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Cooney McKay Forest Health and Fuels Reduction Project

Record of Decision

Swan Lake Ranger District
Flathead National Forest
Lake and Missoula Counties, Montana

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April 2008

Lead Agency: USDA Forest Service

Responsible Official: Cathy Barbouletos
Forest Supervisor

For Further Information, Contact:

Steve Brady, District Ranger
Swan Lake Ranger District
Flathead National Forest
200 Ranger Station Road
Bigfork, MT 59911 (406) 837-7501

OR

Joleen Dunham, Project Leader
Swan Lake Ranger District
Flathead National Forest
200 Ranger Station Road
Bigfork, MT 59911 (406) 837-7510

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Flathead National Forest
1935 3rd Avenue East
Kalispell, MT 59901
(406) 758-5200

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Cooney McKay Forest Health and Fuels Reduction Project

Record of Decision

I. SUMMARY OF DECISION

After careful consideration of the potential impacts of the management activities analyzed and documented in the Cooney McKay Draft Environmental Impact Statement (DEIS) issued December of 2007, I have decided to implement **Alternative 3 with Modifications**.

The decision implements vegetation treatments from the DEIS Alternative 3 with some changes. I dropped four units from the decision because of wildlife habitat concerns and in response to public comments.

A summary of the actions in my decision include:

- Mechanical harvest treatments on an estimated **751 acres** removing commercial products totaling an estimated volume of **3.2 million board feet** (MMBF). Materials that may be removed include sawlogs, posts, poles, pulp, and chips. Treatments will occur using hand, cable, tractor, and forwarder logging systems.
- Mechanical treatment of **105 acres** of immature forest with the Pre-Commercial Thinning prescription using hand chainsaw.
- Ecosystem Burning on an estimated **1,805 acres** of upper elevation forest and shrub land stands, using aerial and hand ignition methods.
- Hand planting of **79 acres** of western larch and ponderosa pine after commercial harvest.
- Restoration planting of **48 acres** of western larch and ponderosa pine on sites of previous harvest and gravel extraction.
- Thinning overstocked small diameter lodgepole pine stands totaling **81 acres** using a Thin-From-Below Commercial treatment.
- Treatment of an estimated **497 acres** in the Wildland Urban Interface (WUI).
- Application of Best Management Practices (BMPs – Appendix 4) on all temporary roads constructed, roads temporarily opened, as well as all system haul roads as requirements of the timber sale. An estimated **19.8 miles** of system haul roads will have BMPs applied to reduce sediment yields.
- Construction of an estimated **1.25 miles** of temporary road in order to implement prescriptions requiring mechanized treatment and to provide for product removal. These roads will be reclaimed following their use.

- Implementation of project-specific Design Criteria (Appendix 2) and monitoring actions (Appendix 3).
- Implementation of Terms and Conditions from the Fish and Wildlife Service Biological Opinion for bull trout. These terms and conditions apply to ecosystem burning of burn Units 1 and 2 in Cooney Creek.
- Management actions are described in detail in Section VII (Decision) and in Appendix 2 (Design Criteria of the Selected Action) of this document. My decision authorizes mechanical and non-mechanical treatments of forest stands to restore forest health, reduce the intensity and severity of future wildland fires, and provide commercial and personal-use wood products for the local communities. This decision also authorizes implementation of the Resource Enhancement Projects listed in Section D of Appendix 1 (Appendix 1, page 7).

II. PROJECT AREA

The Cooney McKay Project Area is located in the Swan Valley near Condon, Montana. The project area stretches from the Swan Mountain Range to the east, Highway 83 to the west, Cooney/Rumble Creek Divide to the south, and Lion/Meadow Creek Divide to the north. National Forest System (NFS) lands occupy 21,800 acres of the project area (57 percent); Plum Creek Timber Company (PCTC) owns about 10,068 acres (27 percent); and other private landowners own about 6,163 acres (16 percent). Elevation within the project area ranges from 3400 feet along the Swan River to nearly 8900 feet near Cooney Mountain on the Swan Crest (See Map 1 displaying the Cooney McKay Project Area).

Ponderosa pine, western larch, Douglas-fir, lodgepole pine, subalpine fir, and spruce are the major tree species inhabiting the project area. The legal locations for project activities include T20N R16W Sections 4, 5, and 6; T20N R17W Section 1; T21N R16W Sections 3 thru 10, 14 thru 36; T21N R17W Sections 1 through 3, 10 through 15, 23 through 26, 35, and 36; T22N R16W Sections 19 through 21 and 27 through 34; T22N R17W Sections 20 through 28 and 33 through 36; Principal Montana Meridian, Flathead County, Montana.

The majority of the mechanical fuel treats in the project area lies within the Wildland Urban Interface (WUI), the highest priority area for hazardous fuels treatment in the National Fire Plan and is within the WUI described by the Seeley Swan Fire Plan.

III. PURPOSE AND NEED FOR ACTION

The need for the Cooney McKay Project derives from the differences between desired landscape conditions and current conditions related to forest health, fuels, and forest products on NFS lands. Several plans and other regulations also provide context to the management direction for these lands. These include the:

- National Fire Plan,
- Seeley Swan Fire Plan,
- Healthy Forests Restoration Act, and
- Flathead National Forest Land and Resource Management Plan (Forest Plan).

The Purpose and Need for Action is discussed in detail on pages 1-1 to 1-8 of the DEIS.

Based upon the existing condition of the project area, the Swan Lake Ranger District Interdisciplinary (ID) Team and I identified the following management activities to restore desirable vegetative conditions:

Forest Health

- Improve and/or maintain the general health, resiliency, and sustainability of forest vegetative communities;
- Reduce the growing risk for insects and chronic disease infestation.

Hazardous Fuels Reduction

- Reduce forest fuels buildup adjacent to public and private lands;
- Provide for a safer environment for the public and firefighters should a wildfire occur within the proposed treatment areas;
- Increase the probability of stopping wildfires on National Forest System (NFS) lands before they burn onto private lands.

Provide Commercial and Personal-Use Wood Products for the Local Communities

IV. PUBLIC INVOLVEMENT

Public participation helps the Forest Service identify concerns with possible effects of its proposals. It is also a means of disclosing to the public the nature and consequences of actions proposed for NFS lands.

A public involvement strategy was developed to ensure that potentially interested members of the public and other government agencies received timely information about the upcoming analysis so they would be able to participate in the process (Project File Exhibit A-2a). The Forest Service developed a list of public individuals, organizations, and agencies that would likely be interested in the Cooney McKay Project. This includes members of the public within these general categories:

- Adjacent landowners
- County governments
- Advocacy or user-group organizations
- Tribal governments
- Adjacent Ranger Districts
- Other Federal agencies
- Montana State agencies
- Timber industry groups
- Local news media

A Notice of Intent to prepare an EIS was published in the December 22, 2006 (Volume 71, Number 246) edition of the Federal Register. On January 16, 2007, an information flyer, along with a cover letter, explaining the Cooney McKay Project was mailed out (Project File Exhibit B-3). This information sheet, along with a proposed action map, went to approximately 125 individuals, other agencies, and groups. Additionally, individual meetings with interested individuals took place on the field and in the office.

