as a threatened species in March 2000. The listing resulted from a perceived downward population trend (Ruggeiero and McKelvery 1999, p 3). We assume that a downward population trend also has occurred in the Selkirk Mountains though population data is generally lacking. A national field sampling survey is being conducted to delineate lynx distribution by collecting hair samples (Ruediger et al.2000, p. 94). As discussed on page III-18, a survey benchmark included a portion of the Sema Lynx Analysis Unit. DNA analysis did not reveal the presence of lynx via this survey method (Appendix F, BioOp, p. 34).***

**Comment:** In December 1999, the Forest Service and Bureau of Land Management completed the "Biological Assessment Of The Effects Of National Forest Land And Resource Management Plans And Bureau Of Land Management Land Use Plans On Canada Lynx". (programmatic Lynx BA). The programmatic BA concluded that the current programmatic land management plans, including the Forest Plan for the IP National Forest, "may affect, and are likely to adversely affect, the subject population of Canada lynx." On March 21, 2000, the Canada lynx was listed as a "Threatened" species under the ESA.

**RESPONSE**: ***That is correct. On March 21, 2000, the U.S. Fish and Wildlife Service made the decision to formally list the species. The formal listing as a threatened species actually was published in the Federal Register on March 24, 2000.***

***On the basis of this new information regarding lynx biology since the issuance of the land management plans, the Forest Service has identified the need to update the management direction. The Forest Service has initiated public scoping to begin the environmental analysis to change eighteen Forest Plans in the Northern Rockies to respond to the recommendations of the Canada Lynx Conservation Assessment and Strategy (LCAS). Public scoping for the amendment was initiated in September 2001. The agency has prepared a draft Environmental Impact Statement (EIS) for the proposed amendment. The Notice of Availability for the draft EIS was published in the Federal Register on January 16, 2004. The Forest Service and BLM preferred alternative is Alternative E, which addresses the issue of wildland fire risk while contributing to lynx conservation. It also responds to findings that grazing, mineral, forest roads and over–the-snow activities do not affect lynx populations. A decision is scheduled for 2004. In the interim, the management guidelines and standards identified in the Canada Lynx Conservation Assessment and Strategy (Ruediger et al. 2000) and Lynx Conservation Agreement (#00-MU-11015600-013) are being used to guide agency actions. The Stimson Access Project follows this direction. If that strategy were modified, this action would be made***

***consistent with those changes. A decision on the environmental document is anticipated to occur in the fall of 2004.***

**Comment:** We believe that the Forest has already made a decision—before a fair and full analysis was done for all the alternatives, including ones that did not temporarily increase road access and create human disturbance by logging—which is clearly illegal under NEPA.

**RESPONSE**: ***As stated in the previous paragraph, the Forest Service is beginning the environmental analysis on a Forest Plan amendment. No alternatives have been developed, and no decision will be made on the proposed Forest Plan amendment until the fall of 2004.***

**Comment:** Plans within the Northern Rockies:

- Generally direct an aggressive fire suppression strategy within developmental land allocations. This strategy may be contributing to a risk of adversely affecting the lynx by limiting the availability of foraging habitat within these areas. There is no discussion of fire, or that fact that Washington State is likely to continue to aggressively fight wildfire, along with the Forest Service on both public and private lands.

- Allow levels of human access via forest roads that may present a risk of incidental trapping or shooting of lynx or access by other competing carnivores. The risk of road-related adverse effects is primarily a winter season issue.

- Are weak in providing guidance for new or existing recreation developments. Therefore, these activities may contribute to a risk of adverse effects to lynx.

- Allow both mechanized and non-mechanized recreation that may contribute to a risk of adverse effects to lynx. The potential effects occur by allowing compacted snow trails and plowed roads, which may facilitate the movements of lynx competitors and predators.

The Stimson DEIS does not adequately discuss the new access to snowmobiles and impacts created by that access on Forest Service and Stimson Company land on lynx. It is not safe and prudent to state that "*no net increase in...dispersed snowmobile use with implementation of any of the alternatives.*" (page III-32, DEIS). In fact, snowmobiling use within the IPNF has increased substantially over the years. Illegal poaching into these areas are likely to occur as stated in the DEIS (III-90) due to increased access, the ineffective road closure devices used, and lack of enforcement and monitoring. In addition, as per the recommendations found in the LCAS, the DEIS should provide maps and monitoring information showing "*location and intensity of snow compacting activities that coincide with lynx habitat...*" (LCAS, page 82) (emphasis added)

**RESPONSE:** ***The standard "on federal lands in lynx habitat, allows no net increase in groomed and snowmobile play areas by Lynx Analysis Unit. Winter logging is not subject to this restriction" (Ruediger et al. 2000, p. 84).***

***As per your comment, a map of winter recreation is included in the FEIS. As discussed in the lynx analysis, dispersed snowmobiling occurs on Road 308. Road 308 is not a part of the groomed trail system, and snowmobilers are not encouraged to use this because of moose winter range. The road to be constructed has no direct link to Road 308. For both***

***Alternatives B and C, the proposed access road across National Forest lands in Section 8 would extend from an existing restricted road on Stimson lands in Section 9 as shown in figures 2 and 3 in Chapter II. The existing road in Section 9 is physically closed (gated) year-round to all unauthorized motorized traffic (January 17, 2001 meeting notes). There is potential for snowmobile riders to drive behind these gates illegally, but no authorized winter access has been documented on this road. When this area was monitored for use levels during the winter of 2000-2001 by the wildlife biologist, no use had occurred on the Stimson Road in Section 9. Snowmobile use of Road 308 was described as light. Therefore, it is reasonable to assume that there would minimal, if any, increased snowmobile activity resulting from the proposed activity.***

**Comment:** Forest management has resulted in a reduction of the area in which natural ecological processes were historically allowed to operate, thereby increasing the area potentially affected by known risk factors to lynx. The Plans have continued this trend. The Plans have also continued the process of fragmenting habitat and reducing its quality and quantity. Consequently, plans may risk adversely affecting lynx by potentially contributing to a reduction in the geographic range of the species.
The programmatic BA notes that LCAS identifies the following risk factors to lynx in this geographic area:

- Timber harvest and pre-commercial thinning that reduces denning or foraging habitat or converts habitat to less desirable tree species
- Fire exclusion that changes the vegetation mosaic maintained by natural disturbance processes.
- Roads and winter recreation trails that facilitate access to historical lynx habitat by competitors
- Legal and incidental trapping and shooting (the area has an extensive history of lynx trapping, this issue is never discussed in the Stimson Access project files)
- Predation
- Being hit by vehicles
- Obstructions to lynx movements such as highways and private land development

As evidenced by the fact that the Canada lynx is now listed under the ESA, it is clear that the IPNF must do more than follow its Forest Plan's protections provided for lynx.

On February 7, 2000, the Forest Service and the U.S. Fish & Wildlife Service (FWS) signed the Canada Lynx Conservation Agreement. The Conservation Agreement states:

> This Agreement has been initiated to promote the conservation of the Canada lynx and its habitat on federal lands managed by the signatories. It identifies actions the signatories agree to take to reduce or eliminate adverse effects or risks to the species and its habitat, and to maintain the ecosystems on which this species depends. These actions are a result of considering the new information about the Canada lynx contained in the Lynx Science Report and LCAS. The LCAS is appended to this Agreement. (Conservation Agreement at p. 2)

The "LCAS" is the Lynx Conservation Assessment and Strategy. With the adoption of the Conservation Agreement, the Forest Service agreed to "use the Science Report and LCAS, together with locally specific information as appropriate..." (Conservation Agreement at p. 3.)

**RESPONSE:** ***As stated previously, the Forest Service has initiated public scoping to begin the environmental analysis to change eighteen Forest Plans in the Northern Rockies to respond to the recommendations of the Canada Lynx Conservation Assessment and Strategy (LCAS). A decision on the environmental document is anticipated to occur in the fall of 2004.***

***In the interim, the Forest Service has agreed to review and consider the new information in the Lynx Science Report and LCAS (USFS Agreement #00-MU-11015600-013, p. 7) as you state above in your comment. That is the basis of our management standards as described on in the wildlife section of the FEIS.***

**Comment:** The Conservation Agreement also states:

> The Agencies agree that the LCAS includes a set of recommendations that are based on the best currently available scientific information about lynx, risks to the species and/or individuals posed by management activities, current habitat conditions, and measures that are likely needed to conserve the species. The Agencies agree to the following actions and considerations associated with project planning and implementation.
>
> A. Proposed Actions.
> The FS agrees to review and consider the recommendations in the LCAS prior to making any new decision to undertake actions in lynx habitat. (Conservation Agreement at p. 7)
>
> C. Determination of Effect
> The Lynx LCAS will be used and referenced in all determinations of effect for lynx. It will be used as described in the LCAS in the section entitled, "Approach to Development of Conservation Measures,' and as provided for in current and future LCAS implementation guidance. (Conservation Agreement at p. 9)

Under "Conservation Measures" the LCAS states, "Lynx analysis units (LAUs) are intended to provide the fundamental or smallest scale with which to begin evaluation and monitoring of the effects of management actions on lynx habitat." (LCAS at 77.)

**RESPONSE:** ***As discussed in the lynx analysis, the methodology followed the conservation measures outlined on pages 78 through 86 of the LCAS, and as discussed above in your comment. Additionally the analysis and results were consulted on with the U.S.Fish and Wildlife Service (Appendix F). The Sema Lynx Analysis Unit (LAU) is shown on figure 6 and described in the analysis.***

**Comment:** Next, this appeal outlines some of the many considerations the Stimson Access Project BO, Decision and EIS failed to disclose.

**RESPONSE:** ***Your comment is premature. There has been no Biological Opinion or Decision issued on this project. You cannot appeal the decision until one is issued.***

**Comment:** From the LCAS: "Application of certain conservation measures at the LAU scale allows blocks of quality lynx habitat to be maintained within each LAU, thereby maintaining a good distribution of lynx habitat at the scale of lynx home range." (LCAS at 77.) The LCAS states under <u>Project planning – standards:</u>

> 1. Within each LAU, map lynx habitat. Identify potential denning habitat and foraging habitat (primarily snowshoe hare habitat, but also habitat for important alternate prey such as red squirrels), and topographic features that may be important for lynx movement (major ridge systems, prominent saddles, and riparian corridors). Also identify non-forest vegetation (meadows, shrub-grassland communities, etc.) adjacent to and intermixed with forested lynx habitat that may provide habitat for alternate lynx prey species. (LCAS at 79).

The maps provided in the DEIS regarding different lynx habitats are poor to read which would help in disclosing important habitat information to the decision maker and public. According Figure 5 (III-13), Section 5 is entirely within the Sema LAU area, but no habitat types are identified? Does that mean that adjacent denning habitat north and west of Section 5 understand USGS survey lines? Meaning that these denning areas are truncated. The Lands Council raised this same concern in our EA comments, which have not been addressed in this DEIS.

**<u>RESPONSE:</u>** ***We have improved the quality of the figure, which is now figure 6. In Section 5, the habitat is primarily low quality forage as displayed on the legend.***

***The majority of the Sema Creek LAU burned in a wildfire in 1926, which covered over 100,000 acres of the Priest Lake Ranger District. An earlier fire in 1889 previously had burned the northern and eastern portions of the LAU. The 1926 fire was a stand-replacing event, killing all the trees in most locations except where fuel conditions were somewhat different such as areas of the 1889 burn or in more sheltered locations. In Section 5, the 1926 burn was stand-replacing except in a few locations near Sema Creek, where small pockets of trees survived (project file meeting notes) as evidenced by aerial photos. These pockets of older trees generally are smaller than 1-2 acres, and would not meet the recommended stand size of five acres as discussed above. There are two areas on National Forest land adjacent to Section 5, in which the stands contained a component of older trees that met criteria for denning habitat and exceeded five acres.***

**<u>Comment:</u>** The issue of denning habitat is significant. The incidental take statement, Page 70 of the Biological Opinion states the following:

> The Service expects that the proposed action is likely to result incidental take of the lynx in the form of harm, due to the detrimental impacts to denning habitat associated with road construction and timber harvest. These proposed activities will degrade potential denning habitat in an LAU that is already deficient in such habitat, thereby potential affecting the lynx's reproductive ability. ... take of this species can be anticipated by loss of 82 acres of potential denning habitat in an LAU that is already deficient in denning habitat.

**<u>RESPONSE:</u>** ***We're not sure which Biological opinion you are referring to since your quote above was written prior to our receiving a Biological Opinion in December of 2003. The above comments, therefore, are not pertinent to this project. Moreover, as discussed in Chapter III, the proposed activities for all alternatives would meet the denning habitat standard of maintaining 10 percent of the LAU.***

**<u>Comment:</u>** The automatic sign-off by US Fish and Wildlife Service does not negate the obligations of the Forest Service to follow the LCAS, do the required analysis and ensure that standards are met. The mitigation that is proposed to modify the project to minimize the potential disturbance of denning lynx is to "conduct road construction and harvest activities within potential lynx denning habitat outside the denning season (April through June).

**RESPONSE:** ***The Priest Lake Ranger District has followed the management guidelines and standards of LCAS as displayed on page III-16, and as discussed in the effects analysis and Biological Assessment. For Alternative C, seasonal mitigation was included to reduce the likelihood that denning lynx would be displaced (see Chapter II). It was not included for the other alternatives because denning habitat would not be impacted.***

**Comment:** The LCAS also states under Project planning – standards at page 79. "3. Maintain habitat connectivity within and between LAUs." But the Stimson Access DEIS only says that connectivity would be maintained on Stimson lands and across the landscape due to time sale planning model Stimson use. The DEIS however fails to disclose where the connectivity is between any adjacent LAUs or other LAU's that may be near, but outside the project area. In general, the cumulative effects of this action, with the logging plans of Stimson are not disclosed.

