

HIDDEN CEDAR PROJECT

RECORD OF

DECISION



United States
Department of
Agriculture
Forest Service

**Idaho Panhandle
National Forests
St. Joe Ranger District
June 2002**

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HIDDEN CEDAR PROJECT
USDA Forest Service, Region One
St. Joe Ranger District
Idaho Panhandle National Forests
Clearwater, Shoshone, and Latah Counties, Idaho

I. Brief Description of My Decision

This Record of Decision (ROD) documents my selection of management activities for the Hidden Cedar Project Area. More discussion of the purpose and need for this project, resource information, and environmental effects are found in the EIS and the project file. I have decided to implement Alternative F as described in the ROD, Section VII to achieve vegetative and watershed restoration goals. The vegetative and restoration goals below are consistent with the Idaho Panhandle Forest Plan, the Forest Service Natural Resource Agenda, Scientific Findings for the Interior Columbia River Basin, and the Northern Region Overview, which all focus on maintaining a sustainable forest ecosystem and restoring ecosystem health, and providing for healthy watersheds. Maps displaying the activities in the selected alternative are located in the ROD, Appendix 1.

With this Record of Decision I am authorizing:

- Watershed Restoration: To improve watershed conditions, an estimated 37.5 miles of existing roads will be decommissioned. This includes removing stream/road crossings and reducing miles of road in riparian habitat conservation areas (RHCA's). In addition, as funding becomes available improvements will be made with 30 acres of riparian plantings, and 1.2 miles of stream channel improvement by increasing large woody debris.
- Vegetative restoration: To manage vegetative conditions that are more suitable to a fire dependent ecosystem and in the long term encourage more resilient and sustainable forest conditions, approximately 1300 acres will be treated through intermediate silvicultural prescriptions (81%) and regeneration harvest treatments (19%). These prescriptions will reduce stand densities, and trend toward a more resilient and sustainable forest condition. Specific silvicultural prescriptions, logging systems, and fuel treatments are found in Appendix 3 of the ROD. Regeneration harvest prescriptions will be planted with 60% or more of resilient species of white pine and western larch seedlings. Approximately 5.3 miles of road construction, 2.0 miles temporary road construction, and 4.6 miles of road reconstruction are necessary to complete the vegetative treatments.
- Management of overstocked sapling/pole stands: To improve growing conditions and maintain species and structural diversity, an estimated 615 acres of precommercial thinning will occur.
- Provide Access to private/State lands and maintain roads for development and utilization: In accordance with ANILCA, the granting of access to State and Private (Potlatch) land through Forest Service administered lands would entail 2.4 miles of road construction and 3.5 miles of reconstruction. This is for granting of non-cost share easement, and exchange of cost share easements and to maintain access to State Private and Forest Service administered lands in the Emerald and Upper Hidden Creek drainage (Bechtel Tie Road).

- Design features and mitigations to protect resource values (See ROD, Appendix 2)

Each of these activities are discussed in more detail in Section VII of this document.

As the responsible official for these projects, I am making a site-specific decision. This is not a general management plan for the area as would be found in a Forest Plan.

The decisions I am making here do not preclude the need for future decisions to help meet the desired conditions for the Hidden Cedar Project Area. Additional projects may be necessary to achieve Forest Plan goals not met by this decision. After appropriate analysis and public involvement, a separate decision would be issued on actions not included in this decision.

Previous and ongoing activities and reasonably foreseeable activities were identified and included in the cumulative effects analysis presented in the EIS and documented in the project file. Reasonably foreseeable activities were identified by the interdisciplinary team and through contacts made to State and Corporate landowners in the project area. The Idaho Department of Lands was also contacted to identify all Forest Practices Act applications in the project area (see FEIS, Chapter 3 Introduction).

II. Overview of the Project Area

The project is located on the St. Joe Ranger District of the Idaho Panhandle National Forests. The project area is in the St. Maries and West Fork St. Maries River Drainages. The project is located in Shoshone, Clearwater and Latah Counties in Townships 41, 42, and 43 North, Ranges 1 and 2 East. The Project Area is approximately 33,000 acres and includes the Cedar, Blair, Christmas, and Staples Creek drainages in the St. Maries River and the Bechtel, Mazie, Wood, Hidden, Catspur, Long Slim and Keeler drainages in the West Fork St. Maries River (see FEIS, Project Area and Vicinity Map 1).

The area has favorable climate and good site conditions for forest vegetation. Many sites within the assessment area have been managed through timber harvest and reforestation. Approximately 47% of the project area is National Forest System land.

The area supports populations of elk, white-tailed deer, moose, black bear, mountain lions and other common wildlife species.

The West Fork of the St. Maries River and the main stem are listed by the State of Idaho on its 303 (d) list as water quality limited because they are not supporting beneficial uses - cold water biota. Sediment and temperature are primary pollutants of concern for the West Fork and nutrients, habitat alteration and sediment for the main stem. Streams within the project area are used for spawning, rearing, and overwintering by the westslope cutthroat trout (sensitive species). Bull trout (threatened species) were in the area historically and are appropriate as a management indicator (MIS) species.

III. Overview of the Analysis and Decision Process

Ultimate authority to manage public lands rests with Congress. Article IV, Section 3 of the U.S. Constitution states: "Congress shall have the power to dispose of and make all needful rules and regulations respecting the territory or other property belonging to the United States."

Over the years, Congress has outlined its desires and management direction for public lands through a series of legislative acts or laws. Some of these laws are specific to lands that have been reserved or acquired as part of the National Forest System (e.g. the Organic Act, the Multiple Use Sustained Yield Act, etc.). Others are more general and can apply in varying degrees to public and private

lands (the Clean Water Act, the Endangered Species Act, etc.). Section VIII of this Record of Decision discusses the consistency of my decision with various laws and regulations.

Many of the laws provided by Congress delegate management responsibilities for National Forest management to the executive branch, specifically the President, the Secretary of Agriculture, and the Chief of the Forest Service. One of the most important of these laws, the National Forest Management Act, instructs the Forest Service to develop planning regulations from which are constructed separate Forest Plans for each of the National Forests.

The Forest Service Natural Resource Agenda provides four themes for management of National Forests: healthy watersheds, a well-managed road system, sustainable forest ecosystem management, and recreation. These elements were important considerations in the design of this project and in my decision. The selected alternative is consistent with this in that it contains road decommissioning that improves the health of the watershed, manages the forested ecosystem in a sustainable manner through timber harvest and maintains recreational opportunities in the area by managing the road system.

The Idaho Panhandle Forest Plan (USDA 1987) provides the primary management direction for my decision. The Idaho Panhandle Forest Plan prescribes goals and management standards for the Idaho Panhandle National Forest as a whole and for 20 subdivisions of the Forest referred to as Management Areas. In general, the goals and standards of the Forest Plan require me to balance a variety of resources and interests in managing these lands (e.g. maintaining or enhancing wildlife and fisheries habitat and providing a sustained yield of timber).

Specific Management Area (MA) direction from the Forest Plan further guides project development and location of activities in different areas. Within varying limits these MAs allow a wide variety of management activities including prescribed burning, timber harvest, watershed improvement, and road access and management. A description of the MAs and their acres can be found on page 1-2 and on Map (M-3) in the FEIS. The Forest Plan provides MA-specific goals and standards on pages II-2 through II-84.

An interdisciplinary team of District specialists (ID team) compared the Forest Plan goals and standards, both general and MA-specific, with the existing conditions in the Hidden Cedar Project Area in a landscape assessment process and developed a purpose and need for action for this project. The ID team designed a proposed action to address the purpose and need and to help achieve Forest Plan goals in the project area. The proposal was presented to the public in March of 2000 for comment and identification of issues.

In response to issues raised by the public and Forest Service specialists, the ID team developed additional alternatives. These other alternatives and the original proposal were analyzed in the EIS. These alternatives represent different ways we believe we could meet the needs and purpose of the project and the goals outlined in the Forest Plan while responding to site specific issues raised during project development.

In May 2001 the DEIS was published and presented four action alternatives designed to meet the purpose and need and one no-action alternative. Three letters were received in response to the DEIS analysis. In making this decision I weighed each of these alternatives against the purpose and need for action, and I considered how well each alternative addressed the issues identified during project development.

In making decisions regarding National Forest management, it is also important to note that the Forest Service is not locked in time. I also considered new scientific information such as is presented in the Scientific Findings for the Interior Columbia River Basin and the Northern Region Overview. Both of these assessments have identified a need to restore vegetative conditions to reduce the risks from fire, insect, and disease.

The Northern Region Overview focuses on priorities within northern Idaho and Montana for restoring ecosystem health and availability of recreation opportunities. The Overview concludes that there are multiple concerns in the Northwest Zone of the Regions and that “this subregion holds the greatest opportunity for vegetation treatments and restoration with timber sales. From a social and economic standpoint, using timber harvest for ecological restoration would be a benefit to many communities that still have a strong economic dependency, more so than other zones in the Region.” Timber management fits well with the forest types in northwestern Idaho and can be used to provide openings to restore larch, white pine, and ponderosa pine, reduce fire risk and maintain upland grass and shrub communities. The selected alternative is consistent with the Northern Region Overview and the Scientific Findings for the Interior Columbia River Basin by promoting long lived early serals like larch, and white pine with the proposed timber harvest and at the same time benefits the local economy.

IV. Forest Plan Goals and the Purpose and Need for this Activity

Management Area (MA) direction from the Forest Plan is an essential consideration in project development. Much of the area is allocated to MA 1 (Timber Production), or MA 4 (Big Game Winter Range with Timber Production). Much of the timber harvest proposed was designed to improve vegetative conditions and provide sufficient cover and forage for big game. There is a very small percentage (271 acres) of MA-5 (Big Game Winter Range) in the project area. For this management area, .26 miles of cost share road construction will occur. This road will be put into a storage condition after use.

Based on this management area direction and the assessment of current trends in relation to past conditions identified in the Hidden Cedar landscape assessment, “purpose and need for action” statements were then developed. These purpose statements capture the goals envisioned in the Forest Plan and address the need for action.

These statements answer the fundamental question: “Why are you proposing these projects?” In response, we can say we are doing these things to:

Move Vegetation towards Historical Conditions in terms of composition and size. There is a need to manage for vegetative conditions that are more suitable to a fire-dependent ecosystem and, in the long term, encourage more resilient and sustainable forest conditions. This includes a need to reduce stand densities, promote retention of larger sized trees, and improve the species composition and structure of selected stands through timber harvest to increase early serals such as western larch and white pine and encourage one and two-aged stand structures.

Improve Growing Conditions and Long-term Management Options for Overstocked Sapling/Pole stands. There is a need to thin overstocked sapling/pole stands created by past regeneration harvest and wildfires to improve growing conditions, maintain species and structural diversity, and improve forest health.

Improve Water Quality, Soils, Fish Habitat and Wildlife Security. There is a need to address the transportation system for protection of lands and resources by: a) protect and improve aquatic habitat in watersheds supporting native trout; b) maintain or improve water quality conditions in Water Quality Limited Segments; c) improve wildlife security, and d) improve soil conditions on roads and landings.

Provide Access to Private Lands and Maintain Roads for Forest Development and Utilization. There is a need to provide access to State and Potlatch lands in the project area and maintain existing cost share agreements and the needed transportation system for Forest Service activities.

If an activity were proposed that did not address at least one of these purposes, it would be inappropriate to include in the proposed action. Likewise, if a suite of activities were proposed that did not in some way address and balance all three purposes, it would be an incomplete alternative.

On the basis of these purpose and need statements, we developed a proposed action which we took to the public.

V. Public Involvement Process And Issues

1. Key Public Involvement Activities

The following is a summary of public involvement activities. Additional details are in Chapter 2 and Chapter 4 of the FEIS and in the project file.

On March 3, 2000, a scoping letter describing the proposed action with map was mailed to the District mailing list. Four responses were received. Public comments focused on the desire to maintain recreational opportunities and maintain or improve water quality, fish and wildlife habitat. An analysis of the concerns was conducted in order to determine the major issues that would drive alternative development and the scope of the analysis.

A Notice of Intent to prepare an EIS was published in the Federal register on March 22, 2000, which included a request for comments. There was one response from the notice of intent.

On June 1, 2001, a notice of DEIS availability was published in the Federal Register. The DEIS was mailed to the project mailing list, and legal ads appeared in local newspapers. Three comment letters were received on the DEIS.

A Biological Assessment was sent to USFWS for determination of concurrence April 16, 2002. On May 13, 2002, the Forest received concurrence on the “not likely to adverse effect determination” for the bull trout. A non-jeopardy opinion was received for the gray wolf. See Section VIII of this ROD and the concurrence section of the project file for details.

2. Issues Raised During the Public Involvement Process

The following issues, presented in Chapter 2 of the DEIS, were areas the public or ID team felt represented an unresolved conflict with the Proposed Action (Alternative B).