A Request for Comments was published in the *Daily Inter Lake*, the newspaper of record, on February 13, 2007. In addition, the Cooney McKay Forest Health and Fuels Reduction Project appeared in the October 1, 2006; January 1, 2007; April 1, 2007; July 1, 2007; October 1, 2007, and January 1, 2008, editions of the USDA Forest Service's Schedule of Proposed Actions (SOPA). This listing informed the public of our plan to analyze the Cooney McKay Area for various land management activities. The SOPA list is displayed nationally and locally on the internet sites located at the Forest Service's Washington Office and the Flathead National Forest.

The Swan Lake Ranger District received 6 comment letters or electronic responses from the public on the proposal. Some of the responses to the proposed action cited scientific literature and requested the Interdisciplinary (ID) Team to consider this research. An attempt was made to locate and review this literature if ID Team members were not already familiar with the research referenced and provide it to Team Specialists. The results of this literature search is provided in Project File Exhibit D-4.

Participation with the Salish and Kootenai Tribe was conducted during quarterly meetings between Tribal Representatives and the Flathead National Forest Heritage Resource Specialists. The Tribe did not express any concerns with this project.

Using the comments received on the proposed action, the ID Team developed a list of issues to address. These issues are discussed in the next section of this document.

Additionally, the Swan Lake District conducted a public field tour of the project area on June 19, 2007. Public input during this field tour and additional field reconnaissance subsequent to the field tours resulted in five units, originally proposed for Seed Tree Treatments, being dropped from all alternatives based on their existing old growth characteristics. These stands are not dominated by dry site larch or ponderosa pine, and contain a high proportion of moist site species, such as grand-fir and Douglas-fir, with sufficient size, and in sufficient numbers, to be considered old growth. For these reasons, these units were dropped from consideration under the action alternatives. Eleven people from the public attended; including private landowners, representatives from environmental organizations, representatives from the Swan Ecosystem Center, and representatives from Northwest Connections.

The DEIS was published in the Federal Register and made available for public comment on December 14, 2007, with a 45-day comment period. Letters and copies of the DEIS were sent to the mailing list informing them of the availability of the DEIS. In addition, the DEIS was made available on the Flathead National Forest's website at http://fs.fed.us/r1/flathead/nepa/nepa.htm. A Legal Notice was published in *The Daily Inter Lake* on December 16, 2007, announcing the availability of the DEIS. We received 14 letters commenting on the DEIS. These comments from the public and our responses are included in Chapter 4 of the FEIS. I considered these comments in my decision and used them to help shape the Selected Alternative.

In arriving at a decision for this project, I recognized that I would not be able to satisfy all public concerns, as many of them are mutually exclusive. I made a decision that is based upon sound analytical and ecological principles and that I feel appropriately balances concerns expressed while striving to meet the purpose and need of the project.

V. ISSUES

The ID Team reviewed and compiled a list of potential issues based upon comments from the public, organizations, and government agencies. These issues were then evaluated against the following criteria to determine the appropriate methodology for resolution:

- Is the issue relevant to, and within the scope of the Purpose and Need, the decisions being made, and does it pertain directly to the Proposed Action?
- Is the issue already decided by law, regulation, or existing plans, or not supported by scientific or factual evidence?
- Could the issue be resolved through design and location of activities in the Proposed Action or mitigated by avoiding the impact by not taking action, minimizing the impact by limiting the action, rectifying the impact by rehabilitation, reducing the impact by maintenance, or compensating for the impact by replacement?

Issues representing an unresolved conflict with the Proposed Action were been brought forward as "Major Issues" and were used to help formulate the alternatives to the Proposed Action. Project File Exhibit D-2 provides a detailed description of the issues identified during the scoping process and describes how those issues were accounted for during the analysis process.

Key Issues Used For Alternative Development

During the issues content analysis and disposition process, the ID Team and District Ranger identified the following two "key" issues, for which action alternatives were developed.

A. Activities in Old Growth

There was a concern that the proposed actions would be harmful to old growth forest habitats. Examples of concerns expressed about the Proposed Action's impact on old growth forest and associated wildlife follow:

- For viability to be insured, the FS must maintain enough old growth habitat for decades to come on the Flathead National Forest. We have no reason to believe anything other than logging the proposed areas will reduce soil productivity, reduce their natural qualities, reduce their habitat for wildlife, and reduce their resiliency to subsequent disturbance, such as fire.
- Old growth forests are scarce in this area due to the checkerboard ownership. How much old growth is there in the Project Area? How connected is it? What old growth dependent wildlife are using it? Why are mature forests the focus of treatments?
- A range of alternatives needs to be developed. This should include an alternative that does not log in old growth forest habitat.

B. White-tailed Deer Winter Range

There was a concern that the proposed actions could reduce the amount of winter range cover available to big game. An example of concerns expressed about the Proposed Action's impact on big game winter range (MA 9) follows:

- I would strongly oppose any plan that will reduce protection for wildlife habitat.
- I would like to see adequate connectivity retained as a lot of the ponderosa pine stands are in winter range. Any thinning should leave scattered, thick patches for wildlife cover and connectivity.
- Thinning could break up hiding cover, travel corridors for sensitive wildlife.
- How much whitetail deer thermal cover is in the Project Area? The Meadow Smith Project reduced thermal cover to below Forest Plan thresholds. Thermal cover must be retained or increased.

VI. BRIEF DESCRIPTION OF ALTERNATIVES

This section describes and compares the alternatives considered by the Forest Service for the Cooney McKay Project. The ID Team grouped the alternatives into two categories: A) Alternatives Considered in Detail and B) Alternatives Considered but Eliminated from Detailed Study.

A. Alternatives Considered in Detail

The DEIS considered the Proposed Action (Alternative 2) and two alternatives in detail, Alternatives 3 and 4. Alternative 1, the No Action Alternative required by the National Environmental Policy Act (NEPA), served as a baseline to compare action alternatives.

ALTERNATIVE 1 – NO ACTION

This alternative represents the existing condition in the Cooney McKay Project Area. Under this alternative, none of the activities proposed for the Cooney McKay Project would occur. No vegetative treatments, fuel reduction activities, temporary road and access management, ecosystem burning, or other activities associated with the Proposed Action would occur at this time. Ongoing activities such as recreation, public firewood gathering, fire suppression, and normal road maintenance would continue. Activities identified in Chapter 3 as current and foreseeable actions would occur.