**RESPONSE:** ***A map displaying connectivity within and between LAUs is included in the FEIS and the Biological Assessment (BA) for this project. The BA displays the connectivity in Section 5 following harvesting. Additional wording also has been added to the FEIS.***

**Comment:** The LCAS also contains several programmatic standards. One is, "On federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play areas by LAU (LCAS at 84). The new roads planned in the Stimson Access watershed, which will be accessible to snowmobiles and some ORV's are an increase in mileage.

The project lynx report (BA) fails to recognize the site specific impacts created by such snow compaction activities are a threat to lynx. Snowmobile use is also disclosed in an inadequate manner. This fails to consider the increased access, and future snowmobile usage.

**RESPONSE**: ***This comment was answered in a previous response. The standard is: "on federal lands in lynx habitat, allow no net increase in groomed and snowmobile play areas by Lynx Analysis Unit. Winter logging is not subject to this restriction." (Ruediger et al. 2000, p. 84). As stated in the earlier response, there would be no increase in groomed or designated over-the-snow routes and snowmobile play areas.***

**Comment:** Another programmatic standard is "Within lynx habitat, identify key linkage areas and potential highway crossings areas." (LCAS at 88)

1. Identify key linkage areas that may be important in providing landscape connectivity within and between geographic areas, across all ownership's.
2. Develop and implement a plan to protect key linkage areas on federal lands from activities that would create barriers to movement. Barriers could result from an accumulation of incremental projects, as opposed to any one project.

From Chapter 15, page 20 of the Lynx Science Report: "In all of the applications of lynx management, however, we recommend the following:...Engage in spatially explicit landscape planning within very large management areas. Lynx metapopulation dynamics operate at regional scales. (Emphasis added)

Lacking maps and adequate discussion of the connectivity issue in the DEIS and project BA, it is impossible to see the landscape features that affect connectivity and metapopulation dynamics within and between LAUs both within and outside the Stimson Access Project area, a goal of the LCAS mapping requirement.

**RESPONSE:** ***A map displaying key linkage areas is included in the FEIS. The "Shedroof Divide," the ridgeline separating the Pend Oreille and Priest River watersheds, is the key linkage corridor that provides connectivity for lynx and other wildlife species within a predominantly north-south orientation within the ecosystem. The lateral ridges radiating from the "Shedroof Divide" and the riparian corridors of the major drainages provide connection and movement to and from the "Divide" as well as between and within Lynx Analysis Units (LAUs).***

***Highways, railroads, and wide utility corridors; urban expansion; and development of ski areas and large resorts have been identified as predominant risk factors affecting lynx movement within southern ecosystems (Ruediger et al. 2000, pp. 32-33). None of these features exist that affect the "Shedroof Divide" linkage corridor.***

**Comment:** For just one example, we are not provided information about connectivity from denning habitat on public land south of Section 5 to suitable foraging habitat north of that section. If there is no access to suitable foraging habitat, it is hardly useful as denning habitat. This information, as well as any changes in habitat percentages as a consequence of incorporating this information, should be provided in the DEIS.

**RESPONSE:** ***Connectivity between denning and foraging habitat would be maintained through Section 5. The proposed harvest would result in a temporary loss of cover over portions of Section 5 where a majority of the trees are removed, and large openings created. Riparian management zones (RMZ), which are mandated by the Washington Forest Practices Act (Department of Natural Resources, Forest Practices Rule Book, 2000, pp. 16-15 and 16-16), however, would be maintained and therefore would provide connectivity through Section 5 between foraging and denning habitat. A map of travel corridors in Section 5 (i.e. Stimson Access and Lynx Habitat) is included in figure 7.***

**Comment:** The project BA also fails to qualitatively address the effects of logging on landscape pattern. The LCAS require the IPNF:

> Maintain suitable acres and juxaposition of lynx habitat through time. Design vegetation treatments to approximate historical landscape patterns and disturbance processes.
>
> If the landscape has been fragmented by past management activities that reduced the quality of lynx habitat, adjust management practices to produce forest composition, structure, and patterns more similar to those that would have occurred under historical disturbance regimes.

**RESPONSE:** ***The proposed action is an access request from Stimson Lumber Company to access their private lands. There is no vegetative treatment proposed on National Forest lands except the removal of right-of-way timber associated with the action alternatives.***

**Comment:** By failing to adequately address lynx population viability, the DEIS and project BA violate of the population viability provisions of NFMA. NEPA requires specific steps in the face of uncertainty, such as that related to lynx population dynamics. The agency "cannot avoid NEPA responsibilities by cloaking itself in ignorance." Fritiofson v. Alexander, 772 F.2d 1225, 1244 (5th Cir. 1985). The existence of incomplete or unavailable scientific information concerning significant adverse environmental impacts triggers the requirements of 40 C.F.R. § 1502.22. This provision requires the "disclosure and analysis of the costs of uncertainty [and] the costs of proceedings without more and better information." Southern Oregon Citizens Against Toxic Sprays, Inc. v. Clark, 720 F.2 1475, 1478 (9th Cir. 1983). "On their face these regulations require an ordered process by an agency when it is proceeding in the face of uncertainty." Save Our Ecosystems v. Clark, 747 F.2d 1240, 1244 (9th Cir. 1984).

40 C.F.R. § 150.22 imposes three mandatory obligations on the agencies in the face of scientific uncertainty: (1) a duty to disclose the scientific uncertainty; (2) a duty to complete independent research and gather information if no adequate information exists (unless the costs are exorbitant or the means of obtaining the information are not know); and (3) a duty to evaluate the potential, reasonably foreseeable impacts in the absence of relevant information, using a four-step process. The DEIS and project BA fail to explicitly discuss the degree of uncertainty regarding lynx population dynamics.

**RESPONSE:** ***Maintaining viable populations is linked to managing those existing habitat conditions that influence the ecological range of the species. This approach assumes that if adequate levels and conditions of suitable habitat are retained at the project level, the area would continue to contribute to the overall population of the species throughout its larger geographic range. This approach has been found to be consistent with NFMA and NEPA (Colorado Environmental Coalition v. Dombeck, 10th Circuit, 1999; Inland Empire Public Lands Council v. United States Forest Service, 9th Circuit, 1996).***

***As stated in response to an earlier comment regarding lynx population dynamics, we assume that a downward population trend of lynx is occurring based on Canada Lynx Conservation Assessment and Strategy (LCAS) and other supporting scientific research. Additional monitoring and assessment of lynx population and distribution is one of the recommendations of the LCAS.***

**Comment:** The project BA and DEIS do not disclose the LCA's discussion on how lynx do not use large openings for foraging (LCAS, page 18). Instead there is speculation that logging on Stimson land will create forage habitat after about 15 years which would provide enough cover and browse to support populations of snowshoe hares. However the DEIS admits that this could be short-lived if this area is pre-commercially thinned (III-33)

**RESPONSE:** ***A discussion of the effect of openings and unsuitable habitat is located in the Wildlife analysis of the FEIS. Large openings do not support snowshoe hare habitat and, therefore, are not considered as suitable foraging habitat until the harvest areas provide enough cover and browse to support populations of snowshoe hare. As analyzed in the document and displayed on Table 5, the proposed harvest areas on Stimson lands would become unsuitable habitat.***

**Comment:** The project BA also suffers to a large degree in failing to analyze the impacts of immediate, short-term impacts on lynx. Nothing in the DEIS or project BA analyzes the direct impacts of the logging activities, log hauling, firewood gathering, temporary road building and use, nor fire and smoke from prescribed burning on individual lynx.

**RESPONSE**: ***A discussion of short-term impacts was added to the discussion of effects to lynx. There would be potential for a short-term displacement of animals resulting from the activities described above. As discussed in Chapter II, any TES species discovered during use of the easement would be reported as soon as possible, and site-specific measures would be developed, if needed, to protect lynx.***

***Preliminary evidence suggests that lynx do not avoid roads except at high traffic volumes (Ruediger et al. 2000, p. 26). The proposed roads on private land would be closed to all non-authorized motorized vehicles as stated in Chapter II. Such activities as firewood gathering therefore would not occur. Any burning activity would be short-term in nature.***

**Comment:** One of NFMA substantive duties is the mandatory obligation to monitor the on-the-ground effects of its management activities, and then report the results (16 U.S.C. § 1604(g)(3)(C)). The regulations at 36 C.F.R. § 219.12(k)(1)(5) provide specific details of the monitoring requirements that must be incorporated in the Forest Plan. Yet, the BO discloses that proper monitoring for lynx is precluded by a lack of direction in the existing forest plans:

> The BA determined that all Plans except in the Northeast fail to provide direction to monitor lynx and snowshoe hare or their habitats. This may make detection and assessment of adverse effects difficult or impossible to ascertain. The BA concluded that lack of monitoring would make it difficult or impossible to assess adverse effects (BO at 45).

To our awareness, the IPNF has not taken any steps to remedy the failures of its Forest Plan monitoring for lynx, in fact virtually nothing in the BA regarding monitoring, regarding road closure effectiveness, and habitat modifications.

**RESPONSE:** ***As stated above, the Forest Service is conducting an environmental analysis process to amend management direction to eighteen forest plans, including the IPNF Forest Plan. This environmental analysis is scheduled to be completed and a decision issued in the fall of 2004. The plans would be changed to respond to recommendations in the Canada Lynx Conservation Assessment and Strategy (LCAS) and other new information regarding the Canada lynx and its habitat. Among those recommendations will be Forest Plan monitoring needs.***

***Monitoring would be conducted as part of this project. Project monitoring for this project includes road closure effectiveness and Endangered Species Act monitoring as discussed in Chapter II of the FEIS.***

**Comment:** Among the standards set out in the LCAS are provisions to maintain denning habitat as discussed in the lynx BO:

> Denning Habitat – Within developmental land allocations, existing Plan direction to maintain old growth habitat was judged to be adequate to provide for lynx denning habitat for all geographic areas except the Great Lakes. (BO at 31.)

**RESPONSE:** ***Denning habitat is described in the Wildlife analysis of lynx in the FEIS. The standard for denning habitat is to maintain 10 percent over the LAU. All alternatives meet that standard.***

**Comment:** The project area is within the Kalispell-Granite Grizzly Bear Management Unit (BMU). Any newly developed information pertinent to the successful recovery of a listed species must be immediately considered and applied to current project. In a recent lawsuit, March 23, 2001, over road management in grizzly bear habitat in northwest Montana and northern Idaho, Judge Donald Molloy found that the Forest Service failed to comply with the ESA, NEPA, and NFMA when it adopted a new set of rules for managing roads in grizzly bear habitat in December, 1998. As a result IPNF is required to reinitiate consultation with the US Fish and Wildlife Service on its Forest Plan because they have no "Incidental Take Statement" for endangered species and must amend their Forest Plan to adopt new rules for access management in grizzly bear recovery zones. In the interim the IPNF cannot allow any activities that would be like to adversely affect grizzly bears or their habitat, both core and security.

**RESPONSE:** ***The lawsuit that you referenced in your comments is described in Chapter I. The Idaho Panhandle and Kootenai Forests were sued for adopting the direction of the 1998 Interim Access Management without amending their Forest Plans. The two Forests completed a settlement agreement with the litigant concerning their lawsuit on March 23, 2001. The key element of this negotiated settlement is the agreement to complete Forest Plan Amendments to the two respective Forest Plans to address grizzly bear access management. The scheduled outlined by the settlement agreement stated that completion of a Final EIS would occur by February 2002. The FEIS was completed in March 2002. It is expected that a Record of Decision will be signed in March 2004. Currently, the Interim Access Management Strategy, adopted in December 1, 1999, provides direction for grizzly bear access management.***

**Comment:** The DEIS admits that the granting of an easement would cause the direct loss of grizzly bear security and core habitat on National Forest lands as well as cumulative loss of these habitats on Stimson's land. The minimum 55% threshold for core has not been reached and proposed activities will yet again reduce existing core percentage for this GBMU.

**RESPONSE:** ***The analysis for grizzly security and core habitat is located in the grizzly bear analysis of the Wildlife section in Chapter III. As discussed, the obliteration of Roads 319 and 1104 were done to offset core losses anticipated with this access request. Further discussion of the effects to bear habitat and the obliteration of these roads is included in the Biological Assessment.***

***The Forest Service completed an environmental analysis to amend the existing Forest Plans to incorporate the Interim Access Management guidelines in March 2000. As stated in the FEIS for Forest Plan Amendments for Motorized Access Management within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones (USDA 2002, page 2-15) full implementation needed to reach the prescribed standards is estimated to take 5-9 years. Substantial progress has been made toward meeting the revised security standards through implementation of project-level decisions within individual Bear Management Units (BMUs) (USDA 2002, p. 2-10).***

**Comment:** As if to emphasize this point, the 1997 FWS Biological Opinion (BiOp) for the Stimson ANILCA Project on the Colville NF stated on page 31, that proposed road building and logging in the LeClerc GBMU *"...will make management for the grizzly bear in other federal BMU's even more important."*

It is important to note that the referenced LeClerc GBMU immediately adjoins the Kalispell-Granite GBMU and is currently experiencing a Stimson Lumber Company ANILCA access demand in several sections of land on the boundary of the two bear management units. The failure of the DEIS to consider the cumulative impacts resulting from project activities in the adjoining LeClerc GBMU (and others) along with the proposed activities in the Kalispell-Granite unit, will yield an inaccurate picture of the true impacts to grizzly bears in the Selkirk Recovery Area.