Issue #1 – Road Construction: Concerns were expressed during public scoping that new road construction impacts water quality, fish habitat, and wildlife security. The alternatives present varying approaches to meeting the vegetation management needs with access and method of treatment.

Issue #2 – Existing Road Management: There was public concern that existing roads and their management may impact wildlife security, water quality and fish habitat and recreation opportunities.

Issue #3 – Commercial Timber Harvest: Concern was expressed during public scoping that there should be a “restoration only” alternative and that commercial timber harvest and watershed restoration do not go together.

Other Concerns. Other concerns not categorized as major issues focused on: openings in the form of clearcuts, soil quality, forest health, number of stream/road crossing and their effect on fish habitat, visual quality, and accessing private lands without crossing Forest Service. These concerns were not considered major issues since they were resolved through elements of project design.

3. Comments and the Final EIS

The comments received on the Hidden Cedar DEIS did not disclose any new issues. However, comments did identify a need for additional analysis for the following issues: water quality (sediment production in Cedar Creek, sediment reduction from road decommissioning, and cumulative effects of sediment production from private land), potassium levels in soils (base levels), and wildlife (clarification of existing cavity habitat and effects to fisher/marten from habitat reduction and lynx analysis and its compliance with the Lynx Conservation Assessment Strategy).

An alternative (F) was developed to address the concern (from the comments and interdisciplinary team) over increased levels of sediment and increased water yield in the Cedar Creek drainage and road construction in the Keeler Creek drainage. Alternative F is a combination of features from Alternatives B, C, and D and addresses all resource concerns. These changes and other minor errata are addressed in the FEIS, and responses to comments are added as Chapter 4 of the FEIS.

VI. Brief Description Of Alternatives

The issues brought up during the public involvement process and our discussions with specialists on the Forest helped the interdisciplinary team develop several alternatives to the proposed action. The alternatives proposed represent the best options available to meet the overall purpose and need while addressing the complex resource conditions and issues identified. These six alternatives provided a range of alternatives to consider that sharply defined the issues. In addition, two alternatives were considered but not studied in detail (details are discussed on page 2-7 and 2-8 of the FEIS):

1. the use of conventional logging systems rather than helicopter yarding
2. no road construction

The following discussion summarizes the alternatives considered in detail. Chapter 2 of the FEIS contains a complete description of the alternatives and process used to identify them.

Alternative A (No Action)

Purpose/Design: The No Action alternative is required by the National Environmental Policy Act and provides a baseline against which to compare the amount and rate of change of all other alternatives. This alternative would take no action at this time within the project area. Disturbances, such as wildfire, would continue to be suppressed in accordance with Forest Plan direction. Other activities would also continue such as road maintenance and tree planting. There is no timber harvest or road work proposed in this alternative, although there is harvest and road building occurring on private lands and associated with the implementation of the Dutch Cat Timber Sale.

Alternative B (Proposed Action)

Purpose/Design: This is the alternative sent to the public in a scoping letter. It was designed to meet the purpose and need of the project.

Specific Features:

Utilizing timber harvest methods to treat approximately 1,368 acres over 50 units to: reduce stand density, reduce susceptibility to disease, promote long lived early seral species, and increase older tree structure. This timber harvest is utilizing primarily a stand improvement harvest (See FEIS, Appendix A). This alternative reconstructs 7.3 miles of national forest system roads (NFSR) associated with harvest and cost share agreements (private land access), and constructs new roads (11.4 miles). The new construction consists of 3.0 miles temporary road and 8.4 miles NFSR (definitions associated with roads can be found in Appendix C of the FEIS). Primarily skyline or tractor yarding would be utilized, with some helicopter yarding. Some of the road construction and reconstruction will include gravelling to reduce sediment and minimize the effects of the roads (Project File – Roads Analysis Process).

Pre-commercial thinning of 615 acres to improve the health of over-stocked stands.

To protect and improve aquatic habitat in watersheds supporting native trout and to maintain and improve water quality conditions in Water Quality Limited Segments (WQLS), watershed rehabilitation work would be implemented. Approximately 19.0 miles of existing roads under Forest Service jurisdiction will be put into long term storage or decommissioned. An additional 1.2 miles of instream work (woody debris placement), and 5 miles or 20 -30 acres of riparian work (plantings) would be accomplished as funding becomes available. Also construction of a fish pond is proposed as an opportunity with State and Private corporation partners.

Alternative C

Purpose/Design: Alternative C was designed to address the issue of road construction and existing road management while meeting the vegetative purpose and need. Two harvest units were added in the Keeler Creek drainage to fully address vegetation needs. The only road construction is cost share road construction (2.2 miles). This would show a fairly direct comparison of the difference in economic effects of road versus helicopter access to harvest units.

Specific Features:

Utilizing timber harvest methods to treat approximately 1396 acres over 52 units to: reduce stand density, reduce susceptibility to disease, increase long lived early serals and increase the older tree component structure. This alternative would primarily use stand improvement harvest to meet silvicultural objectives (see FEIS, Appendix A). There would be 7.3 miles of road reconstruction associated with federal activities and cost share activities (private land access). There would be 2.2 miles of new road construction. The new road construction is cost share and is associated with access requests and access to units 27, 28 and 52. There would be the same road construction on Forest Service land to access private land as Alternative B. Primarily helicopter yarding would be utilized, with some skyline or tractor yarding. Watershed restoration activities are the same as Alternative B.

Pre-commercial thinning, and watershed riparian plantings, woody debris placement and the fish pond are the same as Alternative B.

Alternative D

Purpose/Design: Alternative D was designed to avoid road construction and put more emphasis on the issue of existing road management by putting more miles of road into long term storage or a decommissioned state. This includes the removal (decommission) of two riparian roads (Wood Creek and Hidden Creek) and putting Mazie Creek road into long term storage. Timber harvest units associated with road construction in Alternative B were dropped to help show the economic effect of helicopter timber harvest in Alternative C compared to Alternative B.

Specific Features:

Utilizing timber harvest methods to treat approximately 603 acres over 31 units to: reduce stand density, reduce susceptibility to disease, increase long lived early serals and increase the older tree component in structure. This alternative would primarily use stand improvement harvest to meet silvicultural objectives (see FEIS, Appendix A). Primarily helicopter yarding would be utilized, with some skyline or tractor yarding.

This alternative includes .7 miles of road construction in the upper Hidden Creek area (Bechtel Tie Road) to maintain access to Forest Service and private lands that would be lost with the removal of the Hidden Creek road. New road construction (2.2 miles on National Forest System administered Lands) would also occur associated with the access request to private. There would be 6.3 miles of road reconstruction.

Pre-commercial thinning is the same as Alternative B and C. Watershed rehabilitation activities are much greater than alternative B and C in that this alternative includes putting 38.2 miles of existing road under Forest Service jurisdiction into long term storage or decommissioned. Riparian plantings, woody debris placement and the fish pond are the same as Alternative B.

Alternative E

Purpose/Design: Alternative E addresses the issue of commercial timber harvest and its compatibility with watershed restoration activities. It was designed to include maximum watershed rehabilitation activities and no commercial timber harvest.

Specific Features:

New road construction (2.2 miles NFSR cost share) and reconstruction (1.8 miles) would occur associated with the access request to private land.

Precommercial thinning is the same as Alternatives B, C, and D and watershed restoration is 38.9 miles of road decommissioning. Riparian plantings, woody debris placement and fish pond are the same as Alternative B.

Alternative F

Purpose/Design: This alternative addresses the key issues while meeting the purpose and need. It was designed to addresses water quality in the Cedar Creek drainage, which has predicted increased sediment and water yields from road construction and harvest, by dropping road construction and harvest units. It also addresses road construction in the Keeler Creek drainage by changing those units to helicopter harvest. It was also designed to contribute to watershed restoration through 37.5 miles of road decommissioning, including the removal of roads in riparian areas.

Specific Features:

Utilizing timber harvest methods to treat approximately 1300 acres over 48 units to: reduce stand density, reduce susceptibility to disease, promote long lived early seral species, and increase older tree structure. This timber harvest is utilizing primarily a stand improvement harvest (see FEIS, Appendix A). This alternative includes 5.3 miles road construction, 2.0 temporary road construction and 4.6 miles reconstruction associated with harvest. There is 2.4 miles road construction and 3.5 miles reconstruction associated with granting of non cost share easements, and exchange of easements and maintaining access (the Bechtel Tie road). Primarily skyline or tractor yarding would be utilized, with some helicopter yarding. Pre-commercial thinning of 615 acres to improve the health of over-stocked stands, riparian plantings, woody debris placement and fish pond opportunity are the same as Alternative B.

To protect and improve aquatic habitat in watersheds supporting native trout and to maintain and improve water quality conditions in Water Quality Limited Segments (WQLS), watershed rehabilitation work would be implemented.

Approximately 37.5 miles of existing roads under Forest Service jurisdiction will be put into long term storage or decommissioned. This alternative differs from Alternative D and E in that the Wood Creek riparian road will not be decommissioned.

VII. Specifics of the Selected Alternative

I have decided to implement Alternative F as detailed below. Alternative F is the environmentally preferred alternative since it best meets the purpose and need to improve forest health and watershed conditions and addresses the transportation system relative to protection of fish, water, soil, and wildlife resources, and development and utilization of lands and resources (see Purpose and Need and Forest Plan Goals Section IV of the ROD).

The following is my decision for various management practices contained in Alternative F:

1. Whether to implement timber management practices (silvicultural prescriptions, logging methods, fuels treatment, timber stand improvement, reforestation), and if so, the site-specific location of these practices and the road construction/reconstruction necessary to provide access to harvest activities.

This decision includes harvesting timber on approximately 1300 acres utilizing primarily a stand improvement harvest treatment. *Intermediate harvest* will be used on approximately 1059 acres (852 acres of commercial thin, 207 acres of shelterwood preparatory cut). *Regeneration harvest* will be used on approximately 241 acres (40 acres of shelterwood seed cut, 16 acres of shelterwood removal cut, 22 acres of irregular shelterwood cut, 58 acres of group shelterwood cut and 105 acres of clearcut with reserves). See ROD Appendix 3 for a Summary of the Silvicultural and Fuels Reduction Treatment Prescriptions by unit and ROD Appendix 1 Map 1A – for additional details.

Approximately 12 mmbf or 23,000 ccf of timber would be harvested. The purpose of this harvest is to manage for vegetative conditions that trend toward more resilient and sustainable forest conditions. Approximately 35% of the units will be helicopter yarded; and the remaining 65% will be a combination of skyline/ground based yarding. Where regeneration harvest is proposed, planting will supplement natural regeneration. Planting of 60% or more of the resilient species (white pine and western larch) would occur on the 241 acres of regeneration harvest.

Approximately 5.3 miles road construction, 2.0 temporary road construction and 4.6 miles reconstruction are associated with harvest. Road construction will be put into long-term storage and cost share will be gated upon completion of activities. Temporary road construction will be re-contoured upon completion of activities (see ROD Appendix 1 - Alternative F – Road Management Map, M-1B).

Some of the existing roads used for timber harvest will require reconstruction (6.3 miles) to allow for safe timber haul, improve drainage, improve water quality and reduce sediment.

Reconstruction may include, but is not limited to installation of drain dips, and culverts, grading, clearing, dust abatement, and surfacing (see ROD Appendix 1 - Alternative F – Road Management Map, M- 1B).

Slash and fuels reduction treatments include broadcast/jackpot burning (188 acres), excavator piling (500 acres), lopping (144 acres), and hand piling (19 acres) for a total of 916 acres treated (see Project File, Hidden Cedar Fuels Treatment).

Approximately 615 acres of pre-commercial thinning will improve the growing conditions of the selected trees by reducing competition for light and nutrients.

This project would produce approximately four timber sales, which are planned to be sold in 2003 and 2004 and harvested over a three to five year period. Prescribed burning associated with harvest activities will begin approximately 1-2 years following the end of harvest activities.

Slash disposal and reforestation activities will follow harvest and are expected to be completed by 2009. These dates are *tentative*, based upon anticipated budgets, work force, weather and other considerations. Actual dates of implementation and accomplishment could vary.

2. Whether road access restrictions or other actions are necessary to meet resource objectives, and if so, to what extent.

No specific access restrictions are necessary to meet resource objectives.

To accommodate the activities in this project, specific design features and mitigation measures will be applied (see Table 1 and Table 2 below and ROD- Appendix 2). Best Management Practices (BMPs) will be implemented as described in the Forest Plan Appendix S and the Forest Service Handbook 2509.22 (Soil and Water Conservation Practice Handbook). BMP's specific to this project and their effectiveness are identified in Appendix H of the FEIS. Additional site-specific BMP's may be developed during layout, design, or implementation of proposed activities. Monitoring will occur as specified in Chapter 2 of the FEIS (page 2-30) and Appendix E of the FEIS.