ALTERNATIVE 2 – PROPOSED ACTION

Intent: Alternative 2 was developed to respond to the Purpose and Need for the Cooney McKay Project.

The Proposed Action focuses on improving forest health and reducing hazardous fuel buildup in the Cooney McKay Project Area by using various vegetative treatments, both commercial and non–commercial. Features associated with this alternative include the following:

- Treatments that would remove commercial products, including sawlogs, post and poles, pulp, and chips on a total of **921 acres.**
- Intermediate harvest treatments in stands possessing old growth attributes removing primarily lodgepole pine and Douglas-fir to sustain the health and vigor of western larch and ponderosa pine totaling **119 acres** in Units 18-97, Unit 18-95, 25-07, 25-72, and 30-11.
- Treatments on **672 acres** in the WUI.
- Road Maintenance to meet BMPs standards on approximately **20.9 miles** of haul roads as required for the Timber Sale Contract.
- An estimated **1.25 miles** of temporary road construction to access harvest units.

ALTERNATIVE 3

Intent: Alternative 3 was developed to address Issue #1, Old Growth.

Under Alternative 3, no treatments would be proposed in old growth forest habitat. This alternative was developed based upon concerns from the public that treatments within old growth stands could destroy old growth attributes and adversely impact wildlife species associated with old growth communities. Features associated with this alternative include the following:

- **No treatments** in stands possessing old growth attributes. Units 18-97, 18-95, 25-7, 25-72, and 30-11, totaling 119 acres would be dropped.
- Treatments would remove commercial products including sawlogs, post and poles, pulp, and chips on a total of **802 acres.**
- Treatments on **589 acres** in the WUI.

- Road maintenance to meet BMP standards on approximately **20.1** miles of haul roads as required for theTimber Sale Contract.
- An estimated **1.25 miles** of temporary road construction to access harvest units.

ALTERNATIVE 4

Intent: Alternative 4 was developed to address the Issue #2, White-tailed Winter Range.

Alternative 4 was developed in detail to address concerns that vegetative treatments in MA 9 could result in loss of existing white-tailed deer winter habitat. Features associated with this alternative include the following:

- Dropping Seed Tree Units within NFS lands designated as MA 9 in the Forest Plan (Units 26-20, 26-20a, 26-85, 26-91, 30-56, and 8-8).
- Treatments that would remove commercial products including sawlogs, post and poles, pulp, and chips on a total of **845 acres.**
- Intermediate harvest treatments in stands possessing old growth attributes removing lodgepole pine and Douglas-fir to sustain the health and vigor of western larch and ponderosa pine totaling **119 acres** in Units 18-95, 18-97, 25-07, 25-72, and 30-11.
- Treatments on **609 acres** in the WUI.
- Road Maintenance to meet BMP standards on approximately **17.9 miles** of haul roads as required for the Timber Sale Contract.
- An estimated **1.0 mile** of temporary road construction to access harvest units.

B. Alternatives Considered but Eliminated in Detailed Study

This section discusses four alternatives that were considered, but not given detailed study. These alternatives were initially proposed to address issues identified during the public scoping and ID Team process, but were not considered further for the reasons explained in the following narrative.

TREATMENT OF DOUGLAS-FIR ROOT ROT STANDS ON MID SLOPES

One alternative not considered in detail would have included treatment of approximately 750 acres of mature Douglas-fir on mid slopes with the Project Area. This alternative was dropped from consideration due to the inability to treat these stands and maintain the visual characteristics of the upper slopes. These stands, located on the mid and upper slopes of the Swan Face, have moderate to high levels of root rot in the Douglas-fir, the dominant species on the hillside. The only feasible treatment to minimize future impacts from the root rot would be regeneration harvesting and species conversion to ponderosa pine and western larch, species that are less susceptible to this disease. Regeneration harvesting would not meet visual objectives, and would create large, man-made openings that would be highly visible from the valley and highway. In addition, significant portions of the mid- to upper-elevation slopes on the east side of the Project Area are in Forest Plan management areas that are not within the suitable timber base and are within an inventoried roadless area.

An alternative, which considered timber harvest, was considered in these areas, but since it was not compatible with visual, Forest Plan management, and roadless considerations, the alternative was not fully developed.

TREATMENT OF WETTER SITE OLD GROWTH

Approximately 943 acres of Douglas-fir stands were considered for treatment, but were not carried forward due to the existing old growth characteristics common to wetter sites. These stands have existing root rot, contributing towards snags and large down woody material, and multiple canopy layers more common in these habitat types.

Regeneration Harvest in Winter Range: Approximately 750 acres were originally identified for regeneration harvest to increase the presence of western larch and ponderosa pine within the analysis area. These treatments were not considered in detail due to the amount of thermal cover reduction that would occur.

Management Actions only in the Community Protection Zone: One organization suggested that we only treat fuels in forest stands within several hundred yards of homes, an approach advocated in a recent paper on the subject of community protection from wildland fire (Nowicki 2002). The suggestion to limit the project to treatments within a few tens of meters to less than 400 meters from homes was not considered in detail for the following reasons:

- Treating only near individual home sites on a limited basis does not fully meet the intent of breaking up fuel continuity generally within the Project Area to allow firefighters to more safely, tactically, and strategically address a fire in the interface area. Such an alternative would limit the ability of fire fighting efforts to more effectively and safely fight a fire in the area as a whole.

- Such an approach would leave significant areas of fuel buildup and dense canopies with ladder fuels within the WUI. As described above, leaving such stand conditions untreated would limit options that firefighters would have for safely stopping a moving fire within the interface area, and would leave many areas where crown fire potential could have been reduced within the urban interface untreated. Bypassing the opportunity to treat such areas would not be consistent with the purpose of the project.

- Research has determined that treatments intended to reduce fuels around communities at risk, rather than individual structures, need to go beyond the home ignition zone (Graham, 2004). While individual home-by-home treatments can help reduce the risk of loss of individual homes, relying solely on such treatments would forego strategic opportunities for controlling fires within this WUI.

- Limiting treatments to a smaller area immediately adjacent to homes or structures would only allow for a small subset of the interface area to be treated in the Project Area. In addition, it would not meet the broader purpose of the proposal in treating fuels in the WUI.

- The proposed fuel reduction treatments are consistent with management actions recommended in the Seeley-Swan Fire Plan (2004) for defensible space around individual homes, reduction of fuels at the neighborhood or subdivision level, and the thinning and biomass removal in the landscape adjacent to WUI to help limit wildfire intensity and rate of spread (Project File Exhibit Q-9).