**RESPONSE:** ***In response to your specific comments above, our Wildlife Biologist contacted Suzanne Audet of the USFWS Spokane office to verify whether the Forest Service should be looking at both the LeClerc and the Kalispell Granite BMUs or individually to fully evaluate the cumulative impacts of Stimson's access (Audet 2001 personal communication). She concurred that the individual BMUs were designed to assess the evaluation of cumulative effects (ibid). Each BMU has criteria and thresholds for management (ibid). A discussion of the LeClerc BMU also was added to Chapter III of the FEIS and in the Biological Assessment in Appendix F.***

**Comment:** The major threat faced by this Endangered Species is human/animal interactions. Once again, further encroachment into the South Fork Mountain Inventoried Roadless Area, an area that according to the DEIS has had "regular observation and signs since 1991." (III-7). Furthermore, four observations dated 1996, 1997, and 1998 were 9 miles, 4 miles and 1 mile respectively from the project area (III-7). Does this not warrant further review and analysis?

**RESPONSE:** ***The effects to gray wolf were analyzed. A description of the effects is described in the Wildlife analysis in Chapter III and in the Biological Assessment in Appendix F. Further discussion is included in the Biological Assessment for the project. The wildlife biologist also consulted with the USFWS regarding the level of effects analysis for gray wolf.*** The USFWS has concurred that the selected alternative is not likely to adversely affect this species.

**Comment:** Currently, there are only about 30 known mountain caribou in the contiguous United States. The fact that use within and near the project area was documented in 1988, 1996, and 1997 shows that the project area IS caribou range. Rationale for No Further Analysis has no justification based on the project area being outside the designated caribou recovery area and therefore not deemed critical to the specie's recovery in the Selkirk Mountains. When one compares the historical range and presence of mountain caribou to what exists today, any area utilized by caribou warrants insurance of recovery efforts.

**RESPONSE:** ***As discussed in Chapter III and the biological assessment, the project lies outside of the designated caribou recovery area and is not deemed critical to the species' recovery in the Selkirk Mountains. The existing boundaries of the Caribou Management Area were developed based on the best information including scientific literature and caribou use patterns (Forest Plan, Appendix T, p. 30). Caribou habitat conditions in the project area are not considered high quality because of the overall low elevation and generally young forest age.***

**Comment:** According to the DEIS, "the proposed activities may displace caribou and cause a slight increase in the risk or mortality." In our comments we stated that "this will weigh more heavily in the sufficient Cumulative Effects model in an EIS" – apparently is not the case. A mere cut and past from the EA to the EIS has occurred.

**RESPONSE:** ***As part of our responsibilities under ESA, we have conducted ongoing consultation concerning this project with the USFWS. One of the mitigation measures specifies that any TES species (i.e. caribou) discovered during use of the easement would be reported as soon as possible, and immediate consultation with the USFWS, if needed, would occur (see Chapter II). The consultation would determine if any site-specific measures are needed. Public access to the new road also would be restricted. These factors would result in not likely to adversely affect the caribou populations or caribou habitat.***

**Comment:** In response to concerns raised in the EA by the Lands Council on recreational opportunities and enjoyment of the South Fork Mountain Roadless Area, the DEIS states that construction of new road is the main concern (III-4). We would like the FS to understand that activities on private lands, such as timber harvesting and further road building, that would follow if the access was granted to Stimson is also a huge concern to recreation enjoyment in the project area.

**RESPONSE:** ***The effects to the roadless area resources including natural integrity, naturalness, remoteness, solitude, and special features were evaluated in Chapter III. Effects to recreation are also evaluated. The cumulative effects discussion includes the effects on private lands.***

**Comment:** The DEIS states that recreation use is low in the South Fork Mountain Area. However, in recent months, the use of Trail #241 leading north from Forest Service Road 308 into the South Fork Mountain Roadless area has experienced an increased use. There have been several days in which citizens have volunteered on their own accord in cleaning the trail of blown downs trees, overhanging limbs and removal of debris to make this a user friendly trail to the top of South Fork Mountain. I myself have hiked this trail on several occasions this summer, and am thankful for the trail clean up improvements which make the walk much easier and enjoyable. The goal is for the entire trail up to the peak of South Fork Mountain to be cleared for recreation use.

Trail #241 was initially classified as Roaded Natural and Semi-Primitive Motorized area under the Recreation Opportunity Spectrum (ROS) in the 1987 Forest Plan. Reclassification has occurred in 1995 with the implementation of the Kalispell-Granite Grizzly Bear Access Management project. It is now classified as Semi-Primitive Non-Motorized which offers a much more rewarding primitive experience. The proposed road construction of 4,000 feet on National Forest would adversely affect the nature of one's primitive experience they are seeking. As years go by, and as more road building and timber harvesting occurs, it becomes more and more difficult for the berry picker, the mushroom picker, the hunter, the hiker, the solitude seeker to find and experience the Roadless Area characteristics.

**RESPONSE:** ***The Kalispell-Granite Access Management project was initiated for the recovery of the grizzly bear. This project evaluated existing roads and trails within the Kalispell-Granite Bear Management Unit (BMU) to ensure that a minimum level of 70 percent habitat security existed over the BMU as part of the guidelines established for grizzly***

***bear recovery. The Priest Lake Ranger District worked closely with a number of groups and individuals during the public involvement stages of the project. As part of the selected alternative (Alternative D), the Sema Creek Trail would not be maintained for public use (USDA 1995a, p. IV-24). Increasing the level of use would not be consistent with grizzly bear recovery.***

**Comment:** It is a shame that the Forest Service will "not maintain or even protect" Trail #241 after implementation of management activities by Stimson. This would violate recreation standards outlined in Forest Plan that states "provide a broad spectrum of dispersed and developed recreation opportunities" (p.II-25). In fact, proposed road building and Stimson's activities in Section 5 would ruin any positive and enjoyable recreational opportunities and experiences.

**RESPONSE:** ***The Forest Service does not have an easement for Sema Creek trail to cross Stimson lands in Section 5. Because no easement exists, the Forest Service has no authority to reconstruct the trail on private lands following the harvest activities. Presently, the Forest Service is seeking reciprocal access for Trail 241 across Stimson's land. At this time, however, if access is obtained, the trail would continue to be maintained as a fire trail.***

**Comment:** Most of the DEIS is based upon flimsy premise that the forest needs massive and extensive human intervention to make it healthy again.... [The next 28 paragraphs in this letter addressed many issues not relevant to the project and therefore were left out.]

**RESPONSE:** ***This response covers the preceding 28 paragraphs. Your discussions cover forest health, the historic range of variability for vegetative changes, climate change, and the role of fire in the ecosystem. The comments also periodically cite the "DEIS" ...there was no discussion of any of these topics in the Stimson Access Project DEIS. These comments are outside the scope of the analysis for this ANILCA request.***

**Comment:** Most of the above listed species (and several more) exist in the planning area and are slated to increase significantly as a result of project implementation. Despite the above admonition, the DEIS fails to discuss the impact of invasive on habitat for lynx and their prey. The incursion of invasive plant species in the LAU constitutes a significant variable for recovery prospects for lynx. As such, the topic warrants discussion and analysis in the DEIS.

The LCAS states that "The impact of non-native invasive plants on biodiversity is a major concern in North America. "...the potential exists for large-scale impacts and alteration of habitat." Weeds such as diffuse and spotted knapweed, leafy spurge, rush skeletonweed, dalmation toadflax, and Canada thistle have the potential to alter these habitats at both the local and ecosystem scale" (LCAS, page 92)

**RESPONSE:** ***The effects analysis for noxious weeds is located in Chapter III. As stated in that section, the impacts of noxious weed invasions on forest resources, including lynx and other wildlife species, are included in the 1997 Priest Lake Noxious Weed Control Project FEIS, which is incorporated by reference. On page IV-15 of that document, the indirect effect of noxious weeds on herbivore prey is discussed.***

***In its description and assessment of non-native species on page 92, the Canada Lynx Conservation Assessment and Strategy (LCAS) states that "non-native invasive plant species***

***have the potential to affect large areas, but have not been studied with regard to impacts on lynx habitat. Our primary recommendation at this time is to encourage further research on these topics. Although existing information is not sufficient to develop specific management direction, we have provided conceptual definitions and initial management considerations."***

***The LCAS includes management considerations, as discussed in the previous paragraph, on page 93. It states, "Management activities should seek to minimize the loss or modification of lynx habitat as a result of the spread of non-native invasive plant species. Action could include efforts to prevent the establishment of new populations, controlling the spread of existing infestations, providing information to the public, and cooperating with other agencies and landowners in developing and implementing prevention and control programs." The Priest Lake Noxious Weed Control Project (USDA 1997) incorporates these same guidelines in our treatment of noxious weeds.***

**Comment:** The Stimson Access project both in the Colville and Idaho Panhandle NF will allow a private corporation to build a private road on tax payers money. For the record the lands Council is strongly opposed to trading away public land and assets to private endeavors will sacrificing roadless lands, as well as incurring significant costs to the public for detrimental impacts to wildlife, fisheries, watershed integrity, fire risks, weed incursions, loss of productive lands due to road construction, degraded recreation opportunities, etc.

Any landowner, if compelled to allow easement across private property is entitled to be compensated for his/her loss. In this instance, however, Stimson Lumber Company is demanding a gift of public resources without any obligation of paying for the value of property taken from the public trust, only the trees that would be cut and sold to make way for the road access to Section 5.

**RESPONSE:** ***These issues were raised during the scoping period, and are addressed in Chapter II of the FEIS. Under ANILCA, the Forest Service must grant access to private inholdings. The agency's discretion is limited to deciding the location and mode of access. The only financial costs that would be incurred to the government would be permit administration costs.***

Letter #14 - US EPA, Region 10

**Comment:** In reviewing the alternatives for access to Stimson property, as well as those alternatives considered but eliminated from study, it is our belief that the range of alternatives should be expanded by incorporating a detailed analysis of using helicopter, skyline and other means of long extraction, and buying the Stimson property.

According to the EIS, helicopter access requires no easement across federal land, resulting in fewer impacts to water, soil, the roadless area, sensitive plants and several wildlife species. The EIS says that although helicopter logging is technically reasonable, it was not proposed by Stimson. The analysis should answer questions such as:

- What is reasonable access based upon past instances where ANILCA was applied?
- Can the timber be logged by helicopter?

♦ Are the harvest units at high elevations so the timber can be transported off site using skyline or other means of extraction?

**RESPONSE:** ***We analyzed a helicopter alternative in response to your comment as well as comments from the public. A description of this alternative (i.e. Alternative D) is included on in Chapter II. Reasonable access is defined in Chapter I of the FEIS, and includes an analysis of contemporaneous uses made of similarly situated lands in the area. Though helicopter logging has occurred on both private and federal ownerships in the general vicinity because of resource concerns or urgency of removing the timber because of insect attacks, road access predominantly has provided the means for long-term management of the forest resources on all ownerships. This alternative would be the same as the No Action Alternative in that there would be no federal action associated with this alternative. The helicopter alternative, however, does display a difference in effects among the alternatives and therefore was considered in detail.***

***Skyline harvest would not be technologically feasible because of the gentle terrain within Section 5. The terrain would not allow the level of deflection needed for this operating system. There would be excessive damage to the leave Portions of Section 5 possibly could be harvested by skyline, but would require unless roads were constructed***

**Comment:** The second alternative, buying the land, was eliminated because Stimson did not want to decrease it land base, according to an April 27, 1997 Stimson letter. This letter should have been included in the alternative's analysis. Please include it in the final EIS. In addition, we believe that the Forest Service, as a public agency, should weigh public benefits and costs of alternatives when determining what is "reasonable access" and should not feel unduly constrained by the desires or problems of Stimson.

**RESPONSE:** ***The Forest Service attempted on several occasions since 1992 to acquire Section 5 as discussed in Chapter II under Other Alternatives Considered. Since we did not analyze this alternative in detail, the letter that you refer to is included in the project file. Moreover, the effects of purchasing the land or acquiring the land would have the same environmental effects as the No Action Alternative as discussed in Chapter II.***

**Comment:** Question 2A in NEPA's Forty Most Asked Questions says that "Section 1502.14 requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.

On both these alternatives, the Forest Service says it has no authority over private entities. However, Question 2B in NEPA's Forty Most Asked Questions states that "An alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable. A potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered (Section 1506.2 (d))."

**RESPONSE:** ***The land purchase alternative was adequately considered and dismissed because it does not meet the Purpose and Need. The Purpose and Need was defined on page I-1 in Chapter I as "meeting the Agency's responsibility to provide access to the non-federal land, and to do so in a manner that minimizes adverse effects on public lands and resources."***

***Our discussions in Chapter I are focused on defining reasonable access under ANILCA. One of the required findings under ANILCA is "reasonable use and enjoyment" based on "contemporary uses made of similarly situated lands in the area." As discussed under Condemnation of Stimson Land For Eminent Domain in Chapter II (Alternatives Considered but Eliminated), it was our finding that acquisition of this land is not essential for management or protection of resources. Therefore, based on both these findings, a land purchase alternative would be clearly unreasonable in that the Forest Service cannot force a private landowner to trade or to sell their lands if they are unwilling.***

**Comment:** We recommend that the discussion of cumulative impacts to water quality be expanded to answer the following questions. These issues were not addressed in the EIS.

Which streams would be affected and how would they be affected by vegetation removal?

**RESPONSE:** ***Figure 10 in Chapter III shows the streams that would be affected by the proposed activities on National Forest and private lands. The discussion of the hydrological setting in the watershed portion of Chapter III also describes the streams which are affected by the proposal. In both the watershed and fisheries portions of Chapter III, the effects to these streams are analyzed and described including the effect of removal of vegetation on National Forest and private lands.***

**Comment:** Does the road prism extend into the streams? If so, where does it extend into the stream? What receptors would be impacted?