ROD Table - 1 – Site-Specific Mitigation Measures and Design Features

OBJECTIVE	SITE-SPECIFIC MITIGATION MEASURES AND DESIGN FEATURES
Maintain Visual Quality	No grapple piling or burning in Units 3 and 4; Grapple piling is restricted to the southern portion of unit 5; No grapple piling/burning between Road 504 and new road construction in Units 8, 16, and 17.
Meet Soil Quality Standards	Unit 48 has proposed ground base logging. To meet standards the timber sale administrator should implement alone or in combination: 1) skid trail spacing at minimum of 100 feet, 2) create ½ acre reserve within the unit, where no equipment could operate. Unit 5 is currently over the standard. To prevent further detrimental soil impacts, skid trails and landings must be decompacted, or use helicopter harvest methods.
Reduce Sediment Production	Miles of new road construction and reconstruction listed in ROD Table - 2 below would be surfaced with gravel. These roads are currently needed and are to be maintained. The intent of the treatment is to reduce sediment and minimize the effect of the road on the watershed hydrology. This is funded by the timber sale.

ROD Table - 2 - Roads identified with gravelling to reduce sediment

WATERSHED	ROAD NO.	MILES	ROAD STATUS
Cedar	504A spur	.27	Constr. – Unit 18, NFS
Cedar	504A spur	.87	Constr. - Units 7,8,16,17 - NFS
Emerald	3557	1.01	Reconstruction- FRTA
Emerald	3557	2.2	Reconstruction - NFS
Hidden	3478-3914 Bechtel connection	.55	Construction-NFS
Hidden Cr	3901-3343 Bechtel conection	.12	Construction- NFS
Hidden creek	3478 UB-Bechtel connection	.4	Reconstruction - NFS
Hidden Creek	3914 UD Bectel Connection.	.11	Reconstruction -NFS
Hidden Creek	3343UB	.29	Reconstruction - NFS
Long Slim	765 B	.74	Construction- Cost share
L. St. Maries	1420-potlatch access	.66	Reconstruction – Cost share
L. St. Maries	1452 –potlatch access	.16	Reconstruction - Cost share
L. St. Maries	504A spur	.32	Construction NFS – to unit 18
L. St. Maries	361 C	.93	Reconstruction -NFS
Mazie	765-SH-3, NF sale rd	.22	Construction - Cost share
Mazie	765-SH-3 to units 25,30	.45	Construction -NFS
Mazie	765/SH-3	.57	Construction - NFS
W. Fk. St. Maries	361C west	.50	Construction – Cost share
W. Fk. St. Maries	361C west NF sale rd	1.03	Construction -Cost share
TOTAL		11.4	

1.14 miles in Cedar Creek sub drainage, 3.21 miles in Emerald; 1.47 miles in Hidden creek; .74 in Long Slim; 2.07 in Lower St. Maries; 1.24 in Mazie; and 1.53 in W. Fk. St. Maries

3. What amount, type and distribution of watershed rehabilitation projects will be implemented, if any?

Under Alternative F, I am committing to the work described in the Tables below to improve watershed conditions. It entails road storage or decommissioning on approximately 37.3 miles of existing road (Tables 3, 4, and 5 below). *The work described in Table 3 is funded (funds are allocated) with appropriated dollars and will be conducted prior to or during road construction activities. The work described in Table 4 is funded by the timber sale. The work in Table 5 will be completed as funding becomes available.* Culverts will be removed on existing roads at 70 stream crossings to restore natural drainage functions and reduce sediment. Of the 70, seven are in the 300 foot Riparian Habitat Conservation Area (RHCA) buffer for a fish bearing stream. Three culverts that are currently barriers to fish passage will be replaced, removed or modified to allow for fish passage.

The decision also includes 30 acres of riparian plantings, 1.2 miles of stream channel improvement (large woody debris placement), and the opportunity to enhance and develop an existing pond into a fish pond for the public (see ROD, Appendix 1 -Project Related Opportunity Map –Map 1C).

Following is a brief description of the “road status” applied to these road storage or decommissioning activities:

Long Term Storage Roads: These roads are not needed in the near future, but use is expected at some time in the future (RAP, Project File). Following treatment they will not be open to motor vehicles, but the roadbeds will be left intact.

Activities include surface decompaction, culvert removal, reestablishment of stream channels, removal of unstable fill and re-vegetation of road corridor. See Road Management Prescription C definition in Appendix C of the FEIS.

Road decommissioning is defined as activities that result in the stabilization and restoration of unneeded roads to a more natural state (36 CFR 212.1).

Decommissioned Roads: These are roads where a determination was made that there is no foreseeable use for them (RAP, Project File). Following decommissioning they will not be open to motor vehicles. At minimum, activities include removal of all drainage structures, re-establishment of stream channels, decompaction of the road surface and re-vegetation. Activities would restore slopes to near pre-road conditions to the extent feasible. See Road Management Prescription C, D & E definitions in Appendix C of the FEIS.

ROD Table - 3 - Watershed Restoration to take place *prior to or during* road construction activities.

WATERSHED	ROAD NO.	MILES	ROAD STATUS
Bechtel	3340	1.16	Long term storage
Bechtel	3340 A	.46	Long term storage
Cedar Creek	3557	.17	Long term storage
Emerald Cr.	3556	.60	Long term storage
Hidden Ck	498 UC	.65	Decommission
Hidden Ck	498 UD	.34	Decommission
Hidden Ck	498 UH	.2	Decommission
Hidden Ck	498 UH	.23	Decommission
Hidden Creek	498 UB	.62	Decommission
Hidden Creek	3343 UD	.31	Decommission
Hidden	3343 spurs; UB, UC	.30	Decommission
Hidden creek	3343	.19	Long term storage
L. St. Maries	3321 AUA	.45	Decommission
L. St. Maries	3321 AUC	.17	Decommission
Lower St. Maries	3321 A	.27	Long term storage
L. St. Maries	3321 BUA	.59	Decommission
Mazie	3340	3.83	Long term storage
W. Fk St. Maries	3340 UB	.36	Decommission
W. Fk. St. Maries	3380	0.16	Decommission
W. Fk. St. Maries	3340	.33	Long term storage
Wood	3340	.33	Long term storage
TOTAL		11.72	

NOTE: All road miles are roads within Forest Service management jurisdiction

ROD Table - 4 - Watershed Restoration that will take place *post* harvest activities and is funded through the sale of timber.

WATERSHED	ROAD NO.	MILES*	ROAD STATUS
Wood Creek	341A	.60	Decommission
Hidden Creek	3499	.43	Decommission
W. Fk. St. Maries river	3380	.40	Decommission
Lower St. Maries river	3321C	.26	Decommission
Emerald/Cedar Creeks	3557	2.0	Long Term Storage
W. Fk. St. Maries river	504 AUA	1.09	Long Term Storage
Lower St. Maries river	3321B	.98	Long Term Storage
Keeler Creek	3327 J	1.40	Long Term Storage
Hidden Creek	3499 UA	.55	Long Term Storage
Lower St. Maries	3321 A	0.22	Long Term Storage
Hidden Creek	3343	.25	Long Term Storage
TOTAL		8.18	

*road miles are Forest Service management jurisdiction

ROD Table - 5 – Watershed restoration work to be completed as funding permits.

WATERSHED	ROAD NO.	MILES*	ROAD STATUS
Bechtel	3478 UE	.31	Decommission
Blair		.28	Decommission
Hidden	3457	.21	Long term storage
Hidden	3499 UB	.09	Decommission
Hidden	498	1.43	Decommission
Hidden	3914 spurs a, b, and c	.81	Long term storage
Keeler	1457 A	.17	Decommission
Keeler	1457	.24	Decommission
Keeler	765 - HIR	.81	Decommission
Keeler	1457	.95	Long term storage
L. St. Maries	3334	1.46	Decommission
L. St. Maries	1452	.51	Decommission
L. St. Maries	3335A	1.05	Long term storage
Long Slim	1450 B	.63	Long term storage
Lower St. Maries	3335 spurs and 3334 spurs and 1916 spurs	4.96	Decommission
L. St. Maries	3 - UZ	.06	Long term storage
Mazie	3478 spurs	2.23	Decommission
W. Fk. St. Maries	504 - C	1.2	Decommission
TOTAL		17.40	

* road miles in Forest Service management jurisdiction

4. Whether to grant access and share in joint construction and use of cooperative road systems. (State, Potlatch, BPA Forest Service and other adjacent landowners/stakeholders utilizing the transportation network)

In Alternative F, I am granting access to State and Potlatch lands. There is 2.4 miles road construction and 3.5 miles reconstruction associated with granting of non cost share easements, and exchange of easements and to maintain access to the existing transportation system and lands on Forest Service and non Forest Service ownerships when Road 498 is decommissioned (Bechtel Tie Road). Details of the above information can be found in the Project File, Roads Analysis Process.

5. Whether Forest Plan amendments are needed to meet overall resource objectives, and if so, whether they are significant.

Alternative F does not require any Forest Plan amendments.

6. What, if any, specific project monitoring requirements are needed to assure mitigation measures are implemented and effective, or to evaluate success of project objectives.

The monitoring plan in the FEIS, Appendix E will be implemented. This plan includes monitoring activities related to water quality and fisheries habitat, silvicultural objectives, and wildlife habitat.

VIII. Rationale For The Decision

My decision is based upon the following:

- Meeting the Purpose and Need for Action
- Relationship to Environmental and Social Issues and Public Comments
- Consistency of Forest Plan Goals, Objectives, and Standards as amended by the Inland Native Fish Strategy.

A. Meeting the Purpose and Need for Action

The need for action and desired conditions of the Hidden Cedar Project Area, as described above in Section IV, are based on Forest Plan goals, objectives, and standards. I determined it was inappropriate to select Alternative A for implementation since it does not respond to the need for action, would not move towards achieving Forest Plan desired conditions, and would not meet Management Area goals. I evaluated the remainder of the alternatives to determine how well they respond to the Purpose and Need for Action.

The following table (ROD Table 6) can be used as a reference for the discussion that follows.

ROD Table 6- Summary of How Alternatives Meet the Purpose and Need

	Alt. A	Alt B	Alt C	Alt D	Alt E	Alt F
Move Vegetation Toward Historical Conditions						
Increase long lived seral species (%)	9%	10%	10%	9%	9%	10%
Reduced stand densities (acres)	none	1132	1160	478	0	1059
Improve Water Quality, Aquatic Habitat, Soil Conditions and Wildlife Security						
Increased soil productivity (acres)	0 (no roads decommissioned)	69	69	82	86	99
Miles of road in RHCAs	18.8	13.1	13.1	8.7	8.5	8.6
Road Storage or Decommissioning (miles)	No road storage or decommissioning	18.8	18.8	38.2	38.9	37.3
# of stream crossings <i>remaining</i> *	No crossings removed there are 141 crossings*	92	90	78	70	78
Acres of wildlife security	455 acres	1009	1009	2240	2240	1860
Reduction in sediment <i>**</i> (%)	No reduction, because no roads decommissioned.	9.4	21.2	35.5	36.7	26.3
Provide Access to State and Potlatch Lands						
	no	yes	yes	yes	yes	yes

*Forest Service administered roads

** from decommissioning of roads.

Improve Forest Health. There is a need to manage for vegetative conditions that, in the long term, encourage more resilient and sustainable forest conditions.

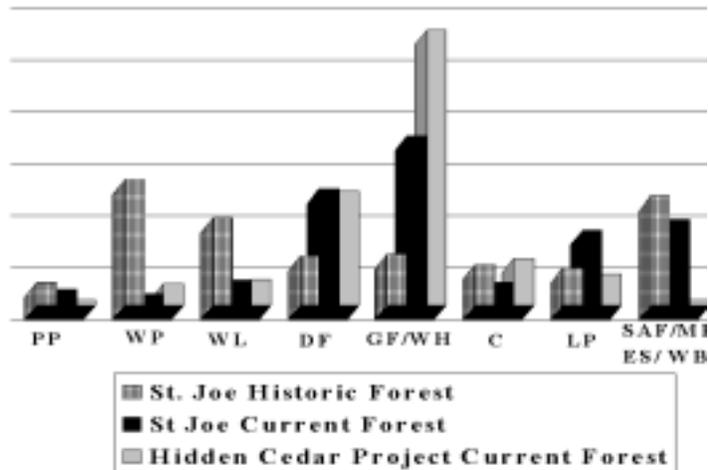
I have selected Alternative F because it best meets the need to improve forest health, including treating increased stand densities, pole and medium sized trees and a loss of species diversity, *while* protecting or improving other resource values.

It does this by treating 1300 acres of timber with silvicultural prescriptions designed to address density and species diversity.

Alternatives B and C are just as well suited in meeting the needs of vegetative conditions, however they do not do as much to improve other resource values as detailed below.

The selected alternative meets the need to improve vegetative conditions by:

- Intermediate harvest treatment will be applied to approximately 70% of the harvest areas. Thinning is proposed to reduce tree stand densities thereby promoting larger diameter trees and increase individual tree growth and vigor. It will also maintain or increase the percent of early serals through preferential retention of white pine, western larch and ponderosa pine (when present).