- An alternative limited to treatment solely within close proximity to homes also would not meet the Purpose and Need to improve and/or maintain the general forest, resiliency and sustainability of stands within the Project Area. Such an alternative would focus solely on fuel reduction in the immediate vicinity of homes. The Purpose and Need of this project is not limited solely to fuel reduction. This alternative would not address broader forest health and stand conditions, which are an intrinsic part of the Purpose and Need of this project.

VII. DECISION

As the Responsible Official for the Flathead National Forest, I have selected **Alternative 3 with Modifications**. My decision modifies Alternative 3 by incorporating the changes listed below. Adjustments have been made to Alternative 3, such as decreasing the sizes of two ecosystem burn units and timing these burns to occur in different years (originally included in Alternative 3) in response to formal consultation with the U.S. Fish and Wildlife Service (FWS) and public comment. In addition, Alternative 3 has been modified by deferring 4 units (located in Sections 4 and 34 in Cooney Creek) based on input from the Montana Department of Fish Wildlife and Parks (MDFWP) (See Appendix F in Chapter 4 of this FEIS for comments received on the DEIS and our agency's responses to those comments). Appendix 1 of this ROD contains a detailed description of the features of the Selected Alternative.

As compared to Alternative 3, **Alternative 3 - Modified** does the following:

- Defers treatment of **Units 34-178, 34-180, 4-86, 4-186** due to winter range concerns for white-tailed deer. The area on NFS lands where these units are located have provided important habitat for deer over past years due to the increased land development and clearing of private land in lower elevations of the Project Area. By not treating these units, disturbance to white-tailed deer is reduced and habitat is provided adjacent to private lands where deer have been displaced from traditional winter range. This meets the public concerns expressed by MDFWP while retaining Units 4-185 and 4-182, which adjoin private property, to help meet the Purpose and Need of the project relative to fuel reduction (See Appendix F for the comments received from MDFWP).

- Applies a 300-foot width no burn buffer between the active stream channel in upper Cooney Creek and the toe of the Ecosystem Burn Units, Cooney Creek #1 and Cooney Creek #2. As a result of these buffers, the size of Cooney Creek #1 is reduced from 326 acres to **312 acres** and the size of Cooney Creek #2 changes from 380 acres to **366 acres.** Additionally these two units will be burned in different years to further reduce the potential for impact to bull trout. These changes were in response from the FWS's Biological Opinion (BO) to minimize the impact of any incidental take that might otherwise result from selected activities. With implementation of this measure, in addition to other terms and conditions listed in Appendix 5 of this document, the FWS expects that incidental take of bull trout due to implementation of these two burns that would result from changes in stream channel characteristics associated with increases in sediment and modifications of instream habitat features for the life of the project will be negligible.

- Resource Enhancement #5 to replace a culvert with a larger culvert on the North Fork of Rumble Creek to provide fish passage will be deferred. This culvert was listed as an enhancement project because it had a small drop, which was modeled to be a total barrier to brook trout based on data gathered a few years ago. Based on a field visit to the site with the private landowner after receiving their comment on the DEIS, it was determined that the culvert is properly sized and fully functional relative to BMP standards. However, it was found to have a small drop, which the District Fish Biologist thinks may still represent at least a partial barrier to immature brook trout. It would take more fieldwork to verify this conclusion. Neighbors have observed fish above and below the culvert. Input from the neighbors also revealed that domestic water is taken directly downstream on private land and would likely receive short-term disturbance during culvert removal. Based on field inspection, the culvert still has a useful life and does not constitute a BMP issue in its present state. For these reasons, the culvert will not be replaced at this time.

- Slash disposal will be done by mechanical and or chipping equipment in **Units 4-182 and 4-185.** Utilization of slash in lieu of burning will be prioritized throughout the project, but on these specific units, input from some of the immediate neighbors expressed a strong preference for options that did not require burning. Since the terrain and prescriptions combine to make this feasible, the prescription will be modified as shown above.

Following my review of the ID Team's assessment of **Alternative 3-Modified**, I have determined that the changes are minor, consistently result in the same or lesser environmental impact than that disclosed under Alternative 3, and are within the scope and context of the environmental effects disclosed in the DEIS, Biological Assessments (BA), Biological Evaluation (BE), and supporting documentation.

I entered into formal consultation with the FWS during the planning process for this project because of the potential effects that could result from project implementation on threatened and endangered fish populations or habitat. As a result of this consultation, the FWS provided us a BO dated January 7, 2008, and a modification of the BO dated February 19, 2008, for bull trout. I have incorporated the terms and conditions (ROD - Appendix 5) from this BO and the modified BO into this decision.

I have also incorporated into my decision project Design Criteria (ROD – Appendix 2), Monitoring Plan (ROD - Appendix 3), and Best Management Practices (ROD - Appendix 4).

VIII. RATIONALE FOR THE DECISION

In selecting **Alternative 3 – Modified**, I have determined that my decision is consistent with all laws, regulations, and agency policy. I have considered the potential cumulative effects and reasonably foreseeable activities. I believe that my decision provides the best balance of management activities to respond to the Purpose and Need, issues, and public comments while complying with all applicable laws and regulations. My decision needed to balance public interests and ecological desired conditions such as managing forest vegetation to provide for a diverse and healthy ecosystem; reducing the threat of wildfire to private lands; meeting threatened, endangered, sensitive plant and animal habitat needs; reducing water quality effects to streams, riparian areas, and wetlands; and providing forest products and economic opportunities to contribute to the local economy.

My criteria for making a decision on this project was based on:

- Achievement of the project's Purpose and Need,
- Relationship to environmental and social issues and public comments received.

Meeting the Purpose and Need

The Cooney McKay Area was selected for this project because of the existing forest stand and fuel hazard conditions. We know from past analyses (Meadow Smith SEIS and the Upper Swan Valley Ecosystem Landscape Assessment) that forest stands in the project area and throughout the Upper Swan Valley often have higher tree densities in multiple canopy layers than what commonly existed historically, primarily due to fire exclusion over the last century. Ponderosa pine and western larch have become a smaller component of forest stands due to closed canopy conditions and lack of disturbance, particularly on dry sites. The understory canopy layers are competing with trees in the overstory providing ladder fuels and fuel loadings that have the potential to support stand-replacing fires. Competition for moisture is reducing the vigor and resilience of the dominant overstory trees, resulting in poor growth, increased susceptibility to insects and disease, and increasing mortality.

Insects and disease have also led to mortality and greater fire hazard in many areas of the forest. Mountain pine beetle infestations were experienced in the lodgepole pine in 1980 and 1981, and again between 1986 and 1989. Mortality was limited to patches and individual larger lodgepole pine trees, which were attacked and killed. These trees are now mostly on the ground contributing to fuel loadings in the stands affected. Mountain pine beetle continue to kill Individual trees and small groups of trees within many stands. Root rot is affecting many of the larger Douglas-fir trees throughout the project area, with individual trees and small groups of trees are being killed. This condition is widespread throughout the project area. Root rot weakens the defense mechanisms of affected trees, which increases the risk of

insect infestation, primarily by bark beetles. These stand and fuel conditions increase the risk of fires moving from the forest floor to tree crowns, making fire suppression an almost impossible task.