**RESPONSE:** ***The maps of the two alternatives granting road easements are included in Chapter II of the FEIS (Figures 2 and 3). A map showing streams and depicting the road construction and harvest treatments on Stimson lands in Section 5, is included in Appendix C. These maps illustrate where the stream crossings would occur.***

***Currently, there are no existing receptors such as bridges and culverts that would be impacted by the proposed road construction. However, culverts would be constructed on both federal and private lands in either Alternative B or C. The project file includes a map and information regarding culvert location and sizes.***

**Comment:** How will accident oil spills from logging equipment be cleaned and stopped from polluting streams?

**RESPONSE:** ***See Appendix A for the Best Management Practices (BMPs) that would apply on National Forest lands (specifically, BMPs 11.07, 11.11, and 15.11 in Appendix A). Similar rules governing spills and hazardous substances would apply on private lands under the Washington State Best Management Practices.***

**Comment:** A Stimson letter (located in the project file) describes how the company would reduce stream sediment. This letter should be included in the EIS to provide a clear indication of how sediment would be reduced.

**RESPONSE:** ***This letter (Opp 1998 personal communication) is included as Appendix H. We also included the Erosion and Sediment Control Analysis by the Western Watershed Analysts in this appendix as well as other supporting documentation.***

**Comment:** More specific information on future impacts after harvest is needed on both public and private lands. Such information will allow the public and the decision maker to better understand the direct, indirect and cumulative effects that are expected to occur should the Forest Service grant the requested easement to Stimson Timber Co. This information will help the reader determine cumulative environmental impacts, weigh impacts against proposed uses, and determine the most reasonable access over the long term.

**RESPONSE:** **B*ased on your comment, we have included maps of cumulative actions in Appendix C. Also, refer to Chapter I for a description of the past, ongoing, and future activities on federal and private lands.***

**Comment:** We recommend that the final EIS include a map (or maps) that clearly shows the topography of the planning area in relation to current, proposed and reasonably foreseeable future activities of both Forest Service and Stimson lands. Topography greatly influences where and the extent by which management activities, especially roads, affect environmental receptors.

**RESPONSE:** ***As stated in the following response, we recommend that you obtain a CD of future documents that will ensure a higher quality of maps for you to review. Additionally we have added topographic maps in Appendix C and throughout the document.***

**Comment:** Please revise Figure 6, III-41 to provide a clearer graphic of the cumulative effects area for watershed and fisheries. The map provided in the version of the EIS we reviewed was not reproduced clearly and does not show or name the tributaries or show elevations.

**RESPONSE:** ***We apologize that the cumulative effects map was not more clear in your DEIS. Copying the pages for a document sometimes does not provide as clear a copy as the original. We suggest that you obtain an electronic copy (i.e. CD) for future documents. We will mail you both a CD and a hard copy of the FEIS based on your comment.***

14

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

Reply to
Attn. of: ECO-088 OCT 25 2001 01-029-AFS

David Asleson
Priest Lake Ranger District
32203 Highway 57
Priest Lake, ID 83856

Dear Mr. Asleson:

The Environmental Protection Agency (EPA) has reviewed the draft Environmental Impact Statement (EIS) for the proposed **Stimson ANILCA Access Project.** We are submitting comments according to our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA). Section 309 of the CAA directs the EPA to review and comment in writing on the environmental impacts on any major federal agency action.

Under Alternative C, the preferred alternative, the Forest Service proposes to grant the Stimson Lumber Co. an easement to build a road through National Forest property that is approximately 2,500 feet (.47 miles) long and 66 feet wide to allow the company to harvest 550 acres of timber on its private property. The easement has two segments, a short portion on Section 4, and a longer segment on Section 8. The project area is in Pend Oreille County, Washington, and includes two sections of noncontiguous land. Specific activities include removing road right-of-way timber, placing a surface on the road prism, installing culverts and other drainage structures, seeding and controlling weeds in disturbed areas adjacent to the road, and controlling access by installing barriers. The activities would be administered by the Priest Lake ranger.

The application for an easement was submitted under the Alaska National Interest Lands Conservation Act (ANILCA), which directs the Forest Service to grant landowners access to their property when the land is located within a national forest, no other reasonable access exists, and the uses planned are for reasonable use and enjoyment.

Two other alternatives include Alternative A, the no action alternative, which would deny access across forest lands, and Alternative B, granting the easement for a 4,000-foot long by 66 feet wide road.

Based on our review, we have rated this DEIS (EC-2) Environmental Concerns-Insufficient Information. This rating and a summary of our comments will be published in the *Federal Register.* Our comments, listed below, discuss the following issues that should be included in the final EIS.

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Priest Lake
Ranger Station

**Range of Alternatives**

In reviewing the alternatives for access to Stimson property, as well as those alternatives considered but eliminated from study, it is our belief that the range of alternatives should be expanded by incorporating a detailed analysis of using helicopter, skyline and other means of log extraction, and buying the Stimson property.

According to the EIS, helicopter access requires no easement across federal land, resulting in fewer impacts to water, soil, the roadless area, sensitive plants and several wildlife species. The EIS says that although helicopter logging is technically reasonable, it was not proposed by Stimson. The analysis should answer questions such as:

- What is reasonable access based upon past instances where ANICLA was applied?
- Can the timber be logged by helicopter?
- Are the harvest units at high elevations so the timber can be transported off site using skyline or other means of extraction?

The second alternative, buying the land, was eliminated because Stimson did not want to decrease its land base, according to an April 27, 1997 Stimson letter. This letter should have been included in the alternative's analysis. Please include it in the final EIS. In addition, we believe that the Forest Service, as a public agency, should weigh public benefits and costs of alternatives when determining what is "reasonable access" and should not feel unduly constrained by the desires or problems of Stimson.

Question 2A in NEPA's Forty Most Asked Questions says that "Section 1502.14 requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant."

On both these alternatives, the Forest Service says it has no authority over private entities. However, Question 2B in NEPA's Forty Most Asked Questions states that "An alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable. A potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered (Section 1506.2 (d))."

**Aquatic Impacts**

We recommend that the discussion of cumulative impacts to water quality be expanded to answer the following questions. These issues were not addressed in the EIS:

- Which streams would be affected and how would they be affected by vegetation removal?
- Does the road prism extend into the streams? If so, where does it extend into the stream? What receptors would be impacted?

- How will accidental oil spills from logging equipment be cleaned and stopped from polluting streams?

A Stimson letter (located in the project file) describes how the company would reduce stream sediment. This letter should be included in the EIS to provide a clear indication of how sediment would be reduced.

**Reasonably foreseeable actions**

More specific information on future impacts after harvest is needed on both public and private lands. Such information will allow the public and the decision maker to better understand the direct, indirect and cumulative effects that are expected to occur should the Forest Service grant the requested easement to Stimson Timber Co. This information will help the reader determine cumulative environmental impacts, weigh impacts against proposed uses, and determine the most reasonable access over the long term.

We recommend that the final EIS include a map (or maps) that clearly shows the topography of the planning area in relation to current, proposed and reasonably foreseeable future activities on both Forest Service and Stimson lands. Topography greatly influences where and the extent by which management activities, especially roads, affect environmental receptors.

Please revise Figure 6, III-41 to provide a clearer graphic of the cumulative effects area for watershed and fisheries. The map provided in the version of the EIS we reviewed was not reproduced clearly and does not show or name the tributaries or show elevations.

Thank you for the opportunity to review this draft. Please contact Val Varney, 206 553-1901 if you have any questions.

Sincerely,

for Judith Leckrone Lee, Manager
Geographic Implementation Unit

# APPENDIX H –Documentation Supporting Watershed Analysis

## REGULATORY RESTRICTIONS ON PRIVATE LANDS

Use of State Regulatory Requirements:

The purpose of this appendix is to briefly describe the state forest practices rules that will govern land management activities of private landowners in the project area. Specialists for the Forest Service used this information in developing the estimated direct, indirect, and cumulative effects in the final EIS for Stimson's proposed access.

Private landowners in Washington must comply with the Washington Forest Practices Act. RCW 76.09. The applicable forest practices rules are those adopted by the Washington Department of Natural Resources ("DNR"), which became effective July, 2001 (WAC 222). There are 1771 acres of Stimson ownership in the Upper Sema Creek subwatershed. There are also 775 acres owned by Paradise Investments, LLC that are within the Kalispell-Granite GBMU and the Sema Lynx Analysis Unit in Washington. The Washington Forest Practice Rules would apply to these lands.

Stimson owns two other parcels in the state of Idaho that total approximately 320 acres that are within the Kalispell-Granite GBMU and the Sema Lynx Analysis Unit. The private lands in Idaho are subject to Idaho Forest Practices Act (Idaho Code § 38-13). In implementing the Act, the Idaho Department of Lands ("IDL") adopted forest practice rules which include minimum standards called Best Management Practices ("BMPs") (IDAPA 20.02.0).

A. Washington Forest Practice Rules

1. Introduction

On February 22, 1999, the United States Fish and Wildlife Service, National Marine Fisheries Service, Environmental Protection Agency, and the Washington State Departments of Ecology, Fish and Wildlife, and Natural Resources, together with tribal and private landowner representatives, completed a report recommending forest practice rules and programs for the protection of fish. The Report was updated April 29, 1999, and is referred to as the "Forests and Fish Report." On June 7, 1999, Governor Gary Locke signed the Salmon Recovery Bill (SHB 2091) which recommended that the "Forests and Fish Report" serve as the template for permanent fish protection rules. Permanent forest practices rules implementing the Forest and Fish Report pertaining to aquatic resources were adopted July, 2001. These rules apply to harvest on private land in Washington.

The Class 1-4 system of stream typing will govern forest practices until "fish habitat water type maps" are developed by the Washington DNR (WAC 222-16-030, 222-16-031).

2. Stream Protection:

The rules governing stream protection vary depending upon stream type. Requirements are more stringent for fish-bearing streams than for non fish-bearing streams or intermittent streams. Type 1, 2, 3 streams are defined as fish-bearing. Type 4 streams are non-fish bearing perennial streams and Type 5 are non-fish-bearing intermittent streams. Within the Stimson parcel to which access is requested, there are Type 3 streams that are generally smaller than 15 feet wide, and several Type 4 and 5 streams. The Stimson parcels are within the Eastern Washington and the Mixed Conifer vegetation type, and below 5,000 feet elevation.

Type 3 waters:

For Type 1-3 water, site class is used to define the width of the riparian zones, using site index from the Washington State Soil Survey. See WAC 222-30-022. All Type 3 waters in the Stimson parcel proposed for access are less than 15 feet wide and generally in site II areas. The Riparian Management Zone width on Type 3 water on Site II areas is 110 feet in total on each side, including 30-foot core, 45-foot inner zone, and 35-foot outer zone on each side of the stream. The attached figures show and summarize the width of the zones. The information below explains the restrictions for Type 3 waters that are less than 15 feet wide and Type 4 and 5 waters. The inner and outer zones are wider for Type 3 waters greater than 15 feet wide and can be found in the forest practice rules (WAC 222-30).

In Type 3 streams there is a 30 foot core zone along the stream from the edge of the bankfall width. In the core area, timber harvest and road construction is prohibited, except for harvest needed for construction of stream crossings or harvest through yarding corridors (WAC 222-30-022(1)(a)).

The 45-foot inner zone is next to the core zone and harvest is allowed only if basal area retention requirements are met. Generally, only in stands approaching overstocked condition would harvest be allowed. Because of the high basal area required before harvest can occur in the inner zone, the total effective no-harvest or very limited harvest zone is generally the 30-foot core zone and 45-foot inner zone for a total of 75-feet. The private lands in the project area in Washington fall within the "bull trout overlay" (WAC 222-16-010). Within the "bull trout overlay" all available shade must be retained within 75 feet of the bankfall width or outer edge of the channel migration zone whichever is greater (WAC 222-30-40).

If harvest does occur in the inner zone it will be restricted as follows in the mixed conifer timber type, medium site index:

B. No harvest is permitted within the inner zone unless the basal area of conifer and hardwoods trees greater than 6 inches dbh is:

1. Greater than 130 or less than 90 square feet per acre on medium site indexes (site index between 90 and 110);

C. If the basal area meets the maximum requirements in (B), then harvest is permitted. However, harvest must leave at least 50 trees per acre and a basal area of 90 square feet per acre on medium site indexes as follows:

1. The 21 largest trees must be left.
2. The remaining 29 trees must be greater than or equal to 10 inches dbh. If there are not 29, 10 inch dbh trees, then all 10 inch dbh trees must be left plus the largest remaining trees to equal 20 trees per acre. The 20 trees per acre must be selected based on the following priority order;

   a. Provide shade to water;
   b. Lean towards the water;
   c. Preferred species, as defined in WAC 222-16-010; or
   d. Evenly distributed across the inner zone.

3. If more than 50 trees are needed to meet the basal area minimum than trees greater than 6 inches dbh must be left based on the above priority order.

The detailed rules for the inner zone are in WAC 222-30-022(1)(b)(ii).

The outer zone restrictions would apply to 35 feet beyond the inner zone for a Type 3 stream less than 15 feet wide in the mixed conifer zone on site Class II (WAC 222-30-022(1)). In the outer zone 15 dominant and co-dominant trees per acre must be retained. There is an option to reduce the leave trees to eight trees per acre if the landowner has an approved large woody debris placement plan approved by the Washington Department of Fish and Wildlife through a hydraulics project approval permit (WAC 222-30-022(1)(c)).