Alternatives B, C, D and F (selected action) provide a range of activities that more closely represent the range and rate of past disturbance than do Alternatives A and E, which do not provide for vegetative manipulation. Alternative C treats the most acres of Douglas-fir/grand fir stands with an intermediate harvest that reduces stand densities to enhance the remaining mature trees, however; Alternatives B and F (with slightly less acres treated) are about equal to Alternative C in the percentage of stands they are moving toward desired condition. Alternative D treats approximately 1/2 as many acres as Alternative C.

Improve growing conditions and long-term management options for overstocked sapling/pole stands. There is a need to thin overstocked sapling/pole stands created by past regeneration harvest to improve growing conditions, maintain species and structural diversity, and improve forest health.

All action alternatives, including the selected alternative, would have met this need to the same degree by pre-commercially thinning 615 acres to improve growing conditions in overstocked sapling/pole stands.

Address the management of the transportation system for protection of lands and resources (to improve water quality and reduce long term sedimentation, improve fish habitat by reducing barriers caused by road/stream crossings and improve wildlife security and soil conditions).

To move aquatic conditions toward the desired condition, I am committing to the treatment of approximately 19.9 miles of road restoration work in the Hidden, Mazie, Wood, Lower and West Fork St. Maries, Cedar, Emerald and Bechtel drainages (see Rod Table 3 and Rod Table 4 in Section VII above). In addition, as funding becomes available, I am authorizing additional miles of road displayed in ROD Table 5 to be treated in the Bechtel, Blair, Hidden, Keeler, Lower St. Maries, Mazie, and W. Fork St. Maries drainages.

I am committed to reducing the impacts of roads on water quality, wildlife and fish habitat. The five action alternatives, including the selected Alternative F focus their efforts in this regard. INFish Riparian Habitat Conservation Areas (RHCAs) will be protected, and Best Management Practices (BMPs) for soil and water will be implemented in all activities (ROD, Appendix 2).

Of the five action alternatives considered, I feel that Alternative F is best at meeting the purpose and need set forth for this project of improving forest health by managing vegetative conditions that encourage more resilient and sustainable forest conditions, improving watershed health through extensive road decommissioning and granting access and does not jeopardize other resources in the project area. The biggest difference between alternatives is displayed in the purpose and need category of Moving Vegetation Toward Historical Conditions (see ROD Table 6). Here, Alternatives D and E are considerably different from Alternative B, C, and F. However, the difference is marginal between Alternatives C, D, E, and F under the purpose and need of Improving Water Quality, Aquatic Habitat, Soil Conditions and Wildlife Security (see ROD Table 6). The discussion that follows will highlight how Alternative F maintains or improves conditions for the other resources compared to the other alternatives.

Based on the information in the watershed and fisheries analysis, I determined it was not appropriate to select Alternative B when considering direct, indirect and cumulative effects because of the great increase of sediment generated in the Cedar Creek drainage (sub watershed of the St. Maries River, which is a WQLS stream), and the effects to water quality and fisheries habitat (see Chapter 3: Water – Table 3-5 and pages 3-68 through 3-74 and page 3-84; Fish – pages 100-101, and page 130).

Alternative E fails to address the restoration needs for vegetation that we have identified, therefore, I did not select this alternative.

Alternative C accomplishes both vegetative and watershed restoration activities. However the watershed restoration activities are at a minimal level (much less than Alternatives D, E, and F). I did not select C because it does not provide near the level of improvements to watershed health and conditions for fish, water and wildlife as Alternative F. For this reason I did not select Alternative C.

Alternative D is comparable to Alternatives E and F in improvements to watershed health in the form of water quality improvement, and fish and wildlife habitat. Vegetative restoration treatments are much lower than Alternative F and are less effective at trending vegetation towards historical conditions. For these reasons, I did not choose Alternative D.

Watershed restoration activities identified for Alternative F (as displayed in ROD Tables 3, 4, and 5) will utilize a combination of methods depending on specific site conditions. Work on roads to be decommissioned or put in to long-term storage includes: re-contouring unstable fills, removal of culverts and restoration of stream channels, partial removal of fills where culverts are too deep to remove, construction of armored drainways, and installation of waterbars. Roads maintained for public travel and administration of National Forest System lands will be graveled to reduce sedimentation (see ROD Table 2 above). Graveling of these roads further reduces sediment up to 4% in the St. Maries watershed compared to not graveling. (Project File, Water document W-40)

The watershed restoration work I am committing to under this project will improve conditions in the West Fork and main stem (upper) St. Maries River along with many of the sub drainages. The reduction in sediment in Cedar, Blair, Bechtel, Hidden, and Mazie drainages, will result in improved water quality and improvement to beneficial uses on the West Fork of the St. Maries River and main

stem of the St. Maries River, which are WQLS segments. (see Chapter 3-Water-pgs 3-66, 3-72, 3-74, and Summary Table 3-30).

To further maintain and improve water quality this decision also includes application of BMPs on project activities in all watersheds (FEIS, Chapter 2- Design Criteria and Mitigation- Soil and Water and FEIS Appendix H). Effectiveness of BMP's have been shown in Seyedbagheri,1996 and Idaho's 2000 Forest Practices Water Quality Audit Final Report (Idaho DEQ, 2001), and the Idaho Panhandle Forest Plan Annual Monitoring Reports (see Project File).

I have also chosen to implement these watershed improvement activities because they meet the intent of the Natural Resource Agenda's call to protect healthy ecosystems by selectively upgrading forest roads and decommissioning unneeded substandard roads.

Address management of the transportation system for the development and utilization of lands and resources. There is a need to provide access to State and Potlatch land due to existing cost share agreements and granting reasonable access.

All action alternatives meet the need to provide access to State and Potlatch lands to the same degree. Under the selected alternative (Alternative F), approximately 2.4 miles of road construction and 3.5 miles reconstruction will occur on NFS administered land.

A reasonably foreseeable action of the Garnet Stars and Sands EIS is proposed public recreational digging of gem stones in Wood Creek (FEIS, Chapter 3- Introduction). The Wood Creek road (#341) would be open to the public for recreational digging. With this decision I have chosen to keep the Wood Creek road open so as not to preclude the recreational opportunities found in this drainage. All alternatives except Alternative D address this need.

The road construction and reconstruction for the Bechtel Tie road addresses the need to maintain access to private, State, and Forest Service lands in the Emerald and Upper Hidden Creek drainages that is lost from the removal of the Hidden Creek road # 498. The Bechtel Tie road is only addressed in Alternative D and F.

Alternative F addresses these needs, while protecting resources and meeting Forest Plan Standards and all laws and regulations. (See FEIS, Consistency with Forest Plan and Laws sections of the Water, Fisheries, Wildlife, and Soils resources)

B. Relationship to Environmental and Social Issues and Public Comments

In addition to Forest Plan direction, I used environmental and social issues raised in public and agency discussion to design alternatives and select a course of action. The primary reason I chose to implement Alternative F is because of its overall response to the issues and public comments. All action alternatives analyzed varied in response to the issues. Public comments were received throughout the process; during the scoping process, during preparation of the DEIS, and in response to the DEIS. Scoping comments were used to identify the major issues. Four alternatives were considered in detail in the DEIS to address these issues, in addition to the no action alternative. Another alternative (Alternative F) was proposed (in response to public comment on the DEIS and internal comments) that addresses potential for substantial increases in sediment loads in the Cedar Creek drainage and general comments related to watershed conditions. Detailed responses to the comments on the DEIS have been prepared, and are incorporated into the Final EIS- Chapter 4. A table (Table 2-19) summarizing how the alternatives respond to issues can be found in Chapter 2 of the FEIS, pg. 2-32.

Briefly, the table shows that Alternatives C and D address the issue of road construction by using helicopters to harvest timber while Alternative E has no harvest and thus no road construction.

The impact to wildlife security (total road densities) does not vary much by alternative with highest densities in Alternatives A and B and less of an impact in Alternatives C, D, E, and F. Alternatives D, E, and F all decommission existing roads and reduce the number of stream crossings to a similar degree and at a greater amount than Alternatives B and C. Alternatives C and F are similar in the percent reduction of sediment from road decommissioning and is almost double that of Alternative B. Alternatives D and E have an even greater percent reduction than C and F. Alternatives B, C, and F are similar in water yield produced from proposed Forest Service activities, with Alternative D considerably less and no change to water yield in Alternative E due to no commercial timber harvest (See FEIS, Chapter 3 – Water, Summary Tables page 3-76 through 3-78).

The Hidden Cedar project area soils have the potential to be potassium limited. Appropriate design features and mitigation were developed (over wintering slash) to address this for proposed harvest units (See FEIS, Chapter 2 – Soil and Water Design Criteria and Mitigation, pgs 2-17 through 2-19). The design criteria are expected to be effective based on research from the Intermountain Forest Tree Nutrition Cooperative (Project File – Literature Cited).

The following summary describes how the selected alternative responds to the major issues.

Issue #1- Road Construction: Alternative F constructs less miles of road in the Cedar and Keeler Creek drainages than Alternative B or C, thus reducing the potential for sediment production. It also gravels approximately 11 miles of maintained road (reconstruction and construction) to reduce sediment. Riparian Habitat Conservation Area buffers on road construction will protect water quality and fish habitat. All road construction will be put into storage or decommissioned (except the Bechtel Tie road and cost share roads associated with access requests) thus reducing their impacts on the watershed, fisheries and wildlife habitat, soil productivity and water quality. The selected alternative reduces the modeled sediment by about 25% with most of the sediment reduction occurring within three years after corrective actions are taken (Project File – WATSED runs). Temporary road construction of approximately two miles will be fully recontoured after use.

Issue #2 – Existing Road Management: Alternative F includes stabilization, long term storage and decommissioning of approximately 37.5 miles of existing roads. These roads are either not needed for future management (stabilization and decommissioning) or not needed within the next 20 years (long-term storage). These activities will greatly improve water quality as sediment is reduced by about 25%. Approximately 7 miles of road will be decommissioned and removed from the NFS administered road system. These roads will reduce riparian road densities and reduce the number of stream/road crossings thus improving fish habitat. The long-term storage of the Mazie creek road (loop road) will add significant acres to wildlife security (see Chapter 3- Wildlife- Table 3-49, Security Acres for Alternative F).

Other road decommissioning and storage also increases wildlife security areas.

Issue #3 – Commercial Logging: There is a concern about the effects of timber harvest on watersheds and restoration of watersheds. Or in other words: can we produce commodities such as timber from the National Forest without rendering the land unfit for other values or resources?

Timber production was one of the many goals envisioned in the Forest Plan, and timber production must be balanced with other important values including protection of endangered species, water quality, wildlife and other ecosystem and social values.

Out of all the communities in the Panhandle of Idaho, St. Maries and Priest River remain tied to the timber production industry, both in terms of local industry-related jobs, as well as the predominate values of the people who live there (Social Assessment, IPNF, Dec 2001). The majority of the Hidden Cedar project is in Shoshone County. Seventy percent of Shoshone County is National Forest, and they are dependent on the Forest Service for timber.

Alternative F proposes timber harvest, however, percent water yield increase (change in peak flow) is within an acceptable range at 3.0% (see FEIS, - Chapter 3 Water section). The high number of roads stored or decommissioned and the long-term benefits to the watershed are a balance to the short-term impacts from commercial harvest and road building (See FEIS, Chapter 3- Water- Summary Tables). The road restoration activities also benefit wildlife and fisheries by creating more secure habitat for wildlife and reducing impacts of roads on fish habitat. None of the alternatives (except alternative B) show a positive net value when all quantifiable costs are considered (FEIS, Table 3-77). Timber Sales planned in alternatives B, C, D and F appear to be positive (see FEIS, Table 3-73) in that they are able to cover required road work, slash disposal, and regeneration costs. Alternative F has addressed concerns associated with noxious weeds, minerals, recreation, air quality and soils through design criteria and mitigation developed and displayed in FEIS Chapter 2 and ROD Appendix 2. I believe that Alternative F is the most cost efficient alternative that has acceptable environmental consequences.

C. Consistency of Forest Plan Goals, Objectives, and Standards as amended by the Inland Native Fish Strategy.

The Forest Plan represents an agreement with the public on the management and use of the Idaho Panhandle National Forest. It is a negotiated understanding with a variety of individuals, organizations, agencies, and Indian tribes who represent a wide variety of opinions, values and beliefs. The goals and desired conditions described in the Forest plan for this area and the rate of Forest Plan implementation are key elements in my decision. The Northern Region Overview is an assessment that identified a need to restore vegetative conditions to reduce the risks from fire, insect, and disease. Vegetation management is appropriate in this project area as a tool to restore longer lived seral species such as white pine and larch.