Another reason the Cooney McKay Area was selected for this project was to reduce the effects that a future wildland fire may have on property and resource values, and provide better assurance that human life would be protected within and near the project area. Because of the rapid growth in the Swan Valley, a substantial increase in the number of people living in close proximity to NFS lands has occurred. Hazardous fuel reduction is one of the key points of the National Fire Plan, which emphasizes management in dense forest vegetation that is the result of decades of fire exclusion, particularly within WUI areas. Approximately 15,951 acres of the Cooney McKay Project Area (38,031 acres) lies within the WUI as identified by the Seeley Swan Fire Plan. The threat to life and property from high forest fuel hazards was unfortunately illustrated once again during the 2007 fire season in forest lands near the Seeley Lake area, other parts of Montana, and other western states.

The third reason the Cooney McKay Area was selected for this project is that the management of this area has the potential to positively affect local economies. Use of resources and recreational visitation to the Forest generate employment and income in the surrounding communities and generate revenues that are returned to the Federal Treasury. The Cooney McKay area largely lies within the suitable timber base under the Flathead Forest Plan within Management Areas (MA) 9 and 13. These management areas emphasize timber management in concert with providing cover and forage winter habitat areas for white-tailed deer, mule deer, and elk.

I did not select the No Action Alternative because this alternative does not address the concern of forest health, the risk of high severity wildfires in the WUI, nor would it provide forest products to the local economies. No action would mean forest canopies within the project area would continue to become denser and more closed in, and surface and ladder fuels would continue to accumulate. Ponderosa pine and western larch would continue to decline, leading to reductions in this forest type. Regeneration of ponderosa pine and western larch would be inhibited due to the increased shading within the stands and lack of disturbance. Increasing insect or disease-related mortality would add to the existing fuel load accumulation. Natural fuels would accumulate faster than they are recycled, increasing the natural fuels hazards near private lands. The risk of stand-replacing fire would increase as long as these stand conditions persisted. The high fire resiliency of once open canopy/open grown forests would also be lost. Selection of the No Action Alternative would be inconsistent with the Purpose and Need for this project. Based on the environmental analysis, the long-term effect of selection of the No Action Alternative would likely yield greater adverse social and environmental affects than would the Selected Alternative.

I did not select Alternatives 2 or 4. Both of these alternatives treat dry-site old growth stands. I did not select either of these alternatives for two primary reasons. As reflected by the public comments received during scoping, the treatment of old growth is the most controversial aspect of the project. Ongoing legal controversy exists over the level of scientific information needed to support treatments within old growth stands. That fact, coupled with the opportunity to monitor impacts of similar treatments nearby in the near future, have combined to lead me to not select the alternatives that treat old growth. I remain hopeful that the issues constraining such treatments will be resolved to allow reasonable treatments to preserve dry-site old growth to proceed in a timely fashion.

I believe the Selected Alternative, as described in this decision, best meets the Purpose and Need for the Cooney McKay Project while also being responsive to resource issues, and public input identified through the analysis process.

My decision to select **Alternative 3 with Modifications** will create sustainable forest conditions by improving overall stand health. Growing space, individual tree vigor, and the ability to withstand insect and disease will be improved in treated stands. Better opportunities for ponderosa pine and western larch regeneration will result from the creation of more open stand conditions. In addition to creating sustainable forest conditions, I believe my decision will reduce potential fire intensities and improve the opportunity for fire suppression, and lessen the potential for fires on Federal land to ignite private

structures. The estimated 3.2 million board feet of timber resulting from these management activities will be provided to the local communities.

As summarized in the following table, **Alternative 3 with Modifications** is responsive to the Purpose and Need statements for the Cooney McKay Project.

TABLE 1
COMPARISON OF ALTERNATIVES – HOW THEY RESPOND TO THE PURPOSE AND NEED

Purpose and Need Statement	Alt. 1	Alt.2	Alt. 3	Alt. 4	Alt. 3 Mod
Forest Health					
Improve and/or maintain the general health, resiliency, and sustainability of forest vegetative communities and reduce the risk of insect epidemics and disease infestations within the project area. (Indicator: Acres treated – Commercial Thinning, Old Growth Maintenance, Seed Tree, Salvage, Thinning From Below (commercial and noncommercial, Pre-Commercial Thinning & Ecosystem Burning, exclusive of planting)	0	2909	2790	2833	**2661**
Improve and/or maintain the general health, resiliency, and sustainability of forest vegetative communities and reduce the risk of insect epidemics and disease infestations within the project area. (Indicator: Hand and Restoration Planting)	0	127	127	62	**127**
Hazardous Fuels Reduction					
Reduce forest fuels buildup adjacent to public and private lands (Indicator - Acres within WUI).	0	672	589	609	**497**
Reduce general forest fuels buildup in the project area (Indicator: Acres outside of WUI, exclusive of planting)	0	2237	2201	2224	**2164**
Provide a safer environment for the public and firefighters should a wildfire occur within the proposed treatment areas.	No	Yes	Yes	Yes	**Yes**
Increase the probability of stopping wildfires on NFS lands before they burn onto private lands.	No	Yes	Yes	Yes	**Yes**
Provide Commercial and Personal Use Wood Products for Local Economies					
Timber Harvest Acres	0	921	802	845	**751**
Timber Harvest Volume (MMBF)	0	4100	3385	3770	**3217**

Consideration of the Issues and Public Comments

In addition to the purpose and need, I also considered how well each alternative responds to the issues: activities in old growth and activities in white-tailed deer winter range. The following section summarizes how I believe my decision responds to issues identified in the DEIS and how it responds to more comments and concerns I received on the project.

A. Activities in Old Growth

Several comments were received on the DEIS concerning activities proposed in old growth stands. Commentors felt that vegetation management activities would fragment old growth forest habitat and affect old growth habitat requirements for old growth associated wildlife species. Other concerns voiced were the potential blowdown effects to old growth forests and the amount of old growth habitat that would be maintained and recruited on the Flathead National Forest. Commenters also questioned why treatments are proposed in old growth stands in the Cooney McKay Project before monitoring has taken place in stands with similar treatments authorized in the Meadow Smith Project.

Other comments were received, such as from EPA that supported treatments in old growth stands to reduce fire risk and provide longer-term protection for old growth trees.