<u>Type 4 and 5 waters</u>:

Type 4 water is a perennial non-fish bearing stream (WAC 222-16-031(4)). Type 5 water is a seasonal (intermittent) non-fish bearing stream (WAC 222-16-031(5)). For streams which are Type 4 and 5, there is a 30 foot equipment limitation zone (WAC 222-30-022(2)(a)). Type 4 streams also have a 50-foot Riparian Management Zone ("RMZ"), which includes the 30-foot equipment limitation zone. The restrictions in the RMZ depend on whether the landowner will clearcut or partial cut within the 50-foot RMZ (WAC 222-30-022(2)(b)). A clearcut alongside a Type 4 stream cannot exceed 30% of the stream reach in the harvest unit, up to a maximum 300 continuous feet in length (WAC 222-30-022(2)(b)(ii)). The clearcut harvest unit must also retain a two sided, 50-foot, no harvest buffer in the harvest unit equal to the total length of the clearcut portion of the stream reach in the harvest unit. If a partial cut is planned in the RMZ buffer, then the RMZ is subject to basal area removal restrictions identical to those for the inner zone on Type 3 waters (WAC 222-30-022(2)(b)(i)).

Mitigation is required if harvest activities disturb more than 10 percent of the 30 foot Equipment Limitation Zone. On-site mitigation such as water bars, grass seeding and mulching may be required if harvest activities cause soil disturbance that could result in significant delivery of sediment to any water.

For Type 5 water the 30-foot equipment limitation zone applies.

4. Wetlands

The Washington Forest Practice Rules also have provisions to delineate and protect wetlands (WAC 222-16-035; 222-16-036; 222-24-015; 222-30-010(4); 222-30-020(6)). The Forest Practice Rules define forested and non forested Wetland Management Zones ("WMZ") (WAC 222-16-035; 222-16-036). Landowners are encouraged to meet wildlife reserve tree requirements for harvest units by leaving 30-70% of the wildlife reserve trees in the Wetland Management Zone (WAC 222-30-020(6)). Within a WMZ, the landowner must leave a total of 75 trees per acre four inches dbh and greater of which 25 trees shall be greater than 12 inches dbh, including 5 trees greater than 20 inches dbh where they exist (WAC 222-30-020(7)(b)). The width of the Wetland Management Zone depends on the type of wetland and its size and can vary from zero to 200 feet (WAC 222-30-020(7)(a)).

5. Road Construction and Stream Crossings

To complete a stream crossing, a private landowner in the state of Washington needs a "Hydraulic Project Approval" permit under the "Hydraulic Code" RCW 77.55. The hydraulic project approval permit is required before conducting any work that will use, divert, obstruct, or change the natural flow or bed of any river or stream or that will use any of the waters of the state or materials from the stream bed. The permit must be approved by the Washington Department of Fish and Wildlife and comply with the Hydraulic Code Rules (WAC 220-110, 232-14-010). Installation of a culvert in a stream requires a hydraulic project approval permit.

Road construction and maintenance are regulated under the Forest Practice Rules (WAC 222-24).

a. Road construction practices on Stimson lands in general would include Best Management Practices as described in WAC 222-24. (See WAC 222-24-020 Road location and design, 222-24-030 Road construction, and 222-24-040 Water crossing structures.)

(1) The culverts in streams must be designed to pass a 100-year storm event (WAC 222-24-040(3)(a)).
(2) The culvert would be placed to avoid streambed scour or streambank erosion and to parallel the natural flow of the streams.
(3) The fill associated with the culvert would be protected to withstand the 100-year flood event.
(4) Road construction shall occur when moisture and soil conditions are not likely to result in excessive erosion or soil movement (WAC 222-24-030(7)).
(5) Any side cast material created from the construction must be hauled away to an area that is outside of any wetland management zone or the 100-year flood level of any typed water.
(6) Exposed soils must be stabilized with non invasive plant species.

## D. Idaho Forest Practice Rules

### 1. Introduction

The Idaho Department of Lands ("IDL") has adopted best management practices that establish minimum standards for forest practices on private lands in Idaho. There are only two private parcels both owned by Stimson that total 320 acres governed by the Idaho Forest Practice Act and Forest Practice Rules (Idaho Code § 38-13, IDAPA 20.02.01). These two parcels were previously harvested in the 1980s and have a young stand of trees that will not be harvested for a decade or more. Therefore, the Forest Practice Rules applicable to these parcels are only briefly described.

### 2. Stream Protection

The State of Idaho has two major stream classifications, Class I and Class II. A Class I stream is a fish-bearing or domestic water stream. A Class II stream is a headwater stream or minor drainage. There is a 75-foot streamside protection zone on each side of the ordinary high water mark along a Class I stream and a 30-foot streamside protection zone on each side of the ordinary high water mark along a Class II stream. Within the buffer zone, 75% of the existing shade must be retained.

Within 50 feet of the ordinary high water mark on Class I streams, a minimum number of standing trees per thousand lineal feet of protection zone on each side of the stream must be maintained depending on the stream width. For a Class I stream, ten to twenty feet wide, the landowner shall retain 200 trees in the 3-7.9 inch diameter class, 42 trees in the 8-11.9 inch diameter class, 21 trees in the 12-9.9 inch diameter class if they exist in the zone. For Class II streams, 140 trees in the 3-7.9 inch diameter class must be retained if present.

### 3. Road Maintenance

Construction of hydraulic structures and stream channels is regulated by the Stream Channel Protection Act (Title 42, Chapter 38 of the Idaho Code (IDAPA 20.02.01.040)). Since the roads are already constructed to the two Stimson parcels, road maintenance requirements of the Idaho Forest Practice Rules would apply. These require the landowner to repair all erosion sources causing stream sedimentation after completing the use of the road for the harvest. The rules require the clearing of the ditches and culverts and that the road surface shall be crowned, out-sloped or in-sloped, water barred or otherwise left in a condition to minimize erosion and that drainage structures shall be maintained (IDAPA 20.02.01.040.04.D).

# WESTERN WATERSHED ANALYSTS

**Erosion and Sediment Control Analysis**
**Sema Creek, Section 5 and 8, T 36N, R 45E, W.M.**

**Dale J. McGreer and Dennis T. Schult**
**Western Watershed Analysts**

**February 9, 1998**

**Erosion and Sediment Control Analysis**
**Sema Creek, Sections 5 and 8, T 36N, R 45E, W.M.**

**Dale J. McGreer and Dennis T. Schult**
**Western Watershed Analysts**

**February 9, 1998**

## I. Introduction

Stimson Lumber Company (Stimson) proposes to construct roads across section 8 of the Idaho Panhandle National Forest (IPNF) in order to access Stimson's section 5. Additional road will be constructed in section 5, with logging of parts of section 5 to follow. Stimson contracted Western Watershed Analysts (WWA) to assist them in the development of a comprehensive plan for rigorous control of sediment delivery to the tributary channels of Sema Creek within sections 5 and 8, and to provide a referenced discussion of the effectiveness of these measures. It is expected that Stimson will submit this analysis to the IPNF for inclusion and consideration in their NEPA process regarding Stimson's access request.

This paper discusses an integrated three step approach. First, the road system is carefully located to limit sediment delivery to only those sections of road that are located near stream crossings. Second, intensive road drainage is applied to the stream crossing sections to minimize the length of road that contributes sediment to streams. Third, intensive erosion control measures are applied to the stream crossing sections to minimize total quantity of delivered sediment.

## II. Road Drainage and Isolation of Segments Contributing Sediment

It is a well established principle that while all roads generate erosion, only a portion of the road system actually delivers sediment to streams (Ketcheson and Megahan, 1996; Megahan and Ketcheson, 1996; Washington Forest Practices Board, 1995). This principle is illustrated by recent sediment delivery analysis conducted according to the Washington Forest Practices Board (1995) standard methods for watershed assessment of the LeClerc Creek watershed, located immediately west of and adjacent to the Sema Creek drainage (McGreer, et. al, 1997). Figures 1a, b, and c demonstrate that 80% of the road sediment delivered from these three subwatersheds originates from 22% to 32% of the road segment mileage. Furthermore, 70% to 80% of the road segment mileage contributes no sediment at all.

Figure 1a. LeClerc Creek - Upper West Branch

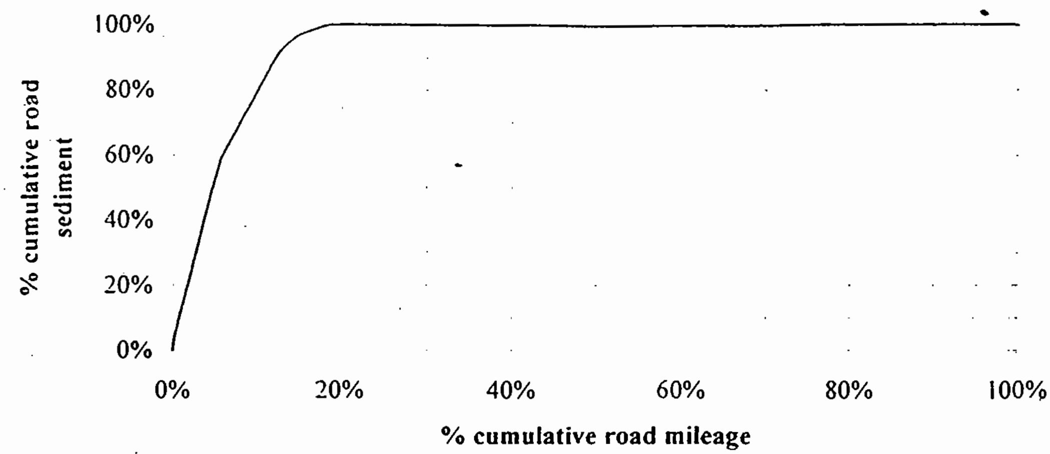



Figure 1b. LeClerc Creek - Upper East Branch

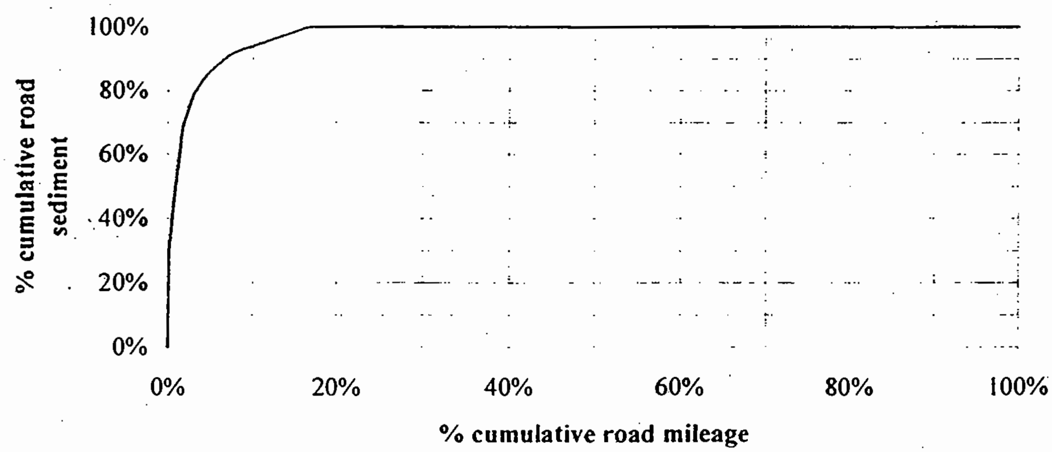
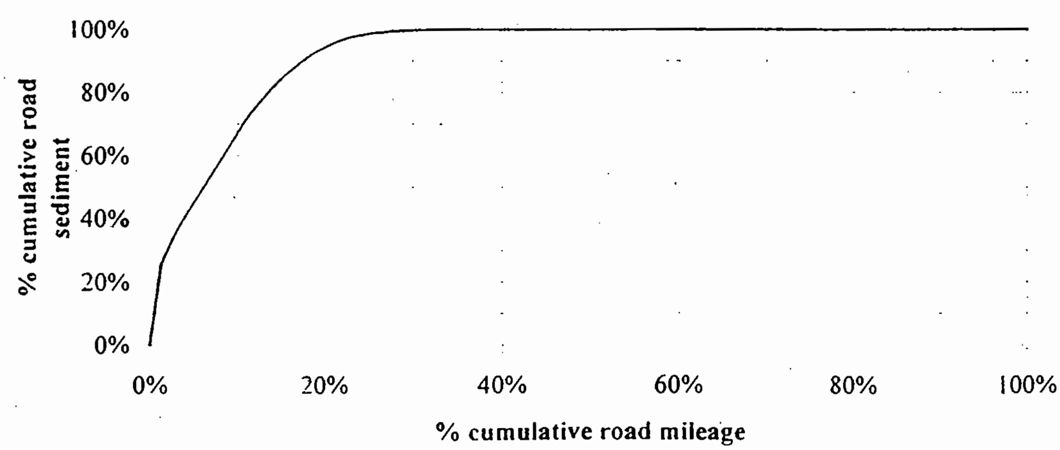



Figure 1c. LeClerc Creek - Middle Branch



Sediment is delivered to streams from forest roads in two ways: 1) "directly" via road ditches that drain directly into streams, and 2) "indirectly" via drainage structures where sediments are discharged onto forest slopes. In the case of direct delivery via road ditches, 100% of the eroded volume from the road cutslope, ditch, and portion of the road tread runoff contributing to the ditch is delivered to the stream system. In the case of indirect delivery, some or all of the sediments discharged from the road do not reach streams due to the filtering and sediment trapping effects of intervening buffer strips (Elliot, et. al. 1997; Haupt, 1959; Ketcheson and Megahan, 1996; Megahan and Ketcheson, 1996; Packer, 1967; Swift, 1986; Tennyson, et al., 1981; Trimble and Sartz, 1957; Washington Forest Practices Board, 1995) and filter windrows, where installed (Burroughs and King, 1989; Burroughs and King, 1985; Cook and King, 1983).