Rate of Forest Plan Implementation and Achievement of Management Area Goals

With the exception of Alternative A (no action), all alternatives result in “movement” towards some of the desired conditions described in the Forest Plan. Action alternatives B, C, D and F move the landscape toward a condition capable of supporting a healthy forest. Alternatives D, E and F show an overall improvement in the watershed conditions (FEIS, Chapter 2, Tables 2-18 and 2-19). Alternatives B and C show an improvement to watershed conditions. However, Alternative B does not meet water quality standards when including cumulative effects to the Cedar Creek drainage due to increased sediment. Alternative A does not respond to the need for action, would not move towards achieving Forest Plan desired conditions, and would not meet management area goals.

Forest Plan Standards and Goals

As documented in the FEIS, all alternatives, except B and C are consistent with Forest Plan direction as amended by the Inland Native Fish Strategy (FEIS, Fisheries, page 3-123 and Project File, INFISH Guidelines and Forest Plan Consistency). Effects in Alternatives B and C for Cedar Creek may retard attainment of the Riparian Management Objectives (FEIS, Fisheries, page 3-123).

A potential for a negative effect on pool frequency and width/depth ratios is indicated in the Watershed report (FEIS, pages 3-69 through 3-70). Implementation of the selected Action will not require amendments to Forest Plan Standards. Findings Required by other Laws, Regulations and Agency Policies:

Numerous laws, regulations, and agency directives require that my decision be consistent with their provisions. I have determined that my decision is consistent with all laws, regulations, and agency policy. The following summarizes findings required by major environmental laws:

A. National Forest Management Act (16 USC 1600 Et Seq.)

The National Forest Management Act (NFMA) and accompanying regulations require that several specific findings be documented at the project level. These are:

Consistency With Forest Plan (16 USC 1604(i))

The Idaho Panhandle Forest Land and Resource Management Plan (Forest Plan) establishes management direction for the Panhandle Forest. This management direction is achieved through the establishment of Forest goals and objectives, standards and guidelines, and Management Area goals and accompanying standards and guidelines. Project implementation consistent with this direction is the process by which we move toward the desired condition described by the Forest Plan. Forest Plan direction provides the sideboards for project planning. In addition, the National Forest Management Act requires that all resource plans are to be consistent with the Forest Plan (16 USC 1604 (i)). The FEIS displays the Forest plan and Management Area goals and objectives, and the standards and guidelines applicable to the Hidden Cedar Project Area (FEIS, pages 1-2 through 1-3). The alternative development process and management goals of the alternatives are described in the FEIS Chapter 2, while the environmental consequences of the alternatives in relation to the Forest Plan standards and guidelines are displayed in Chapter 3.

Upon review of the pertinent information, I find the actions and activities contained in the selected alternative are consistent with Forest Plan direction for the Hidden Cedar Project area.

Suitability for Timber Production

No timber harvest, other than salvage sales or sales to protect other multiple-use values, shall occur on lands not suited for timber production (16 USC 1604 (k)).

Determination that lands are suitable: all acres proposed for harvest in the selected alternative were reviewed by a silvicultural forester and determined to be suitable for timber production (FEIS, Chapter 1, MA descriptions page 1-3) and capable of being regenerated within five years of timber harvest (FEIS, Vegetation, page 3- 9).

Analysis of current and historical regeneration data for the project area support the conclusion that adequate stocking of the proposed harvest units is assured with site preparation efforts occurring in a timely manner following harvest (FEIS – page 9). The project file contains supporting documentation of current and historical reforestation data. (Vegetation - Reforestation Indices).

Clearcutting and Even-Aged Management

When timber is to be harvested using an even-aged management system, a determination that the system is appropriate to meet the objectives and requirements of the Forest Plan must be made and, where clearcutting is to be used, it must be determined to be the optimum method (16 USC 1604(g) (3) (f) (i)).

1. **Determination that, where used, clearcutting is the optimum method:** I have determined that clearcutting is the optimal method of treatment for Units 20, 21, 24, 32, 46, 47, and 48 in the selected alternative. My determination is based upon diagnosis found in the project file, and the evaluation of effects found in Chapter 3 of the FEIS.
2. **Determination that even-aged management system is appropriate to meet the objectives and requirements of the Forest Plan:** I have determined that prescribing even-aged systems under the selected alternative is appropriate. Proper use of even-aged systems and application of long-term reserve tree concepts on appropriate sites can provide us with healthy, functioning ecosystems while providing a sustainable production of forest resources. My determination is based on the discussion of alternative silvicultural systems and prescriptions and the use of even aged management found in the Project file and referenced in the FEIS in Chapter III- Vegetation Section page 3-9.

Vegetation Manipulation

All proposals that involve vegetative manipulation of tree cover must comply with seven requirements found at 36 CFR 219.27 (b). I find that the prescribed management practices shall:

1. **Be best suited to the goals stated in the Forest Plan.** These goals are stated in the FEIS within Chapters 1 and 3. Based upon review of pertinent information from the FEIS, interdisciplinary team review, and the Project File, I have determined that the selected alternative is best suited to meet these goals while responding to public concerns.
2. **Assure that technology and knowledge exists to adequately restock lands within 5 years after final harvest.** The knowledge and technology exists to restock harvested areas and is documented in the Project File and in FEIS Chapter 3, Forest Vegetation- Analysis Methods.
3. **Not be chosen primarily because they will give the greatest dollar return.** The decision to implement the selected alternative is based on a variety of reasons as discussed earlier in this decision, not solely on economics.
4. **Be chosen after considering potential effects on residual trees and adjacent stands.** In selection of Alternative F, I did consider the effects on residual trees and adjacent stands as discussed in the EIS (Chapter 3, Vegetation section). Impacts on residual trees and adjacent stands were a primary factor in my deliberations with the ID team and in my decision (see Diagnosis Matrix and stand reconnaissance narrative in the Project File).
5. **Be selected to avoid permanent impairment of site productivity and to ensure conservation of soil and water resources.** The selected alternative will avoid impairment of site productivity. This determination is supported by the disclosures in the FEIS Chapter 3, Soils Effects Section, the application of Best Management Practices to prevent loss of soils (FEIS Appendix H, and Chapter 2 Design Criteria and Mitigation as displayed under Transportation, Soils and Water and Fisheries). Documentation of effects of the selected alternative to site productivity are contained in the Project File and the FEIS, Soil Section – pages 3-46 through 3-53)
6. **Be selected to provide the desired effects on water quality and quantity, wildlife and fish habitat, regeneration of desired tree species, forage production, recreation uses, aesthetic values, and other resource yields.** The selected alternative provides the desired effect on the above resources (see FEIS, Chapter 3 Vegetation, direct and indirect effects to Forest Composition). The Standards and Guidelines contained in the Forest Plan are designed to provide the desired effects of management practices on the other resource values.

Alternative F meets or exceeds applicable Standards and Guidelines, as noted under Consistency with Forest Plan in this section. My consideration of these factors is documented throughout Chapters 2 and 3 of the FEIS and the Project File.

- 7. Be practical in terms of transportation and harvesting requirements and total costs of preparation, logging, and administration.** Alternative F is a practical selection as shown in the economic analysis displayed in the FEIS Chapter 3 and supporting documentation in the project file. It is practical because there is reasonable certainty that the proposed timber sales will sell, timber sale contracts will cover the watershed restoration, fuel reduction, planting and other activities specified and that appropriated money will be available where necessary to pay for watershed restoration, sale preparation, road engineering, administration and other costs. The cost of planning has already been covered and the 11.7 miles of road decommissioning required prior to or during road building activities has funding allocated with appropriated dollars. Proposed roads would be constructed and designed to have the least impact. They would be put into long-term storage or fully decommissioned in the case of temporary roads. Roads were identified that were no longer necessary (37.5 miles) for forest access (see maps in ROD, Appendix 1 –Map 1B - Road Management).

Sensitive Species

Federal law and direction applicable to sensitive species include the National Forest Management Act and the Forest Service Manual (2670). The Regional forester has approved the sensitive species list; those plants and animals for which population viability is a concern. In making my decision, I have reviewed the projected effects on all sensitive species listed as possibly occurring on the Idaho Panhandle National Forest (FEIS, Chapter 3, Wildlife-pages 3-159 through 3-176; Plants- pages 178 through 187; Fisheries-pages). I concur with the findings documented for these species (FEIS, Appendix F).

Necessity of Roads

NFMA requires that the necessity of roads be documented and that road construction be designed to “standards appropriate for the intended uses, considering safety, cost of transportation, and impacts on land and resources” (36 CFR 219.27 (1)). NFMA also requires that “all roads are planned and designed to re-establish vegetation cover on the disturbed areas within a reasonable period of time, not to exceed 10 years... unless the road is determined necessary as a permanent addition to the National Forest Transportation System” (36CFR 219.27 (11)). I have decided to decommission 37.5 miles of road and construct 2.0 miles (short term) and 6.8 miles (intermittent) of road. Restoration activities on the 37.5 miles of road were determined to be desirable as the road analysis showed they are not necessary for future management options or fire suppression (See Roads Analysis Process-Project File). Short term (or temporary) roads will be reclaimed after use and will be revegetated within 10 years. Intermittent roads will be put into long-term storage and re-vegetated. Based on these actions and analyses, I believe we have met the intent of the NFMA road requirements.

B. The Clean Water Act And State Water Quality Standards

Beneficial uses in the project area include cold water habitat for fish, macro and micro-invertebrates and associated plant life, recreation use and water rights on private land. These beneficial uses will be maintained through the application of general and site-specific Best Management Practices (BMPs) and other protective design features (FEIS, Chapter 2, Design Criteria and Mitigation).

These include but are not limited to: 1) harvest activities will not occur in RHCA's; 2) new road construction of 7.7 miles (includes cost-share and non cost-share easements that meet Forest Service environmental requirements) will use BMPs to reduce erosion, and will be put into long term storage following harvest, and temporary road construction (2.0 miles) will also use BMPs and will be recontoured following harvest; 3) road reconstruction will address currently poor road drainage and minimize effects on hydrology with gravelling of approximately 11 miles of road; 4) approximately 33% of the units will be harvested using a helicopter; and ground based logging will be restricted to slopes of 35% or less thus measurable effects to peakflows are unlikely; 5) proposed actions will meet INFISH standards and guidelines.

Implementation of the selected alternative will not result in any long term adverse effects on water quality. Beneficial uses will be protected. (see Chapter 3- Water: page 3-72 and Summary of Effects on pages 3-76 through 3-79).

The West Fork and Main Stem of the St. Maries River has been listed by the State of Idaho as Water Quality Limited Segments (WQLS). The analysis indicates that Alternative F would not increase water yield to an extent that it would accelerate channel erosion (FEIS, pages 3-68 –3-69).

The analysis also indicates that the combined and cumulative effects of Alternative F would not degrade water quality with respect to sediment in these segments (FEIS, page 3-74 and Summary Of Effects pages 3-76 through 3-79). The State of Idaho was notified of this project and sent a copy of the DEIS. No comments or concerns were received. The EPA commented on the DEIS in regards to Water Quality Restoration Plans relative to TMDLs (see FEIS, Chapter 4, comment 2-1).

EPA expressed support for the project purpose and need. Responses to the agency's comments (letter #2) are located in the Response to Comments section of the FEIS Chapter 4.

Water quality monitoring (FEIS, Appendix E) includes BMP implementation and effectiveness reviews, which will document the results of the protective measures employed and serve as ongoing monitoring of their effectiveness to protect water quality and downstream beneficial uses.

C. The Endangered Species Act (16 USC 1531 Et Seq.)

As required by the Endangered Species Act, biological assessments were prepared addressing the potential impact to threatened or endangered species utilizing the project area. The analysis concluded that this project would have no effect on water howellia, Spalding's catchfly, bald eagle, Canada lynx or grizzly bear and is not likely to adversely affect the bull trout and is not likely to jeopardize the continued existence of the gray wolf. (FEIS, Appendix F)

A biological assessment was sent to USFWS for determination of concurrence on April 16, 2002. Through informal consultation, the USFWS concurred that the project is not likely to adversely affect the bull trout and is not likely to jeopardize the continued existence of the gray wolf. (Project File)

D. National Historic Preservation Act, American Indian Religious Freedom Act And Native American Grave Protection Act

A project specific inventory of the activity areas will be conducted prior to implementation. If eligible sites are found within an area of potential effect, the project will be redesigned to avoid the site or measures will be designed to mitigate the effect to the project on the site (FEIS, Chapter 2 – Design Criteria and Mitigation- Heritage Resources, page 2-21).

The Coeur d'Alene Tribe received a copy of the DEIS. The tribe made no comments.

E. Compliance With Other Laws, Regulations, And Policies

I have considered the effects of this project on low income and minority populations and concluded that it is consistent with the intent of the Environmental Justice Act of 1994 (EO 12898). Representatives from low income and minority populations were notified of this project through the public participation process and no concerns were identified (see and FEIS, project file). No impacts to minority or low-income populations were identified during scoping and the effects assessment.