After reviewing the public comments, I have determined to select **Alternative 3 – Modified,** which does not treat dry site old growth stands for the reasons stated in the Rationale for the Decision on page 10, Further, the remaining non-old treatments in the Selected Alternative will not likely cause significant indirect threats to old growth. Spatial analysis of the placement of harvest units shows that old growth connectivity is not significantly impacted by the Selected Alternative (ROD Maps 4A and 4B). The intermediate harvest prescriptions will not sever connectivity of stands in that sufficient hiding cover will be retained to maintain connectivity (DEIS, page 3-176). Further, concerns relative to the seed tree units in creating “edge” with possible associated increases in wind throw is not thought to be a significant risk, given the generally wind firm nature of the trees (generally ponderosa pine, larch, and Douglas-fir) that comprise the old growth stands that adjoin the proposed seed tree harvests. Field observations of existing old growth stands adjacent to much larger clearcuts on private lands do not indicate a significant wind throw problem. Based on those observations combined with the much more limited size (compared to the large clearcut openings) of the seed tree openings, severe wind throw within old growth stands is not likely to be a significant problem.

B. Activities in White-tailed Deer Winter Range

Comments received on the DEIS were concerned with portions of the project area within white-tailed deer winter range and asked that the decision consider effects to this habitat. In this project area, many potential treatments within the WUI, especially those closest to private property, are in MA 9 – White-tailed Deer Winter Range. **Alternative 3 - Modified** meets Forest Plan direction for Big Game Winter Range and maintains thermal cover while still accomplishing forest health, and fuels reduction objectives. The limited effect to deer winter range, due to the nature of the prescriptions, leaves the project area within Forest Plan standards even considering the effects of private harvest. This decision strikes a reasoned balance in meeting forest health objectives while maintaining deer winter range. More specifically, only about a 1 percent reduction in canopy cover will result in the project area within winter range. Forest Plan standards require that 50 percent of the forest within the winter range meet canopy requirements. As discussed in the DEIS, page 2-232, assuming no private lands provide thermal cover for winter range and assuming full implementation of Meadow Smith and this project, the amount of thermal cover within the winter range would be 56 percent, which is still well above the Forest Plan standard. The standard was developed to be protective of overall thermal cover needs even if no thermal cover is provided on private lands.

Most stands treated under the Selected Alternative will retain sufficient canopy cover to still function as thermal cover. Of the 751 acres treated mechanically, only 79 acres would be thinned to an extent where thermal cover requirements would not be met. These are the seed tree units where existing conditions in the lodgepole pine and Douglas-fir that comprise the bulk of the stands are on the decline due to a combination of insect mortality and disease such as root rot.

With the approach taken, I believe the Selected Alternative is protective of winter range values while still allowing appropriate silvicultural treatments based on site-specific stand conditions.

Table 2 displays the comparison of the action alternatives in responding to the issues.

TABLE 2
COMPARISON OF ALTERNATIVES – HOW THEY RESPOND TO THE ISSUES

Key Issues	Alt. 1	Alt.2	Alt. 3	Alt. 4	Alt. 3 Mod
Acres of treatments in old growth forest habitats (Indicator: Acres)	0	119	0	119	0
Reduction in the amount of designated winter range cover available to big game. (Indicator: Percent Reduction)	0%	1%	1%	0%	1%

Summary

I selected **Alternative 3 - Modified** over the other action alternative primarily because it best meets Forest Plan direction while meeting the Purpose and Need for action. At the same time, it responds to public comments and desires and implements direction from the National Fire Plan.

Current forest health and fuel conditions in the Cooney McKay Area can move towards historical conditions by applying appropriate management actions. The most cost-efficient method of meeting the purpose and need objectives involves commercial timber harvest and ecosystem burning. The majority of the mechanical treatments will occur within the WUI helping to reduce the risk of fires adjacent to private property. Timber sales are expected to be sold in **2010**. It is anticipated that timber harvest will be completed within 2 to 3 seasons after the sale date. Implementation of road work associated with timber sales should begin once the project is awarded. Reforestation activities will be completed no more than 5 years after logging is completed. Management activities not involving timber harvest (Ecosystem Burning) could begin in 2008.

IX. FINDINGS REQUIRED BY LAWS, REGULATIONS, and 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 the laws, regulations, and agency policies related to this project. The following summarizes findings required by major environmental laws:

A. The National Forest Management Act (NFMA)

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

1. Consistency with Forest Plan

The Flathead National Forest Land and Management Plan of 1986 (Forest Plan) establishes management direction for the Flathead National Forest. This management direction is achieved through the establishment of Forest-wide goals and objectives, standards, and guidelines. Additional goals and accompanying standards and guidelines have been established for specific Management Areas across the forest. Project implementation consistent with this direction is the process in which desired conditions described by the Forest Plan are achieved. The NFMA requires that all project-level resource plans are consistent with the Forest Plan (16 USC 1604 (i)). The DEIS displays the Forest Plan and Management Area goals and objectives and the standards and guidelines applicable to the Cooney McKay area (DEIS, Chapters 1, 2, and 3). The alternative development process is detailed in Chapter 2 of the DEIS, while the environmental consequences of the alternatives in relation to the Forest Plan standards and guidelines are displayed in Chapter 3 of the DEIS. After reviewing the DEIS, the activities authorized in **Alternative 3 - Modified** are consistent with Forest-

wide goals, objectives, standards, and guidelines, and specific Management Area goals and standards.

2. Suitability for Timber Production

The NFMA directs that no timber harvesting shall occur on lands classified as not suited for timber production except for salvage sales, sales necessary to protect multiple use values (16 USC 1604(k)).

Stands proposed for harvest treatment in the Cooney McKay Area were examined for suitability by a Certified Silviculturist. Inclusions of non-suitable land were identified within stands proposed for harvest (such as wet areas), and no treatment will occur in these areas. I believe that the remaining portions of these stands are suitable for timber production based on the following:

- Meet the definition of forestland.
- Technological feasibility exists to ensure soil productivity and watershed protection. All sites considered for treatment will use established harvesting and site preparation methods. Resource protection standards in the Forest Plan, project Design Criteria (Appendix 2) and applicable BMPs (Appendix 4) will be sufficient to protect soil and water resource values.
- None of the stands considered for harvest have been withdrawn from timber production.
- There is reasonable assurance that lands can be restocked within 5 years of final harvest.

As stated earlier in this document, all units proposed for treatment in this project are in MA 9 and 13. Each of these management areas is classified as suitable for timber management where timber harvest is to be scheduled (Forest Plan).

3. 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. Where clearcutting is to be used, it must be determined to be the optimum harvest method [16 USC 1604(g)(3)(F)(i)].

(a) Determination that, where used, clearcutting is the optimum method:

The NFMA directs that clearcutting be used only where “it is determined to be the optimum method”. Other methods could be used where “determined to be appropriate.” No clearcutting is proposed in the project.