## III. Erosion Control, Sediment Delivery and Control, and Sediment Travel Distance

Sediment transport distance below roads is limited by road erosion control features, such as road surfacing, density of vegetative ground cover on road cut and fill slopes, filter windrows below fills, and road drainage features, and also by sediment trapping effectiveness of the forest floor. When erosion is well controlled, drainage water is dispersed, and sediment trapping effectiveness of the forest floor is maintained, the literature reveals that sediment transport distances below well designed roads are limited to less than 200 feet, and only small quantities of sediment are delivered as travel distance approaches the maximum distance (Megahan and Ketcheson, 1996; Haupt, 1959a; Haupt, 1959b; Packer, 1967; Swift, 1986; Trimble and Sartz, 1957). Maximum sediment delivery distance and quantity of sediment delivered can be further limited through rigorous control of eroded volume and volume of surface runoff carrying the eroded volume (Ketcheson and Megahan, 1996; Megahan and Ketcheson, 1996), and through installation of sediment trapping structures such as filter windrows (Burroughs and King, 1989; Burroughs and King, 1985; Cook and King, 1983).

Recent investigations report indirect road sediment transport distance as a function of both road erosion volume and characteristics of the area between the road and the stream below (Megahan and Ketcheson, 1996; Ketcheson and Megahan, 1996). This research makes it possible to combine erosion volume modeling procedures with sediment transport modeling procedures to determine required surface drainage spacing for rigorous control of sediment delivery to streams (Megahan and Ketcheson, 1996; Elliott, et. al, 1997).

Sediment delivery to streams via ditches increases as contributing ditch length increases. Since 100% of sediments carried by road ditches is delivered to streams (Washington Forest Practices Board, 1995), whereas indirect delivery from relief culverts can be made to be much less than 100%, length of direct ditch should be limited to only short distances through location of relief drainage structures. However, as direct ditch length becomes progressively shorter through location of an intervening culvert (or surface drain), indirect delivery from the relief culvert located closest to the crossing (the "first" culvert) generally increases as the length of slope between the culvert outfall and the stream becomes progressively shorter. Optimum placement of the first culvert is where the combined total direct ditch and indirect first culvert delivery are minimized (McGreer and Schult, 1997).

## IV. Assessment Methods and Road Features

From a listing of characteristics for each stream crossing planned for the roads proposed by Stimson in sections 5 and 8, we estimated general conditions representative of the factors affecting road erosion and sediment delivery in order to provide a general solution for relief culvert placement that rigorously controls total direct and indirect sediment delivery.[1] We then used the Washington Board Manual (1995) watershed analysis road erosion modeling procedures to predict direct sediment delivery. We also used the Washington model to predict road erosion volume contributing to the first culvert, which we then used as an input variable to the Megahan and Ketcheson (1996) sediment delivery equations for culverts and rock surface drains to solve for the quantity of indirect delivery.

Using these procedures, we considered road drainage, erosion control, and sediment delivery control features interactively using computer spreadsheets which we have developed for this purpose in order to incorporate intensive drainage and erosion control designs for this road system. This design calls for the following features:

### A. Drainage

- Installation of the first drainage structure approximately 60 feet, along the road centerline, from the ordinary high water mark of the stream, and 150 feet from the first structure to the second.
- The first structure will be a rock drain.
- The second structure can be a culvert or a rock drain, engineer's choice.
- Outsloping from the crossing to the rock drain.
- Transition from outsloping to insloping at any point between the first and second structure.

### B. Erosion control and sediment trapping features, with mitigation effectiveness

- > 6 inches of rock surfacing from crossing to second structure; 80% mitigation (Burroughs and King, 1989).
- Rocked ditches from crossing to first drain; 100% mitigation (ditches will be converted to deposition and transport areas, not erosion source areas).
- All cut and fill slopes seeded and fertilized; 25% mitigation (USDA Forest Service, 1990, and derived from Washington, 1995, which also considers % area covered by rock and slash.
- Cutslopes seeded, fertilized, and matted from crossing to first drain; 95% mitigation (Burroughs and King, 1989).
- Fillslopes seeded, fertilized, and matted from crossing to first drain, and with continuous filter windrows; 99% mitigation (Burroughs and King, 1989).

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[1] Drainage structure placement could be adjusted based on more detailed site-specific field assessment to potentially achieve even more rigorous sediment control, but this is not possible at this time.

- 1:1 or less on cutslopes to allow effective placement and function of matting.[2]
- Filter windrows beyond the first structure, broken as necessary to accommodate wildlife at locations without runoff; 87% mitigation (Burroughs and King, 1985).
- Slope armoring below all drainage structures located within 200 feet of streams using concentrations of rock and/or slash to prevent rilling or gullying.

### V. Sediment Delivery and Effectiveness Evaluation

Total sediment delivery per crossing was evaluated based on a generalized representation of those factors influencing erosion and sediment delivery processes for the Sema Creek watershed and road system. Three cases were evaluated in order to separately evaluate erosion control and sediment trapping features and effects of intensive drainage. Factors that could cause less than fully effective mitigation are examined in the Discussion section.

Features common to all cases include:

- New, actively-traveled roads, 90 tons/ac/yr (moderately high erosion hazard)[3 4]
- 4% road gradient[5]
- 14 ft. wide running surface
- 20% hillslope gradient

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[2] On gentle hillslopes, cutslope height may be so small that matting is impractical. Rock armoring may be used to equal effectiveness in these instances.

[3] Tons/ac/yr for roads varies with surfacing and traffic considerations in the Washington procedure (Washington Forest Practices Board, 1995).

[4] The Washington procedure suggests use of seasonal use factors as adjustments to the standard traffic factors. In other assessments, such as the LeClerc Creek Watershed Assessment (McGreer, et. al, 1997), a factor of 0.6 was used to reduce standard rates of road erosion to reflect seasonal use due to snow closure. However, no adjustment was made in this current analysis.

[5] Road and hillslope gradient and other information was provided to the authors for each stream crossing by Ted Carlson, Stimson Lumber Company, on 1/21/98.

**Case 1, Base Case:**

- Standard drainage spacing and no mitigation: crossing to first drain = 85 ft; first to second structure spacing = 300 ft.[6] All sections are insloped.

**Case 2, Base Case plus Intensive Drainage:**

- 60 feet to first drain, 150 feet first to second drain.
- Outsloping from crossing to first drain, insloped first to second structure.

**Case 3, Design Road - Intensive Drainage plus Intensive Mitigation:**

- See section IVA and IVB, above. Note: This case assumes that all mitigation and drainage design features are fully effective as designed.

Results for each case are summarized in Table 1 for one-sided crossings where water flows to the crossing from one direction only. Consideration of two-sided crossings is included in the Discussion.

**Table 1. Analysis of the Effectiveness of Intensive Drainage and Mitigation Measures**

| | Total Delivered Sediment (lbs.) | Percent Reduction |
|---|---|---|
| 85' from crossing to 1st drain; 300' between 1st & 2nd drain; no mitigation | 16,000 | --- |
| 60' from crossing to 1st drain; 150' between 1st & 2nd drain; no mitigation | 9,200 | 42% |
| 60' from crossing to 1st drain; 150' between 1st and 2nd drain; tread graveled from crossing to 2nd drain; outsloped from crossing to 1st drain; insloped between 1st & 2nd drains; cutslope seeded, fertilized and matted between crossing and 1st drain; cutslope seeded & fertilized between 1st & 2nd drains; filter windrows below fillslopes | 160 | 99% |

[6] A representative spacing that could be expected to be used in standard practice for the Sema Creek conditions was derived from Forest Service guidance materials provided to the authors by Jill Cobb, Hydrologist, Priest Lake Ranger District, on 1/22/98. The reader should note that even this "standard" spacing is reasonably rigorous and takes into account the highly erodible and dissected and wet nature of the Sema Creek area. Culvert spacing recommended under standard Washington State requirements would be far less demanding, but was not felt to be representative for purposes of this analysis.

## VI. Discussion

This analysis and examination of effectiveness of design features demonstrates the relative effectiveness and degree of erosion and sediment delivery control that can be achieved with a well located road system which incorporates intensive sediment delivery control at stream crossings. The approach that we have used is quite different from more general procedures based on the incorrect assumption that all road segments deliver sediment to streams, or procedures that rely on assumed rates of sediment delivery and/or mitigation that are generalized to long sections of road or the entire road system without consideration of site-specific sediment delivery circumstances.

The Case 3 analysis of sediment delivery for the road as designed assumes that all design features are fully functional. However, road maintenance and the difficulty of perfect field performance can and often do cause erosion control to be less effective than designed. In consideration of this effect, we have examined potential mitigation falldown factors for the various road structural components and road segments.

One important source of falldown can occur due to truck track depressions that form even on well-surfaced roads. The Design Road calls for outsloping between the crossing and first drain. Where the road climbs through the crossing, we believe that runoff in truck tracks will travel random flow paths out of the tracks and to fill slopes that have been matted and windrowed, and that standard windrow mitigation of the road tread runoff of 87% is realistic. However, where the road slopes down to the crossing from both directions, tread depressions may route water to the low area in the immediate vicinity of the crossing and stream culvert, potentially causing less effective windrow trapping of road tread sediment. We believe that on an average basis, mitigation effectiveness for two-sided runoff from the outsloped road tread only should be reduced to 44% at two-sided crossings.[7] [8] This consideration would increase total sediment delivery at two-sided crossings from 160 pounds per year to 520 pounds per year per side, resulting in an effective mitigation factor of 97%. In addition, sediment is delivered from twice the contributing area for two-sided crossings, and therefore sediment delivery is twice as much as occurs from one-sided crossings, or 1,040 pounds.

The other notable potential source of mitigation falldown is where cutslope treatment is less than perfect. We have examined reduction of cutslope treatment effectiveness from 95% to 90%. This consideration would increase one-sided delivery to 210 pounds per crossing and two-sided delivery to 420 pounds per crossing. Considering both potential sources of mitigation falldown outlined above would result in delivery at one-sided crossings of 210 pounds per crossing and 1,140 pounds at two-sided crossings.

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[7] The value of 44% is derived by taking one half of the 87% effectiveness reported by Burroughs and King (1989) for filter windrows alone.

[8] Note that even with mitigation effectiveness reduced to 44%, outsloping continues to deliver less sediment than does insloping, where mitigation effectiveness from the road tread is 0%, i.e., 100% delivery.

We do not believe that further adjustment of mitigation factors is warranted. Road surfacing and rocked ditches are expected to function as designed. Fill slope erosion will be all but eliminated by matting and windrowing (99% mitigation), and we believe that fill slopes will achieve this degree of mitigation with little or no operational falldown. Furthermore, and perhaps more importantly, even if substantially more sediment moved past the windrows than we have modeled, we find that it would not travel through downslope buffers to streams.

There are 36 stream crossings planned for this road system, 10 of which are two-sided. Therefore, average crossing sediment delivery for the road system would increase from 160 pounds per crossing to (26/36) x 210 + (10/36) x 1,140 = 470 pounds/year when mitigation falldown factors are considered. Given these considerations, we believe that sediment delivery from the proposed road system, based on 36 stream crossings, will total 16,900 pounds (8.4 tons) per year following construction. Annual sediment delivery can then be expected to decrease substantially as surfaces begin to armor (Megahan, 1974; Megahan and Kidd, 1972; Washington Forest Practices Board, 1995), and in future years as rate of traffic decreases.[9]

Long term natural rates of geologic erosion are estimated for watersheds in the Washington watershed analysis procedure in order to place road sediment delivery in a watershed perspective. In the Washington process, an increase of 50% or greater is considered significant. Based on our previous analyses of several subwatersheds in the adjacent LeClerc Creek watershed, we estimate the natural rate of erosion for the Sema Creek watershed to be approximately 50 tons/mi$^2$/yr and 490 tons/yr for the entire watershed. From our modeling, total sediment delivery from the planned section 5 and 8 roads would total 8.4 tons/yr, representing an increase over natural of less than 2% for the first two years following construction, and would be even less in subsequent years.

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STIMSON LUMBER COMPANY
P O BOX 1499
NEWPORT, WA 99156
509 447 3686 EXT 120
Fax: 509 447 2765

RECEIVED
APR 30 1998
Pries
Ranger

April 29, 1998

Mr. Kent Dunstan
District Ranger
Priest Lake Ranger District
Rt. 5 Box 207
Priest Lake, ID 83856

**RE: Kalispell-Granite Access Request**

Dear Kent:

Attached in Ted Carlson's memo is the documentation you requested concerning State of Washington requirements and the practices we intend to use on these roads to deal with long-term sediment concerns per our discussions at our April 17, 1998 meeting.

If there are any further questions please feel free to contact myself or Ted.

Sincerely,

Dwight C Opp

Dwight C. Opp
Fee Lands Manager

DCO/do
Enclosure

Newport, Washington
April 28, 1998

TO: D.C. Opp 4/29

FROM: T.F.Carlson

SUBJECT: Long-term Sediment Control: Sema Creek

During the recent meeting we had with the Forest Service (4/17/98) and as summarized in their draft environmental assessment for our access request, we have been asked to address specific issues concerning potential long-term sediment delivery from our ownership due to our proposed activities. More specifically, we have been asked to address the following:

1) Identification of streams to be buffered and type of buffering.
2) Method used for sizing culverts for streams to handle flood events.
3) Design stream crossings to accommodate overflow due to plugged culvert.
4) Design road to minimize need for relief culverts, and how to accommodate overflow due to plugged ditches and relief culverts.

It should be noted that all of our activities on our ownership are strictly regulated by the state in which they occur. I have outlined those legal obligations, definitions and constraints that I feel are most appropriate for the above concerns. Because management of water is central to these issues, I feel it appropriate to start out with the legal definition.