IX. Appeal Provisions and Implementation

This decision is subject to appeal pursuant to 36 CFR 215.7. As stated in 36 CFR 214.11, an appeal may be filed by any person or non-Federal organization. A written appeal must be submitted within 45 days after the date of the notice of this decision published in the *Spokesman Review*, Spokane WA. Appeals must be submitted to:

**USDA Forest Service, Northern Region
ATTN: Appeals Deciding Officer (RFO)
P.O. Box 7669
Missoula, MT 59807**

Appeals must meet the content requirements of 36 CFR 214.14. Detailed records of the analysis are available for public review at the St. Joe Ranger District, 222 7th Avenue, St. Maries, Idaho 83861. For more information, contact Kimberly Johnson at the District office at 208-245-6072.

If no appeal is received, implementation may occur on, but not before, five business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 days following the date of appeal disposition.

RANOTTA K. MCNAIR
Forest Supervisor,
Idaho Panhandle National Forests

Date

APPENDIX 1 – Maps

Map 1A – Alternative F – Proposed Harvest and associated road construction and reconstruction, Pre-commercial Thinning, and Access Requests

Map 1B - Alternative F – Road Management

Map 1C – Alternative F – Project Related Opportunities

Please go to the FEIS to view maps:

ROD Map 1A is FEIS Map 14

ROD Map 1B is FEIS Map 15

ROD Map 1C is FEIS Map 4

ROD - APPENDIX 2

Design Features and Mitigation Common to the Action Alternatives

The following is a description of design features and mitigations included to protect resource values. Site-specific design features and their objectives are described in Tables 1, 2, and 3 of this document. The effectiveness of mitigation or design features is based on literature and research, administrative studies, professional experience, results of previous monitoring on other projects, and logic and is referenced or discussed here or in the FEIS, Chapter 3 – Effects Section for the different resources.

Threatened, Endangered, and Sensitive Plants and Wildlife

Plant species presence is assumed for un-surveyed habitat that is highly suitable to support threatened, endangered, sensitive and proposed (TESP) species (see Table 3-42 on page 3-137 of the FEIS, for Wildlife Species Presence). If TESP species were discovered during project implementation, protection measures would be taken. This could include altering management activities. Timber Sale Contract provisions for Protection of Endangered Species, and Settlement for Environmental Cancellation will be included in any subsequent timber sale contracts.

Modifications to alternatives or new locations of any Threatened, Endangered, or Sensitive (TESP) species found prior to or during project implementation would be reported to the District Botanist and District Wildlife Biologist so measures can be taken to maintain population viability.

Field surveys for **rare plants** will be conducted where necessary, prior to project activities, to verify or negate presence. Measures to protect population viability and habitat for all known and newly discovered occurrences would include altering or dropping proposed units from activity, modifying the proposed activity, or implementing buffers around plant occurrences.

The design criteria and mitigation measures listed above for plants and below for wildlife have a high to moderate estimated *effectiveness*. All recommendations and design criteria are based on scientific literature which are referenced in each section. These measures would be implemented through silvicultural prescriptions, unit layout and marking guidelines, contract provisions and compliance monitoring. The district has a TRACKS program that monitors implementation of NEPA projects.

Wildlife

Slash depths next to new and reconstructed roads would not exceed 1.5 feet or if that is not practical, 16-foot wide openings every 200 feet (especially on ridges and across game trail).

To provide elk security, timber sales in adjacent areas would have a ridgeline between the disturbance and security area (see Project File, Leege, 1984). This would be done by either subdivisions (larger sales) or scheduling (smaller sales) in the timber sale contract. Travel cover will be maintained. Vegetation management will avoid making openings (i.e. areas with <30% canopy cover) within 200 feet of the ridge top or 400 feet if the other side if the ridge does not provide cover. Any openings created on ridges designated as potential travel areas would meet the following criteria:

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- less than 300 feet wide,
- Limited to one side of the ridge top
- Minimum of 800 feet between openings
- None to be situated in a saddle
- Less than 25% of the distance from the peak of the ridge to the drainage will consist of openings.

The following snag management recommendations (see Snag Guideline table below) from the Northern Region Snag Management Protocol (January 2000) would be met (where these or higher levels exist). The retention of snags and snag replacements would be applied at the scale of every 5 to 25 acres. Replacement snags would be retained at 5 times the number of snags per acre.

Table – Snag Guidelines

Habitat	Snag/acre retention prescriptions
Warm dry ponderosa pine and Douglas-fir	1-2 greater than 20" dbh
Cool Douglas-fir, warm grand fir, slope <30%	4 greater than 20" dbh
Cool Douglas-fir, warm grand fir, slope >30%	6-12 total, with 2-4 greater than 20" dbh
Cool, wet, and dry spruce, grand fir, hemlock, and alpine fir	6-12 total with 2 greater than 20" dbh
Low elevation cedar and hemlock	12 total with 4 greater than 20" dbh
High elevation spruce/fir/lodgepole pine	5-10 greater than 10" dbh
Whitebark pine/limber pine	All available

To meet the objectives listed in the above table Snag Guidelines:

- Snags that show signs of decay, loose bark, or broken tops would not be designated for harvest. Exceptions would be made for road construction and log landings.
- The Reserve Tree Guide (IPNF, 1995) would be followed to reach objectives of the Snag and Woody Debris Guidelines (IPNF Forest Plan, Appendix X) and worker safety.
- Tree marking guidelines for wildlife reserve trees would favor the retention of large diameter trees, particularly hollow and broomed trees except when they pose a safety concern. Western larch, ponderosa pine, and western red cedar greater than 20 inches dbh would be marked as first choices for snags and reserve trees.
- Snags cut for safety reasons will be left in the unit - preferably where they fall.
- Silvicultural and burning prescriptions will be prepared with the goal of protecting snag and green tree replacement snags, and retaining recommended levels and distribution of coarse woody material during site preparation and fuels treatment.

Excavator piled slash should be left at a rate of one slash pile per 5 acres and constructed to provide wildlife habitat.

Surveys to determine the status of the known goshawk nest-site and Post Fledging Area will be conducted prior to unit layout and implementation of unit activity (see Appendix E- Monitoring).

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Existing goshawk nests and any nests found before and during implementation would be protected by a 30 acre no activity buffer (see Project File, Reynolds, etal. 1992). Project activity would be suspended within the post fledgling area of any active goshawk nests between March 15 and August 15. Activity restrictions can be removed after June 30 if the nest site is determined by the district biologist to be inactive or unsuccessful. Activity within an approximately 420-acre area surrounding each active goshawk nest would comply with the following management recommendations (Reynolds, etal. 1992):

- 20% or less in shrub/seed/sapling size class;
- 60% or more canopy closure in immature and older size classes;
- created openings are less than 2 acres with a minimum of 300 feet between existing or other created openings and snag retention guidelines are applied on each acre of created opening,
- non-regeneration treatment in immature and older stands is thinning from below using irregular spacing of leave trees;

Design criteria specific to pre-commercial thinning:

- The maximum diameter of felled trees would be 7 inches. Cull trees that exceed the diameter limit would be girdled in lieu of felling to provide additional cavity-nesting habitat.
- Snags or dead trees would not be cut.
- Directional felling would be used to minimize slash depths. Trees that cannot be directionally felled would be bucked in lengths not to exceed 6 feet.
- Slash would be pulled back a minimum of four feet away from all system roads, cut banks and fill slopes.
- Established game trails would be kept clear of slash by directional felling and slash pullbacks to maintain travel linkages.
- All slash resulting from project activities would be removed from riparian zones.
- A 50-foot no-activity buffer would be maintained along all wetted defined channels, springs, and seeps within and adjacent to thinning units.
- Existing closed gates would be locked after each entry and exit.
- Activity behind closed gates would be scheduled for completion prior to the opening of the elk any weapon hunting season. An extension may be allowed based on extenuating circumstances (fire, weather, etc.) after interdisciplinary review.
- Earthen barriers removed to allow access for project activities would be replaced upon completion of the unit and before October 10th.
- If access is desired via roads that have naturally closed through revegetation, interdisciplinary field reviews would be conducted to evaluate options and make recommendations regarding opening the road.

Roads

Sediment Control: Road plans and specifications will include measures to minimize sediment production based on site-specific evaluation. This could include, but are not limited to slash filter windrows, surfacing, gravel or slash blankets, interim seeding, mulching, controlling the timing or extent of activities, and sediment traps. *Effectiveness*

is high, because this type work is in the road package, which is a part of the Timber Sale Contract.

New Road Construction: Any new roads would be single lane facilities, suitable for log truck or lowboy use.

Reconstruction: Any existing road used for timber activities could be rebuilt to its approved traffic service level or improved to increase safety, operational efficiency or resource protection. For this document, reconstruction includes rebuilding roads to their original standards.

The overall condition of the road is generally inadequate for resource protection or anticipated use or impassable for the design vehicle.

Spot reconstruction may also occur, where the primary disturbance is confined to a limited area, such as culvert installations, rebuilding a shoulder or addition of turnouts. Areas between the spots generally would need reconditioning (reshaping and processing the road surface and ditches and brushing the shoulders). Most of the reconstruction and reconditioning is actually maintenance (FSM 7705) to restore the road to its' original condition.

Road Maintenance: The ongoing upkeep of a road necessary to retain or restore the road to the approved road management objective. The overall condition and standards of the road are adequate for the anticipated uses.

Cost Share Agreements: The Forest Service has cost share agreements with Potlatch and the State of Idaho in the analysis area. Cost Share principles apply to construction, reconstruction, maintenance and use of shared facilities. Cost Share roads are National Forest System Roads.

Soil and Water

All activities would comply with:

- Standards identified in the Inland Native Fish Strategy (INFS) EA Decision Notice and Finding of No Significant Impact, signed in July 1995. All alternatives will implement the default Riparian Habitat Conservation Areas (RHCA) widths specified by INFish (see table below in Fisheries section). These buffer zones are no entry for harvest and equipment. Exceptions are described in the Standards and Guidelines, General Riparian Area Management (RA-2) that states: Trees may be felled in riparian habitat conservation areas when they pose a safety risk. Keep felled trees on site when needed to meet woody debris objectives. When necessary to fall trees (for skyline/cable units); the sale administrator may approve the minimum number required and ensure that they remain where dropped. (See Project File for description of each InFISH standard and estimated *effectiveness*)
- Objectives of Appendix O of the IPNF Forest Plan, Stream Protection.
- Activities would be designed to protect water quality. Best Management Practices (BMPs) are used to achieve water quality standards. The Forest Service Handbook 2509.22 (Soil and Water Conservation Handbook) outlines BMP's that meet the intent of the water quality protection elements of the Idaho Forest Practices Act, and through a memorandum of understanding with the State of Idaho (9/19/88) replaces the Forest Plan Appendix S – Best

Management Practices. BMP's would be implemented (see Applicable BMPs and Soil and Water Conservation Practices, White Paper, IPNF, 2002). Site-specific BMP's are identified and developed during layout, design or implementation of proposed activities. *Effectiveness* of BMP's are described in Seyedbagheri, 1996, Lynch and Corbett, 1989, 1990 and Idaho's 2000 Forest Practices Water Quality Audit – Final Report, Applicable BMPs and Soil and Water Conservation Practices, White Paper, IPNF, 2002, Best Management Practices Effectiveness Monitoring Report, USDA Forest Service Lolo National Forest, March 2002 (Project File).

- Requirements and Erosion control Guidelines of the Rules and Regulations pertaining to the Idaho Forest Practices Act, Title 18, Chapter 13, Idaho Code.

Areas of recent or historic landslides and slumping are considered landslide-prone and constitute Category 4 – RHCAs (INFish). Harvest and road design would avoid known sites (see project file) using INFish buffers. (Small areas of instability may be found on roads).

Restrict or limit tractor logging on slopes over 35%.

A minimum of 100 feet is suggested between skid trails.

Use of excavated skid trails should be kept to a minimum and reclaimed to original condition.

To minimize disturbance (soil compaction or displacement), practices such as skidding, grapple-piling and mechanical harvesters will occur over slash (Forest Plan Monitoring Reports). Units will be designed to utilize non-excavated skid trails, and directional falling.

To minimize erosion and sediment delivery on skid trails, no skid trails will be constructed on slopes over 30% and all skid trails will be water-barred and seeded after use to comply with Idaho Forest Practices Act (IFPA) Rules (IDL, 1998).

Skid trails in tractor-yarded units will be limited to less than 15% of the unit acreage to comply with Region One Soil Quality Standards.

Decommissioned roads whose management prescription changes to level C, D or E would **at a minimum** remove all culverts, remove all fill within the crossing sites, and return stream gradient and valley side-slopes to natural conditions. Decommissioning would also de-compact road surfaces to a minimum of 18 inches to facilitate and augment infiltration.