(b) Determination that even-aged management system is appropriate to meet the objectives and requirements of the Forest Plan:

Silvicultural site-specific prescriptions for the Cooney McKay Project have been prepared by a Certified Silviculturist. Target stand conditions were developed based on management objectives and site characteristics. The prescriptions considered existing stand conditions, the target stands, and resource constraints in determining the biological and technological feasibility of all silvicultural systems, including uneven-aged systems, and their appropriateness for the site.

I have determined that prescribing even-aged systems under the Selected Alternative is appropriate for Units 26-20, 26-85, 26-91, 30-56, 8-7, and 8-8. Seed Tree Harvest would take

place in stands that currently are not meeting target stand objectives. Examples of these types of stands are:

- Stands that have an overstory component of western larch and/or ponderosa pine, but without these species in the understory;
- Stands with elevated levels of root disease where intermediate harvest is not appropriate;
- Stands of primarily lodgepole that are at high risk of mountain pine beetle attack due to their age and density.

Regeneration harvest using Seed Tree Systems, as these treatments are compatible with site-specific stand conditions, will retain the largest healthy trees on site, while allowing regeneration of healthier trees than existing conditions will permit. Where these treatments are used, the species to be regenerated are compatible with the even aged management methods proposed.

I have also reviewed the silvicultural information in the Cooney McKay Project File, along with the site-specific management objectives developed from Forest Plan direction. I have determined that the management practices described in the Vegetation Section of the DEIS, the Silvicultural Report (Project File Exhibit G-1) and Appendix C of the DEIS are appropriate methods to achieve the multiple resource objectives on the sites selected for harvest. It is my determination that the proper use of even-aged systems and application of long-term tree concepts (See Design Criteria, Appendix 2) on appropriate sites can provide us with healthy, functioning ecosystems while providing a sustainable production of forest resources.

4. Vegetative Manipulation

I have determined that the management practices in the Cooney McKay Project shall:

(a) **Be best suited to the multiple-use goals stated in the Forest Plan for the area.** These goals are stated in the DEIS within Chapters 1 and 3. Based upon review of pertinent information from the DEIS, ID Team Field Review, the project file, and the comments I received, I have determined that the Selected Alternative, compared to the No Action and other action alternatives, is best suited to meet these goals. All proposed treatments comply with Forest Plan direction and meet the multiple-use goals established for the area. The vegetation treatments would address the Purpose and Need for action.

(b) **Assure that the technology and knowledge exist to adequately restock the lands within 5 years after final harvest (16 USC 1604(g)(E)(ii)).** An estimated 79 acres will be planted in Seed Tree Units. Previous regeneration harvests in this area have been successfully stocked within 5 years. Reforestation indices indicate that greater than 90 percent of all harvests have been restocked within the appropriate time period.

(c) **Management prescriptions shall not be chosen primarily because they would give the greatest dollar return or the greatest output of timber.** My decision to implement the Cooney McKay Project is based on a variety of reasons discussed elsewhere in this Record of Decision. The decision is not based primarily on the greatest dollar return, but rather reducing hazardous fuels and the vulnerability of the forest to large scale, dramatic disturbances. However, tree harvest resulting from the vegetation treatments will generate revenue from the sale of forest products and will help fund several aspects of the project.

(d) Management prescriptions shall consider the effects on residual trees and adjacent stands. In making my decision, I did consider the effects on residual trees and adjacent stands as discussed in the DEIS on pages 3-43 thru 3-51. I find the selected stand treatment methods and the Design Criteria as listed in Appendix 2 of this decision document are adequate to protect reserve trees and adjacent stands in the vicinity of timber harvest, underburning, and hand fuel reduction areas.

(e) Management prescriptions shall avoid permanent impairment of site productivity and 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 DEIS on pages 3-13 through 3-35 and 3-113 through 3-129, the application of Design Criteria (Appendix 2) and the application of Best Management Practices (Appendix 4) to prevent the loss of soil. I find the unit locations, silvicultural systems, riparian protection, logging technology, and post harvest activities, in relationship with the soil and water conservation practices planned, will minimize impairment of site productivity and ensure conservation of soil and water resources.

(f) Management prescriptions shall provide the desired effect on water quantity and quality, wildlife and fish habitat, regeneration of desired tree species, forage production, recreation use, and aesthetic values. The information provided in project file documents that the vegetation management treatments included in my decision will achieve the desired forest vegetation conditions described in the DEIS, Chapter 3 (Vegetation Section) and the Silviculturist Report (Project File Exhibit G-1). Desired conditions for other natural resources are described in the Forest Plan and in the Upper Swan Valley Landscape Assessment (Project File Exhibit Q-4). After reviewing the social and environmental effects of the alternatives (DEIS, Chapter 3), I have determined that my decision is consistent with Forest Plan standards and guidelines to provide the desired effects of management practices on other resource values, including water quality/quantity, wildlife and fish habitat, recreation uses, and aesthetic values.

(g) Management prescriptions shall be practical in terms of transportation and harvesting requirements, and total cost of preparing, logging, and administration. Alternative 3 – Modified is a practical selection. The specified transportation and harvesting systems to be used in the implementation of this decision have been analyzed in combination with the other requirements of the management prescriptions. Implementation of the project will not require significant investments in roads, since a road system is already in place. The preparation, logging, and administration are practical for achieving the resource objectives and progress toward the desired future condition in the project area. The economic analysis included in the DEIS on pages 3-271 through 3-279 along with its supporting documentation in the project file demonstrates this finding.

5. Roads

The NFMA requires that the necessity for 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 [16 USC 1608 (c)].

Management actions associated with the Cooney McKay Project do not include the construction of specified permanent roads. An estimated **1.25 miles** of temporary roads will be constructed and reclaimed after their use (See Design Criteria, Appendix 2) to access treatment units. I believe that we have met the requirements of 16 USC 1608 (c).

6. NFMA Diversity

The Forest Plan contains an array of components that contribute to the wildlife/fisheries habitat capability of the Flathead National Forest. Based upon consideration of these components of the Forest Plan, the Monitoring and Design Criteria of the Decision, an analysis of effects of the Cooney McKay Project at the Project, Forest and Regional scale, and the Biological Assessments/Evaluations/Opinions (Project File Exhibits E-2, E-5, F-13, F-14, L-7, L-11, L-12), I concluded that my decision poses little risk to the diversity of native species. In addition, my conclusion is based on a review of the record that shows a thorough review of relevant scientific information, a consideration of responsible opposing views, and the acknowledgment of incomplete or unavailable information, scientific uncertainty, and risk.