Washington State law (WAC 222-16-030) provides for a water typing system in order to protect public resources. Type 1,2,3 and 4 waters have been classified and are shown on stream classification maps. A Type 5 Water classification is applied to all natural waters not classified as Type 1,2,3 or 4; including streams with or without well-defined channels, areas of perennial or intermittent seepage, ponds, natural sinks and drainage ways having short periods of spring or storm runoff.

Following are my recommendations to address each concern.

1) **Stream buffering:** Rules specific to any forest practice activity pertaining to the protection of waters are contained in the various chapters of WAC 222. All fish bearing streams (Type 3) will have a Riparian Management Zone as provided for by WAC 222-30-020. Although State law contains certain operational restrictions near Type 4 & 5 waters, leave tree buffers are not usually required (unless applications are specifically conditioned by DNR). However, I propose we incorporate the following buffer on both sides of all streams.

- Streams would be flagged a minimum 30 feet from the ordinary high water mark along each side and would exclude heavy equipment from entry (including post-harvest activities), except for designated crossings approved by state.
- All hardwoods, snags, submerchantable trees, cull trees, and vegetation would be left

undisturbed where feasible (unless conflicts with safety concerns). Additional trees would be left at Stimson's discretion as necessary to ensure stream shading, bank stabilization, and a future source of large organic debris for stream channels and wildlife habitat.

**2) Culvert sizing:** Washington State Law (Chapter 220-110 WAC "Hydraulic Code Rules") requires parties to obtain an Hydraulic project approval before conducting a hydraulic project. A Hydraulic project means construction or performance of other work that will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state. Hydraulic projects include forest practice activities, conducted pursuant to the forest practices rules (Title 222 WAC), that involve construction or performance of other work in or across the ordinary high water line of:

(a) Type 1-3 waters; or

(b) Type 4 and 5 waters with identifiable bed or banks where there is a hatchery water intake within two miles downstream; or

(c) Type 4 and 5 waters with identifiable bed or banks within one-fourth mile of type 1-3 waters where any of the following conditions apply:

(i) Where the removal of timber adjacent to the stream is likely to result in entry of felled trees into flowing channels;

(ii) Where there is any felling, skidding, or ground lead yarding through flowing water, or through dry channels with identifiable bed or banks with gradient greater than twenty percent;

(iii) Where riparian or wetland leave trees are required and cable tailholds are on the opposite side of the channels;

(iv) Where road construction or placement of culverts occurs in flowing water;

(v) Where timber is yarded in or across flowing water;

(d) Type 4 and 5 waters with identifiable bed or banks that are likely to adversely affect fish life, where the HPA requirement is noted by the department in response to the forest practice application.

WAC 220-110-070 of the Hydraulic Code provides rules for water crossing structures. In general, bridges, culverts, and culvert fills must be designed to maintain structural integrity to the 100-year peak flow with consideration of debris loading likely to be encountered. Unless otherwise conditioned by the Hydraulic Project Approval (Washington State Dept. of Fish and Wildlife), all crossings over typed waters will be designed to accommodate the 100 year flood event.

**3) Flood-proof crossings:** For all stream crossings (24" culverts and larger), the following measures would be taken to ensure crossings will accommodate overflow in the event culvert is plugged.

- Fills would be armored, fill depths would be minimized
- Armored vented fords would be constructed to allow overflow

**4) Relief culverts:** Cross drain construction is covered under WAC 222-24-025 "Road design". Unless site specific evidence of peak flows or soil instability makes additional cross drainage necessary, road grades from 0 to 7% require cross drainage every 1500 ft, and 8% to

15% grade roads require drainage every 1000 ft. Because there is site specific evidence of soil instability, the rule references Table 3.2 of the Board Manual "Cross drain section additional culvert spacing recommendations". This table recommends the following:

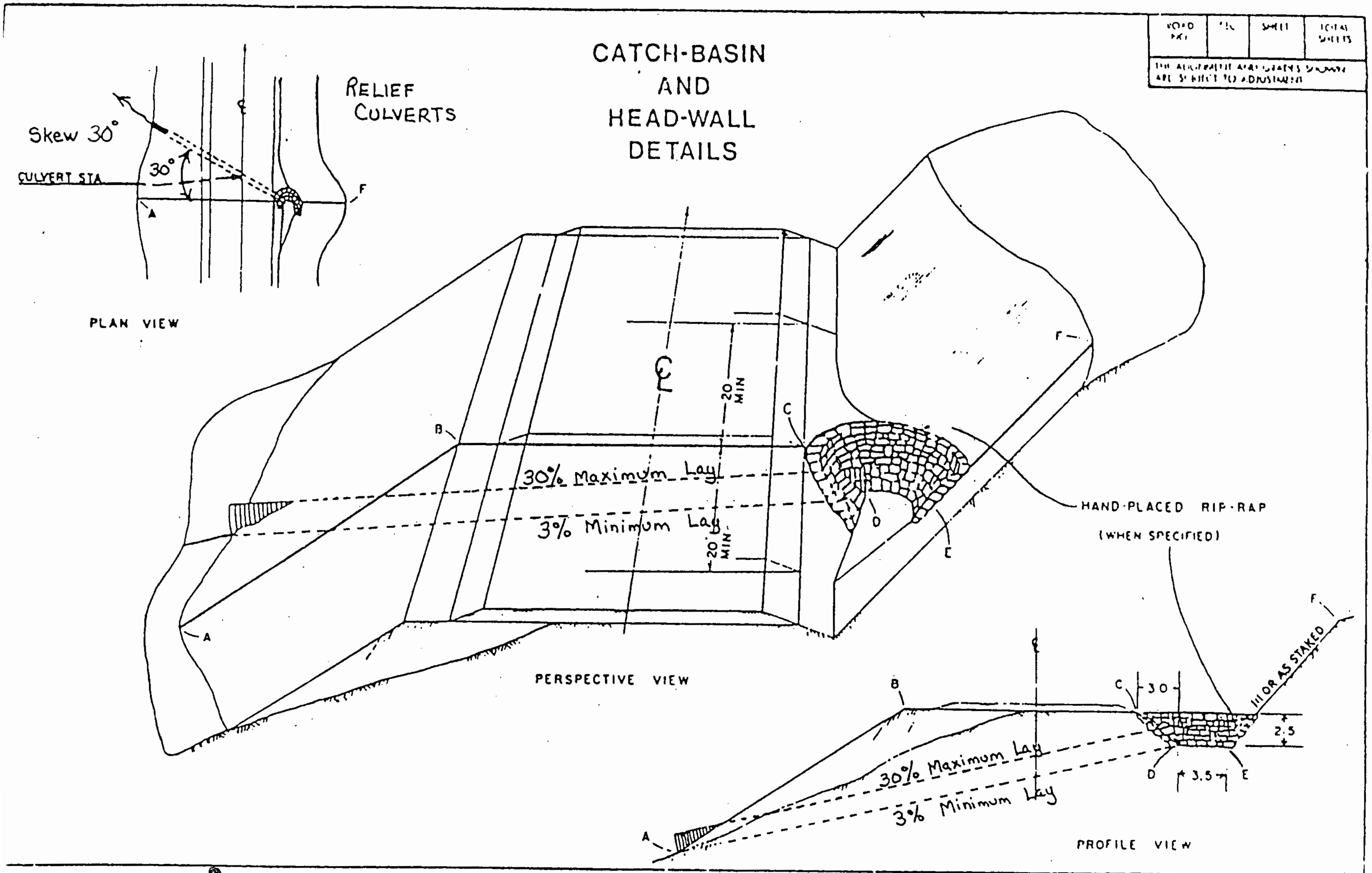
| Road Grade (%) | Spacing (ft) |
|---|---|
| 0-4 | 1,000 ft. |
| 5-6 | 840 |
| 7-8 | 600 |
| 9-10 | 460 |
| 11-12 | 380 |

The recent analysis by Western Watershed Analysts demonstrates that intensive sediment control measures incorporated near crossings are a very effective technique to minimize short-term sediment delivery. However, the analysis did not consider long term sediment delivery. The draft environmental assessment cites that localized cut slope failure is likely to plug relief pipes forcing water over or down road. To address this issue, I propose we minimize the number of ditches and relief culverts by designing roads to provide a rolling grade whenever possible. When constructing roads on slopes less than 10% with subsurface water flow (mainly areas on lower topographic positions), we should consider throughfill roads whenever possible to minimize cut. Ditching and relief culverts should be used primarily only when subsurface water is intercepted by road cut. When ditches and relief culverts are unavoidable, I propose we use the following measures:

- Minimum size of relief culvert will be 18" and have a skew of 30 degrees
- Headwalls and catchbasins shall be constructed according to the attached diagrams to help protect culvert inlet.
- Ditches will be a maximum 200 feet in length before cross drained
- Roads will have drivable, rocked drain-dips approximately 50 feet below all relief culverts, with a maximum of 250 feet spacing between dips on grades greater than 4%.
- Fills at all drain-dip locations will be armored, and slash piled at the toe of the dip.
- Roads will be visited annually for maintenance needs

TFC:tc

Enc.


CATCH-BASIN
AND
HEAD-WALL
DETAILS
RELIEF
CULVERTS
Skew 30°
30°
CULVERT STA.
A
F
PLAN VIEW
B
C
20 MIN
30% Maximum Lay
3% Minimum Lay
20 MIN.
D
E
F
A
HAND-PLACED RIP-RAP
(WHEN SPECIFIED)
PERSPECTIVE VIEW
3.0
2.5
3.5
1:1 OR AS STAKED
PROFILE VIEW

Newport Timberlands Office
P.O. Box 1499
Newport, WA 99156
(509) 447-3686
fax: (509) 447-2765

# EXHIBIT F: ROAD STANDARDS

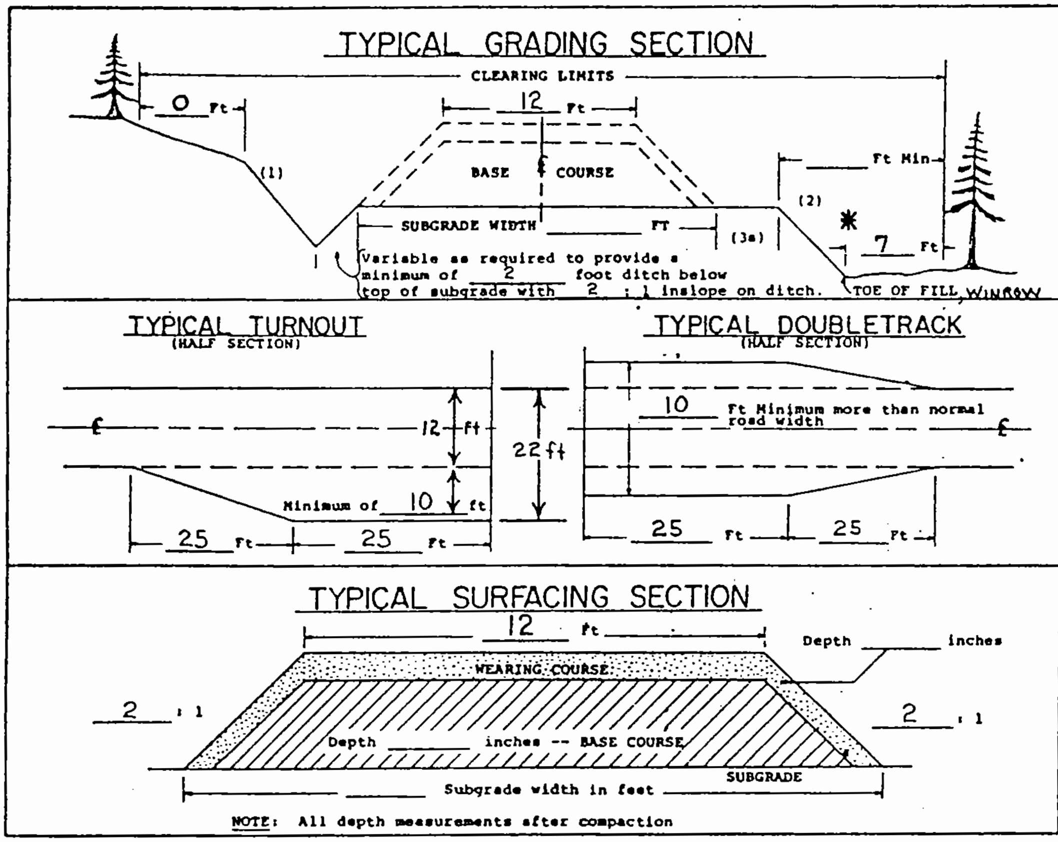
## ROAD DESIGN STANDARDS

Road Standards & Details Stimson, L.C. use in new road construction

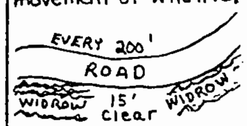
Road Name ______________________ Number ____________

Secs. ____________ Twp. ______ Rge. ______ , ______

____________ County, ____________




* Provide for a minimum 15' break in the windrow every 200' to facilitate the movement of wildlife.




(1) **BACK SLOPES**

3/4 : 1 on flat ground-cuts under 3 feet. 1/2 : 1 Common on slopes over 55%. 1/4 : 1 Solid rock.

3/4 : 1 Common on slopes under 55%. 1/4 : 1 Hardpan, rip rock.

Roadbed completely in the solid on slopes of 65 % and over, and where specified in line bar diagrams.

(2) **FILL SLOPES** 1 1/3 : 1 Common 1 1/4 : 1 Rock

(3) **EXTRA FILL SECTION WIDENING**

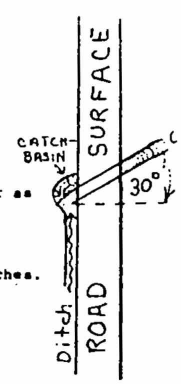
a. Add to each fill shoulder 1 foot for fills 0-6 feet and 2 feet for fills over 6 feet.

b. Widen inside shoulder of curves: 200 feet divided by the radius of that curve.