Closure at the beginnings of roads may require full obliteration for 300 feet or sight-distance to prevent motorized access.

Prescribed burning plans will be reviewed, by a hydrologist, prior to implementation. Prescribed burning will be done during the spring or when soil moistures exceed 25% to maintain soil productivity (IPNF, Updated Soil Guidelines, 1998). McNabb and Cromack (1990) recommend mass ignition firing techniques to reduce flaming fronts and the smoldering phase to avoid creating water repellency and increasing erosion hazards on surface-ash soils.

The soils in the activity areas are inherently low in potassium, a key nutrient for vegetation. The Intermountain Forest Tree Nutrition Cooperative assembled data suggesting that potassium levels may be conserved in treatment units by allowing logging slash to over-winter. By leaving sufficient levels of wood on site, long-term soil productivity would be protected.

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- Potassium sources such as needles and limbs would be maintained on site by allowing slash to over-winter prior to all slash disposal treatments (Intermountain Forest Tree Nutrition Cooperative- Garrison, Moore, 1998).

Silvicultural and burning prescriptions will retain sufficient levels of coarse woody debris on site **after** slash disposal. The following recommendations will be used in prescriptions:

- Douglas fir, larch, and pine minimum coarse woody residues of 4-6 inches diameters well distributed through a treatment area at 10-15 tons/acre (Harvey et al. 1987).
- Grand fir/beargrass types at 7-14 tons/acre of coarse woody residues (greater than 3 inches diameter), western hemlock/beadlily types at 17-33 tons/acre coarse woody residues (greater than 3 inches diameter)
- Subalpine fir/beargrass types at 12-23 tons/acre coarse woody residues (greater than 3 inches diameter) Graham and others (1994).

Wetlands identified during field review or harvest preparation will be excluded or protected by INFISH buffers (50 feet for those < one acre and 150 feet for those > 150 feet). A resource protection clause in the timber sale contract will be utilized if any are identified.

Fish

INFish Standards and Guidelines are specific based upon the activity being proposed, i.e. timber harvest, road management, recreation etc. Standard buffer widths (summarized in Table below) will apply to activities within this project area unless otherwise designated by the district fisheries biologist or district hydrologist (see Project File for list of specific standards and *effectivness*). These standards are:

Table - Summary of INFish Widths

INFS category	Description	RHCA width
1	Fish bearing streams	300' from either side of channel
2	Permanent, flowing, non fish bearing stream	150' from either side of channel
4	Seasonal, flowing or intermittent streams Wetlands < 1 acres Landslide prone	50' (non-priority watersheds)

- Activity in and around streams should occur during baseflows, after fry emergence and prior to fall spawning of bull trout.
- See Appendix G for clarification of the fry emergence standard.

Recreation

Dispersed recreation sites used for harvest operations activities would be restored or rehabilitated. Contractors will follow timber sale contracts and any other permits required for camping.

In areas where logging traffic may interfere with increased recreational traffic roads will be signed informing visitors of logging activities.

Air Quality

Proposed burning activities follow procedures outlined by the North Idaho Smoke Management Memorandum of Agreement. Currently, the period of air quality monitoring and restriction is March 1 to November 30.

- During this period, all burning by the Forest Service is regulated to prohibit or restrict burning where stagnant weather conditions result in poor smoke dispersion and by conducting prescribed burns when ventilation and air quality conditions are good.
- The project is within Airsheds 12a and 12b, which contain no EPA designated non-attainment areas for pollutants nor does it contain any Class I airsheds as designated by the Clean Air Act.
- Burning during any time of the year is regulated by the Idaho State Department of Environmental Quality, which issues burning closures when necessary to protect air quality. The Forest Service cooperates with the State in meeting the State implementation Plan.
- PM10 and PM2.5 projections will be sent to the North Idaho Smoke Management Group one day prior to ignition.
- A notice to local newspapers prior to burning season will explain to the public when, where and why burning will be conducted.

Measures used to mitigate effects of prescribed burning on air quality would include:

- Broadcast and understory burning would be accomplished as much as practical in the spring and early summer with spring-like conditions. This would reduce the total emissions by burning less of the duff and larger fuels. Spring atmospheric conditions are best for smoke dispersion. Risk of fire escape is also less in the spring.
- The discretion to terminate burns when air quality is threatened.
- Slash piles would be constructed as clean as practical and burned as dry as practical to enhance efficient combustion.

Noxious Weeds

A number of preventative measures will be taken to reduce the risk of noxious weed introduction and spread in accordance with the St. Joe Weed Control EIS (ROD – 10/12/99).

Measures include:

- Existing populations of weeds along haul roads would be treated prior to harvest activities. This would be accomplished by the Forest Service with appropriated funds.
- All off-road logging and construction equipment (including machinery used in restoration projects) would be cleaned prior to entering the project area to remove dirt, plant parts, and material that may carry weed seeds. A provision will be included in the sale contract.

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- Mulching agents, such as hay or straw, would be certified weed free before being allowed.
- All seed used for re-vegetation and erosion control purposes would be certified weed free.
- Areas where ground-disturbing activities have occurred would be inspected for new populations of noxious weeds should funds be available.
- Appropriate action, within funding limitations, would be taken if new populations of noxious weeds were discovered within the project area.

Heritage Resources

All known heritage resource sites would be protected, as directed by the National Historic Preservation Act. Any future discovery of heritage resources sites or caves would be inventoried and protected if found to be of cultural significance. Timber Sale Contract provision (protection of cultural resources) will be included in all timber sale contracts to ensure protection of the sites.

Public Motorized Access/Access Management

At a minimum, the following National Forest System Roads (NFSR) will be managed as unrestricted routes, available for all legal motorized vehicle use (see Road Management Map 13):

- East Elk Road 1451 (Staples Creek), from SH 3 to Road 1491
- Christmas Creek Road 3321, from County Road to the end of road
- Bluebell Road 3685, from segment 1 of Road 1486 to 3685C
- Cat Spur Road 361, from Road 1486 (County Road) to Road 1450
- Log Creek Road 1450, from Road 361 to Road 1480
- Keeler Connection Road 765, from SH 3 to Road 765A
- County Line Road 765A, from Road 765 to SH 3
- Clarkia Emerald Creek Road 504, from SH 3 to Road 447
- Bechtel Mountain Road 3478, from Road 504 to the top of Bechtel Butte
- Anthony Peak Road 1486, segment I, from the Road 361 (County Road) to Road 3685
- Anthony Peak Road 1486, segment III, from Road 3685 to Road 3686

Some roads that are currently restricted would be opened to accommodate timber harvest operations. Public travel will not be permitted on these roads due to safety concerns, wildlife security, and soil and water concerns (see Appendix D for detailed description of access management actions; Alternative Road Maps M-5, M-7 and M-9):

- 504A (Clarkia Peak road) at the junction with Road 504 (gate)
- 498 (Hidden Cr. road) gate at mile post 2.8
- 3380 (Q chalk road) at the junction with state highway 3 (gate)
- 3557 (Cedar Butte road) at the junction with Road 447 (gate)
- 3335(Poacher road) at road to warehouse (Clarkia Workcenter)
- 3327j (Palouse road) at the junction with Road 3327G (gate)

New road construction will have gates installed on the following roads:

- Off of Road 765 (to units 30,31,32)
- Off Powerline Road 361C (to units 27 & 28)

Powerlines

Special concerns for operations near the large transmission lines are discussed below. Timber sale roads would be kept reasonably free of equipment, products, and debris. The Bonneville Power Administration (BPA) may need to have road access for emergencies. In this case "reasonably free" would mean that the road could be cleared within an hour of notice and roads would be left clear and passable when the timber sale purchaser or contractors leave the area for more than an hour at a time.

Logging trucks and equipment should be parked on the right-of-way only during emergencies.

When this occurs, the truck/equipment should be grounded with a flexible wire connecting the chassis to a ground rod driven into the ground, or by making the connection to ground with a drag chain attached to the truck/equipment chassis.

- Where units are planned adjacent to the transmission line right-of-way, timber would be harvested to reduce the risk of blowdown into the powerline. Trees immediately adjacent to or under the powerline would be harvested. If this is not possible, enough timber would be left to maintain wind firmness and reduce the risk of wind-throw into the powerline.
- Haul roads shall remain a minimum of 50 feet from the point where steel lattice tower legs enter the earth. If this clearance cannot be met, use of road may be permitted if adequate protection for BPA structures from vehicles is provided by the use of guard devices (guard rails, posts, Jersey-type barriers, etc.) If guard devices are used, their location and design must be approved by the BPA.
- Yards used near the powerline would be grounded with copper wire attached to a copper rod pounded six to eight feet in the ground. Skyline cables would be grounded as described above at the tailhold.
- Chokers would be allowed to hit the ground before they are touched. Track mounted equipment is recommended near transmission lines to drain off induced voltage. If rubber mounted machines are used, a chain would be dragged behind on the ground to drain off voltage. Maintain a minimum separation of 20 feet between equipment and transmission line conductors.
- No high-lead or skyline yarding across the right-of-way.
- Powerlines sag on warm days or when they are weighed down by snow or heavy frost. Lines that span long distances have greater potential to sag. The distance between equipment and powerline cables in the same place can be different with different conditions. The timber sale prospectus would describe this to potential timber sale bidders.
- Concentrated columns of smoke would be avoided in order to prevent electrical arc. Burning planned within the right-of-way will be discussed with the BPA prior to writing the burn plan.
- No loading of logging trucks, fueling of vehicles or equipment, log decking or storage of logs or flammable materials on the right-of-way
- Logging trucks shall not be loaded to a height greater than 14 feet above the roadbed. If a tree comes in contact with the transmission line, do not attempt

to remove it. Contact BPA Dittmer Dispatcher immediately, 24 hours per day, seven days per week: 360-693-4703 or 800-392-0816.

- For extreme safety hazard trees near the transmission line, and with advance notification, BPA may be able to provide personnel at the work site.
- The right-of-way width for the Dworshak-Taft No. 1 500-kV transmission line is 150 feet, measured 75 feet on each side of transmission line centerline.

Site Specific Mitigation Measures

Tables 1, 2 and 3 describe site-specific mitigation measures and design features common to all the action alternatives (except E, because it has no harvest or road construction).

Table 1- Site-Specific Mitigation Measures And Design Features

Objective	Site-Specific Mitigation Measures And Design Features
Maintain Visual Quality	No grapple piling or underburning in Units 3 and 4; Grapple piling is restricted to the southern portion of unit 5; No grapple piling/underburning between rd.#504 and new road construction in unit 8, 16, and 17
Meet Soil Quality Standards	<p>Unit 48 has proposed ground base logging. To meet standards the timber sale administrator should implement alone or in combination: 1) skid trail spacing at minimum of 100 feet, 2) decompact skid trails and landings. 3) create ½ acre reserve within the unit, where no equipment could operate.</p> <p>Unit 5 is currently over the standard. To prevent further detrimental soil impacts on the four acres proposed for ground based operations: skid trails and landings must be decompact, and equipment must operation on existing skid trails or utilize helicopter harvest methods.</p>
Reduce Sediment Production	Miles of new road construction and reconstruction listed in Table 2-5 below would be surfaced with gravel. These roads are currently needed and are to be maintained. The intent of the treatment is to reduce sediment and minimize the effect of the road on the watershed hydrology.
Maintain Water Quality	11.7 miles of roads will be decommissioned prior to or concurrent with road construction. See Table 2-6 below.

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Table 3– Roads with gravelling to reduce sediment

Watershed	Road No.	Miles	Road Status
Cedar	504A spur	.27	Construction – unit 18, NFS
Cedar	504A spur	1.03	Construction – units 2,3,9,19 - NFS
Cedar	504a spur	.87	Construction - units 7,8,16,17 - NFS
Emerald	3557	1.01	Reconstruction- FRTA
Emerald	3557	2.2	Reconstruction - NFS
Hidden	3478-3914 Bechtel connection	.55	Construction-NFS
Hidden Creek	3901-3343 Bechtel conection	.12	Construction. NFS
Hidden Creek	3478 UB-Bechtel connection	.4	Reconstruction. - NFS
Hidden Creek	3914 UD Bectel Connection.	.11	Reconstruction -NFS
Hidden Creek	3343UB	.29	Reconstruction - NFS
Long Slim	765 B	.74	Construction.- cost share
L. St. Maries	1420- potlatch access	.66	Reconstruction. – cost share
L. St. Maries	1452 - potlatch access	.16	Reconstruction.- Cost share
L. St. Maries	504A spur	.32	Construction NFS – to unit 18
L. St. Maries	361 C	.93	Reconstruction -NFS
L. St. Maries	3321	.11	Construction –Cost Share
Mazie	765-SH-3, NF sale rd	.22	Construction - Cost share
Mazie	765-SH-3 to units 25,30	.45	Construction -NFS
Mazie	765/SH-3	.57	Construction - NFS
W. Fk. St. Maries	361C west	.50	Construction – Cost share
W. Fk. St.	361C west NF sale rd	1.03	Construction -Cost share
TOTAL		12.54	

Table 3- Watershed Restoration to occur prior to or concurrent with Road Construction

Watershed	Road No.	Miles	Road Status
Bechtel	3340	1.16	Long term storage
Bechtel	3340 A	.46	Long term storage
Cedar Creek	3557	.17	Long term storage
Emerald Creek	3556	.60	Long term storage
Hidden Creek	498 UC	.65	Decommission
Hidden Creek	498 UD	.34	Decommission
Hidden Creek	498 UH	.2	Decommission
Hidden Creek	498 UH	.23	Decommission
Hidden Creek	498 UB	.62	Decommission
Hidden Creek	3343 UD	.31	Decommission
Hidden Creek	3343 spurs; UB, UC	.30	Decommission
Hidden Creek	3343	.19	Long term storage
L. St. Maries	3321 AUA	.45	Decommission
L. St. Maries	3321 AUC	.17	Decommission
Lower St. Maries	3321 A	.27	Long term storage
L. St. Maries	3321 BUA	.59	Decommission
Mazie	3340	3.83	Long term storage
W. Fk St. Maries	3340 UB	.36	Decommission
W. Fk. St. Maries	3380	0.16	Decommission
W.Fk. St.Maries	3340	.33	Long term storage
Wood	3340	.33	Long term storage
TOTAL		11.72	

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Alternative F - Vegetation Treatment and *Fuels Reduction Method** Summary

GB=ground base; C-S = cable/skyline; H = helicopter

Unit	Acre	MA	Drainage	Treatment Description And Summary	Existing % Crown Closure	Estimated % Retained Crown Closure	Logging Method
1	39.5	1	Blair Creek Merry Creek	Shelterwood seed cut; retaining a Basal Area of approx. 25-30 sq.ft./ac. <i>Broadcast burn</i>	75	20	C-S/GB
2	29.0	4	W.Fork St. Maries St. Maries River	Shelterwood preparatory cut; retaining a Basal Area of approx. 120-140 sq.ft./ac. There will be a 100' "no treat" buffer between highway and east end of unit. <i>Lopping</i>	70	45-50	C-S
3	33.3	4	St. Maries River	Shelterwood preparatory cut; retaining a Basal Area of approx. 120-140 sq.ft./ac. Openings will be restricted to ≤ 1 acre in size. <i>Grapple pile and Hand pile.</i>	75	45-50	C-S/GB
4	20.5	4	St. Maries River	Shelterwood preparatory cut; retaining a Basal Area of approx. 120-140 sq.ft./ac. Openings will be restricted to ≤ 1 acre in size. <i>Grapple pile</i>	70-75	45-50	C-S/GB
5	19.4	4	St. Maries River	Commercial Thinning; retaining a Basal Area of approx. 120 sq.ft./ac. <i>Grapple pile and Hand pile</i>	65	45-50	C-S/GB
6	15.9	4	St. Maries River	Shelterwood Removal Cut; retaining a Basal Area of approx. 35-40 sq.ft./ac., or approx. 35-45 overstory trees/ac. <i>Lopping.</i>	75	35-40	C-S/GB
7	19.0	1	Cedar Creek	Shelterwood preparatory cut; retaining a Basal Area of approx. 120-140 sq.ft./ac. <i>Grapple pile</i>	75-80	50	C-S/GB
8	22.3	1	Cedar Creek Kitten Cr. (< 1%)	Irregular shelterwood cut; generally CT but will have variable BA retention and openings of up to 1.5-2 tree lengths in size in disease centers. <i>Grapple pile and lopping</i>	75-80	45-50	C-S/GB
10	32.7	4	Cedar Creek	Group Shelterwood Harvest; approx. 1/3 to 1/2 of stand would be in openings of 3-5 acres in size, and remainder of stand would be CT retaining approx. 120-140 sq.ft./ac. BA <i>Grapple Pile and Broadcast burn</i>	75-85	45	H
11	10.4	4	Cedar creek	Group Shelterwood Harvest; approx. 1/3 to 1/2 of stand would be in openings of 3-5 acres in size, and remainder of stand would be CT retaining approx. 120-140 sq.ft./ac. BA. <i>Grapple pile and Broadcast burn</i>	75-85	45-50	H
12	10.3	4	Cedar Creek	Commercial Thinning; retaining a Basal Area of approx. 100 sq.ft./ac. <i>Grapple pile</i>	70-75	45-50	H
13	35.6	4	Cedar Creek	Commercial Thinning; retaining a Basal Area of approx. 120-140 sq.ft./ac. <i>Grapple pile</i>	65-70	45-50	H

Unit	Acre	MA	Drainage	Treatment Description And Summary	Existing % Crown Closure	Estimated % Retained Crown Closure	Logging Method
14	14.8	4	Cedar creek	Commercial Thinning; retaining a Basal Area of approx. 140 sq.ft./ac. <i>Grapple pile</i>	80-85	45-50	C-S/H
15	29.4	4	Cedar Creek	Commercial Thinning; retaining a Basal Area of approx. 120-140 sq.ft./ac. <i>Grapple pile</i>	85-90	50-55	H
16	109. 6	1	Cedar creek Kitten Creek (<1%)	Commercial Thinning; retaining a Basal Area of approx. 140 sq.ft./ac <i>Grapple pile and lopping.</i>	85-90	50-55	C-S/GB
17	120. 4	1	Cedar Creek Kitten Creek (<1%)	Commercial Thinning; retaining a Basal Area of approx. 120-140 sq.ft./ac <i>Grapple pile and Lopping.</i>	75-80	50-55	C-S/GB
18	37.0	1	St. Maries River (4)	Commercial Thinning; retaining a Basal Area of approx. 120-140 sq.ft./ac. <i>Grapple pile and Lopping.</i>	75-80	50-55	C-S/GB
20	13.6	4	Cedar Creek	Clearcut w/reserves; removing approx. 90-95% of existing Basal Area. <i>Broadcast burn</i>	65-70	5	H
21	5.8	4	Cedar Creek	Clearcut w/reserves; removing approx. 90-95% of existing Basal Area. <i>Broadcast burn</i>	65-70	5	H
24	11.4	1	W.Fork St. Maries	Clearcut w/reserves; removing approx. 90-95% of existing Basal Area. <i>Broadcast burn</i>	70-75	5	C-S
25	15.8	1	W.Fork St. Maries	Shelterwood Preparatory Cut; retaining a Basal Area of approx. 100-120 sq.ft./ac. <i>Lopping</i>	65	50	H
26	21.9	1	W.Fork St. Maries	Shelterwood Preparatory Cut; retaining a Basal Area of approx. 120-140 sq.ft./ac. <i>Lopping and Hand pile</i>	75-80	45-50	H
27	19.2	1	W. Fork St. Maries	Shelterwood Preparatory Cut; retaining a Basal Area of approx. 120-140 sq.ft./ac. Openings restricted to ≤ 1.5 acres in size. <i>Grapple pile</i>	75-80	50	C-S/GB
28	28.1	4	W. Fork St. Maries	Shelterwood Preparatory Cut; retaining a Basal Area of approx. 120-140 sq.ft./ac. and openings restricted to ≤ 1 acre in size <i>Lopping.</i>	80-85	50	C-S
29	10.5	1 & 4	W. Fork St. Maries	Shelterwood Preparatory Cut; retaining a Basal Area of approx. 120-140 sq.ft./ac. and openings restricted to ≤ 1.5 acre in size <i>Hand pile</i>	80	50	H
30	130. 7	1 & 4	West Fk St. Maries 50%) Mazie Creek (50%)	Commercial Thinning; retaining a Basal Area of approx. 120-140 sq.ft./acre and feathering 2 tree lengths width along north and west boundary. <i>Grapple pile</i>	70-75	50-55	GB/C- S/H
31	15.2	1	W. Fork St. Maries Mazie Creek	Commercial Thinning; retaining a Basal Area of approx. 120 sq.ft./ac. <i>Grapple pile</i>	70	50-55	GB/C-S

Unit	Acre	MA	Drainage	Treatment Description And Summary	Existing % Crown Closure	Estimated % Retained Crown Closure	Logging Method
32	10.9	1	Mazie Creek	Clearcut w/reserves; removing approx. 90-95% of existing Basal Area <i>Broadcast burn</i>	65	5	GB/C-S
33	9.4	4	Hidden Creek	Shelterwood Preparatory Cut; retaining a Basal area of approx. 120-140 sq.ft./ac. and openings restricted to ≤ 1 acre in size <i>Jackpot burn</i>	80-85	50-55	C-S/GB
34	18.3	4	Hidden Creek	Commercial Thinning; retaining a Basal Area of approx. 90-100 w/ ave. spacing of 20-21 ft, openings restricted to ≤ 1 acres and feathering 100' strip along southern boundary. <i>Grapple pile</i>	70-75	50-55	C-S/GB
35	15.4	4	Hidden Creek Wood Cr	Group Shelterwood Harvest; approx. 1/3 to 1/2 of stand would be in openings of ≤ 3 acres in size AND feather edges for 50' to soften edge appearance; remainder of stand would be CT retaining approx. 120-140 sq.ft./ac. BA <i>Jackpot burn</i>	65-70	45	H/GB
36	9.9	4	Wood Cr	Commercial Thinning; retaining a Basal Area of approx. 120-140 sq.ft./ac. <i>Grapple pile</i>	70-75	50-55	GB/C-S
37	20.6	4	Hdden Cr Wood Cr	Commercial Thinning; retaining a Basal Area of approx. 120 sq.ft./ac. <i>Grapple pile</i>	80-85	50-55	H
38	38.4	4	Hidden Cr	Commercial Thinning; retaining a Basal Area of approx. 110-120 sq.ft./ac., openings restricted to ≤ 1 acre in size, feather approx. 100' along southern boundary. <i>Grapple pile</i>	75	50	GB/C-S
39	22.2	4	Hidden cr	Commercial Thinning; retaining a Basal Area of approx. 140 sq.ft./ac. <i>Lopping</i>	75-80	50-55	H
40	6.1	4	W. Fork St. Maries	Commercial Thinning; retaining a Basal Area of approx. 140 sq.ft./acr., openings restricted to ≤ 2 acres in size, irregular density. <i>Grapple pile</i>	80-85	50	H
41	46.6	4	Hidden Creek (50%) West Fk St. Maries (50%)	Commercial Thinning; retaining a Basal Area of approx. 120-140 sq.ft./ac., irregular density, 200' no treat buffer along southern edge next to highway, 50-75 foot feathering along no treat buffer. <i>Grapple pile and Hand pile.</i>	80	50-55	H
42	5.7	4	Hidden Cr	Commercial Thinning; retaining a Basal Area of approx. 140 sq.ft./ac., 200' no treat buffer along southern & eastern edge next to highway, 50-75 foot feathering along the no treat buffer. <i>Grapple pile.</i>	85-90	50-55	H
43	11.7	4	Hidden Cr	Commercial Thinning; retaining a Basal Area of approx. 120-140 sq.ft./ac. <i>Grapple pile.</i>	80	45-50	H
44	22.6	4	Hidden Cr W. Fork St. Maries	Commercial Thinning; retaining a Basal Area of approx. 120 sq.ft./ac., 200' no treat area along highway at northwest bdy. and 50-75' feathering along this unit edge. <i>Grapple pile</i>	75	50-55	H

Unit	Acre	MA	Drainage	Treatment Description And Summary	Existing % Crown Closure	Estimated % Retained Crown Closure	Logging Method
45	9.0	4	W. Fork St. Maries	Commercial Thinning; retaining a Basal Area of approx. 120-140 sq.ft./ac., 50-75' feathering along the northern boundary. <i>Grapple pile</i>	75-80	50-55	H/C-S
46	17.5	4	Hidden Cr	Clearcut w/reserves; removing approx. 90-95% of current basal area. <i>Broadcast burn</i>	65-70	5	C-S
47	30.8	4	Hidden Cr	Clearcut w/reserves; removing approx. 90-95% of current basal area. <i>Broadcast burn</i>	75	5	C-S/GB
48	13.8	4	W. Fork St. Maries	Clearcut w/reserves; removing approx. 90-95% of current basal area. <i>Broadcast burn</i>	75-80	5	GB
49	73.9	1	Keeler Creek	Commercial Thinning; retaining a Basal Area of approx. 120-140 sq.ft./ac. <i>Grapple pile.</i>	80	50	H
50	11.5	1	Keeler Creek	Commercial Thinning, retaining a Basal Area of approx. 120- 140 sq.ft./ac. <i>Hand pile.</i>	80-85	50-55	H
51	16.4	1	Keeler Creek	Commercial Thinning, retaining a Basal Area of approx. 120- 140 sq.ft./ac <i>Hand pile.</i>	85	50-55	H

* Acres for each fuels reduction method by unit are in the Project File – Hidden Cedar Fuels Treatment.