(4) **GRADIENT:** Maximum favorable grade, sustained 10 %, pitch 16 %, maximum adverse grade, sustained 8 %, pitch 12 %. Pitches will not exceed 400 feet in length. Maximum grade thru switchbacks and for 100 feet each way will be 8 %.

(5) **HORIZONTAL ALINEMENT:** Minimum radius will be 50 feet. Radius of switchbacks will be 50 feet minimum.

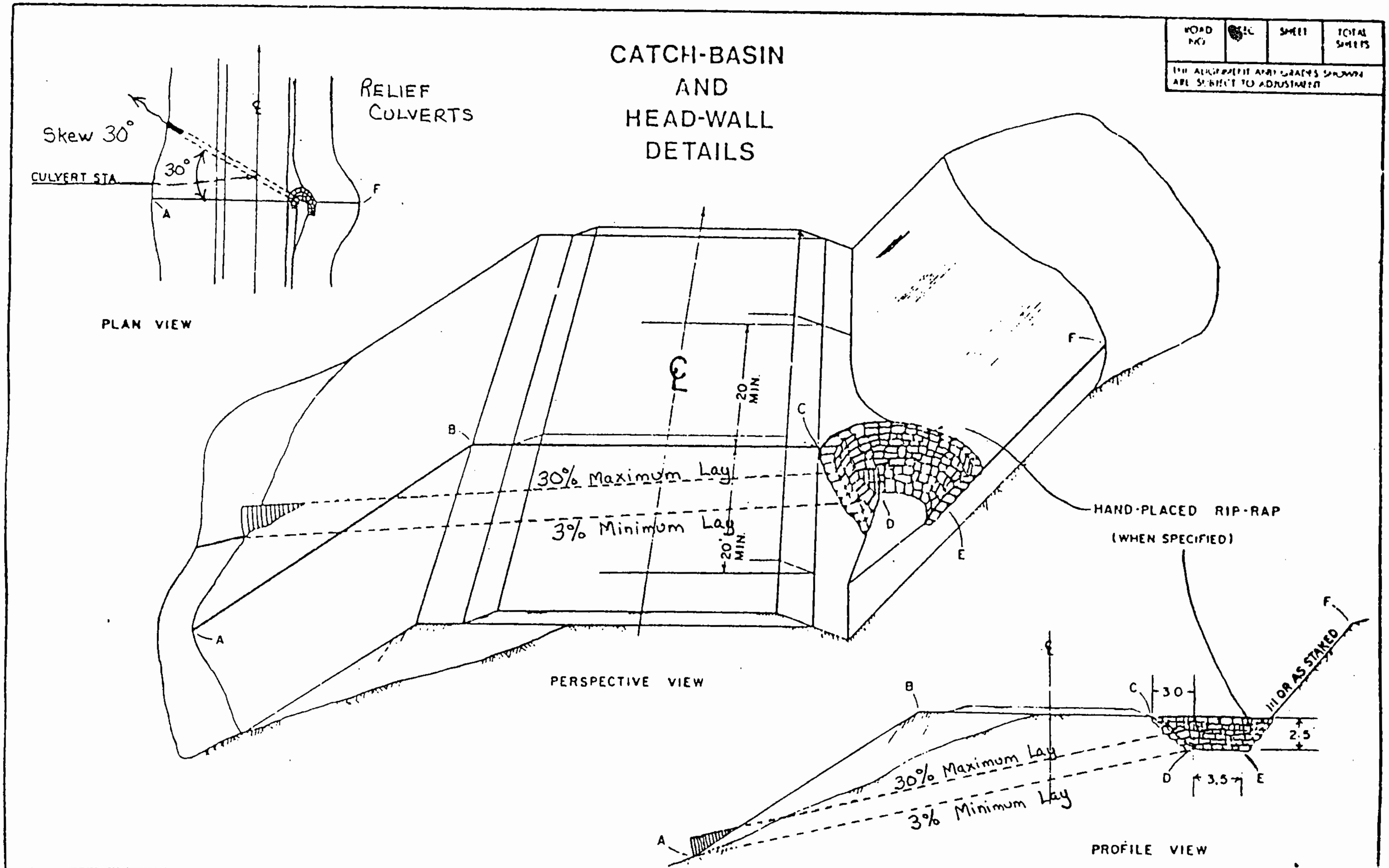
(6) **TURNOUTS:** Construct turnouts or doubletracks to the dimensions shown above as needed to keep spacing below 1000 feet or as designated on the ground or in plans.




(7) **CULVERTS:** Size and location will be as designated on the ground or in plans. Minimum culvert diameter will be 15 inches. Minimum culvert grade will be 3% and maximum culvert grade will be 30%. Culverts shall be metal unless designated otherwise. Culverts draining a ditch shall be steeper than the ditch. Skew all relief culverts 30°.

(8) **SURFACE DRAINAGE:** Crown at ______ %, outslope at ______ %, or inslope at ______ % If needed, water bars will be constructed as directed. Construct surface drainage as directed by line bar diagrams. Additional draindips must be installed as shown in attached plans as needed to keep spacing below 500 feet minimum.

# CATCH-BASIN AND HEAD-WALL DETAILS



# EXHIBIT C

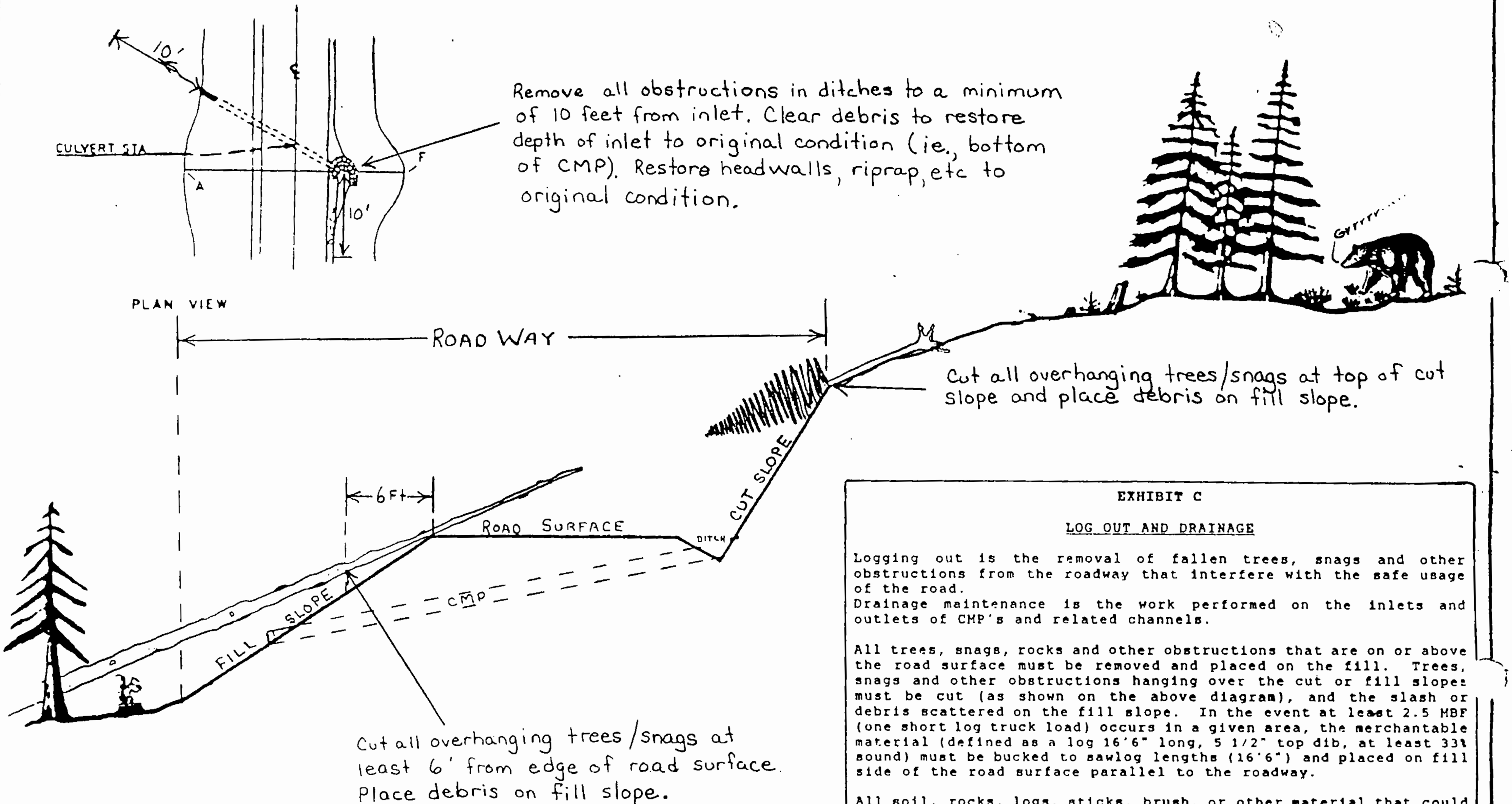



**EXHIBIT C**

**LOG OUT AND DRAINAGE**

Logging out is the removal of fallen trees, snags and other obstructions from the roadway that interfere with the safe usage of the road.
Drainage maintenance is the work performed on the inlets and outlets of CMP's and related channels.

All trees, snags, rocks and other obstructions that are on or above the road surface must be removed and placed on the fill. Trees, snags and other obstructions hanging over the cut or fill slopes must be cut (as shown on the above diagram), and the slash or debris scattered on the fill slope. In the event at least 2.5 MBF (one short log truck load) occurs in a given area, the merchantable material (defined as a log 16'6" long, 5 1/2" top dib, at least 33% sound) must be bucked to sawlog lengths (16'6") and placed on fill side of the road surface parallel to the roadway.

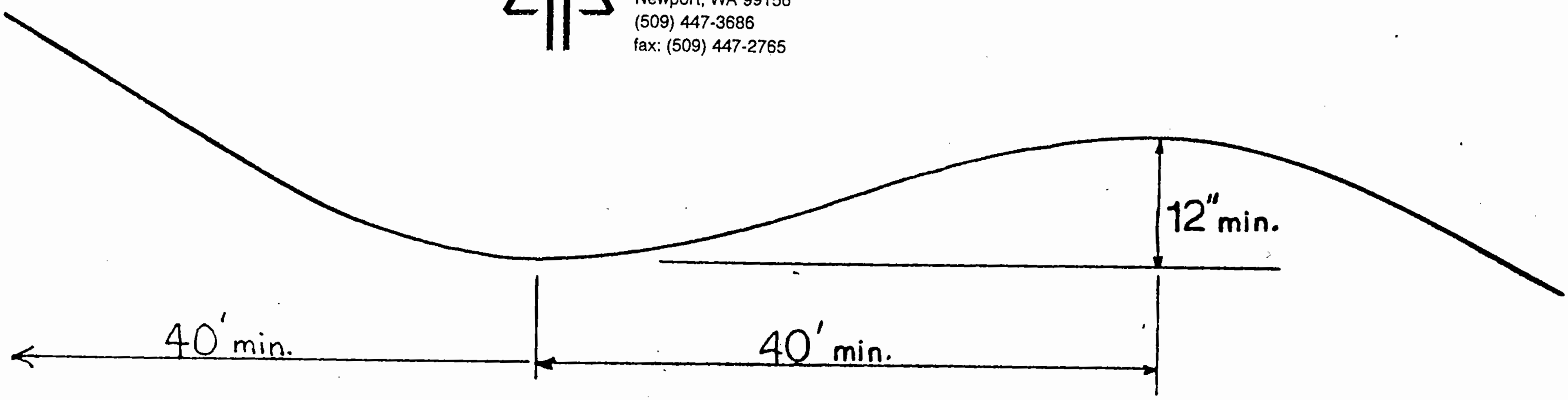
All soil, rocks, logs, sticks, brush, or other material that could prevent the free flow of water shall be removed and the original condition of the inlet and outlet channels restored to a distance of 10 feet from the CMP inlet and outlet. Ditch dams, headwalls, riprap, and any other drainage related facility will be maintained, rebuilt, or repaired so as to restore them to their original condition. Waste material shall be deposited on the fill slope. Comments on slides, washouts, damaged CMP's and other problems must be noted on Exhibit "B" and brought to the attention of

TFC 3/20/91

# OUTSLOPING
# DRIVEABLE DRAIN DIP
# DETAIL

Exhibit

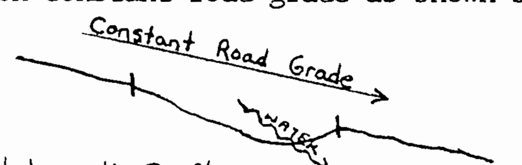
**STIMSON LUMBER COMPANY**
**Newport Timberlands Office**
P.O. Box 1499
Newport, WA 99156
(509) 447-3686
fax: (509) 447-2765




* All drain dips must be outsloped 40' on each side of low point @ 4% to allow for dispersion of water off of roadway. Drain dips need to be skewed @ 30° when on constant road grade as shown below:

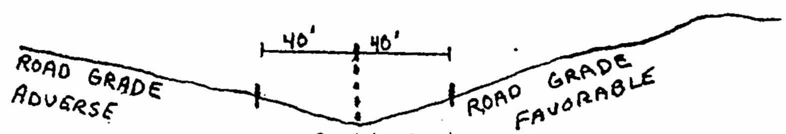
Where specified on the line bar diagram:
Drain dips shall have 3" of compacted surface rock placed 30' on both sides of the low point.
( 10 CY per drainage-dip)

A)




Outslope dip @ 4% AND skew @ 30° to roadway

B)




Low Point in Road Grade
Outslope @ 4%
No Skew needed

cab 10/23/01