B. Clean Water Act and Montana State Water Quality Standards

The Clean Water Act requires states to identify water bodies that do not fully support all their beneficial uses. These water bodies are called Water Quality Limited Segments (WQLS). Beneficial uses of the Cooney McKay Area include human uses such as drinking, culinary and food processing after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fisheries and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.

The Cooney McKay Project Area does not contain water quality impaired streams, however, streams in the project area are tributary to the Swan River and Swan Lake, which are on Montana's Clean Water Act Section 303(4) list of impaired waters. A Total Maximum Daily Load (TMDL) and Water Quality Protection Plan for the Swan Lake River Watershed has been prepared by the Montana Department of Environmental Quality. The Cooney McKay Project includes specific Design Criteria (Appendix 2) to ensure beneficial uses are protected. In addition, existing sediment sources and fish barriers have been identified to be treated as funding is available to promote water quality improvement and restoration of full support of beneficial uses for impaired waters (Resource Enhancement Projects, DEIS, page 2-10).

Upon review of the Cooney McKay Project DEIS and the project file, I find that activities associated with the **Alternative 3 – Modified** will comply with the Clean Water Act and Montana State Water Quality Standards. My decision includes project Design Criteria (Appendix 2) and Best Management Practices (Appendix 4) to protect the water resource and achieve water quality standards. In addition, Inland Native Fish Strategy Riparian Habitat Conservation Areas (RHCA's) will be established along all wetlands and stream courses that are in or adjacent to treatment areas.

The Environmental Protection Agency (EPA) Region VIII Montana Office was notified of this project and sent a copy of the DEIS. A letter was received from the Montana Office and responded with support for the project. Detailed comments are disclosed in Chapter 4 of the FEIS.

C. Clean Air Act

After reviewing Chapter 3 of the DEIS, I find that the activities in the Selected Alternative will be coordinated to meet the requirements of the State Implementation Plans, Smoke Management Plan, and Federal Air Quality requirements.

D. National Historic Preservation Act, American Indian Religious Freedom Act, and Native American Graves Protection And Repatriation Act

Cultural Resource Reviews have been completed on all areas to be impacted by ground-disturbing activities. No Cultural Resources are expected to be affected by the Selected Alternative. Recognizing that the potential exists for unidentified sites to be encountered or disturbed during project activity, special provisions for their protection will be included in all contracts used to implement this project. These provisions will allow the Forest Service to unilaterally modify or cancel a contract to protect cultural resources, regardless of when they are identified. This provision will be used if a site were discovered after a harvest operation had begun. This project complies with the Region 1 programmatic agreement (1995) with the State Historic Preservation Office and the Advisory Council on Historic Preservation.

E. Government to Government Relations

The Forest Service consulted with the Confederated Salish and Kootenai tribes during the analysis process. The intent of this consultation has been to remain informed about the Tribal concerns regarding the American Indian Religious Freedom Act and other tribal issues. In addition, the Salish (Flathead), Kootenai and Upper Pend d'Oreilles reserved rights under the Hellgate Treaty of 1855 (July 16, 1855). These rights include the "right of taking fish at all usual and accustomed places, in common with the citizens of the Territory, and of erecting temporary buildings for curing; together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed land." The federal government has trust responsibilities to Tribes under a government-to-government relationship to insure that the Tribes reserved rights are protected. Consultation with the tribes through the project planning helps insure that these trust responsibilities are met.

F. The Endangered Species Act (16 USC 1531 ET. SEQ.)

Under the provisions of this Act, Federal agencies are directed to seek to conserve endangered and threatened species and to ensure that actions are not likely to jeopardize the continued existence of any of these species. Biological Assessments for threatened and endangered species have been completed for the project.

Because of the upland burning aspect of the project's potential for adverse effects to bull trout, I requested formal consultation with the FWS. In order not to jeopardize the bull trout, I have incorporated the terms and conditions within their Bull Trout BO (Project File Exhibit E-5) into my decision. The FWS concluded that the project is **not likely to jeopardize** the continued existence of bull trout in the Columbia River system, as long as the terms and conditions of the BO are met. This conclusion is based on the magnitude of the project effects in relation to the designated critical habitat as the Columbia River Basin scale. Refer to Appendix 5 of this decision for a description of those terms and conditions.

The FWS also acknowledge our determination that the project **"May affect – but is not likely to adversely affect" the grizzly bear, gray wolf, Canada lynx, or water howellia** (Project File Exhibit E-2). Upon review of the Cooney McKay DEIS, the BAs, and BO from the FWS, I find that Alternative 3 – Modified meets the requirements of the Endangered Species Act.

G. Administration of the Forest Development Transportation System – Roads Policy – 36 CFR Part 212 et al. (Published in the Federal Register on January 12, 2001)

This project does not include any system road construction on public lands. I find that the Selected Alternative complies with the terms of this new rule and policy.

H. Migratory Bird Treaty Act

On January 10, 2001, President Clinton signed an Executive Order outlining responsibilities of Federal agencies to protect migratory birds. Upon review of the information in the DEIS, (pages 3-241 through 3-248), I find that the Selected Alternative complies with this Executive Order.

I. Environmental Justice

The action alternatives were assessed to determine whether they would disproportionately impact minority or low-income populations, in accordance with Executive Order 12898 (DEIS, page 3-279). No impacts to minority or low-income populations were identified during scoping or the comment period.

J. Compliance with Other Laws, Regulations, and Policies

Compliance with other laws, regulations, and policies are listed in various sections of the project file, the Forest Plan, and the DEIS (primarily in the "Regulatory Framework and Consistency" discussions at the end of the resource sections of Chapter 3).

K. Environmentally Preferred Alternative

The DEIS analyzed one no-action and three action alternatives in detail. It is also required by law that one or more of those alternatives be identified in the Record of Decision as the environmentally preferred alternative. The environmentally preferable alternative is not necessarily the alternative that will be implemented, and it does not have to meet the underlying need of the project. It does, however, have to cause the least damage to the biological and physical environment and best protect, preserve, and enhance historical, cultural, and natural resources (Section 101 NEPA; 40 CFR 1505.2 (b)).

I have identified Alternative 1 as the environmentally preferred alternative for the short-term. Alternative 1 poses the fewest short-term adverse effects to water quality, aquatic habitat, and terrestrial wildlife habitat as a result of no timber harvesting, no road construction, nor other ground-disturbing projects. On the other hand, all of the action alternatives have varying levels of environmental effects depending on the emphasis of the alternative, but any of them will cause fewer long-term adverse effects to water quality, aquatic habitat, and terrestrial wildlife habitat than would Alternative 1.

Specifically, **Alternative 3 – Modified** offers the best balance between meeting the purpose and need for action and presenting the fewest long-term adverse environmental effects. I chose to implement **Alternative 3 – Modified** over Alternative 1 because the latter alternative:

1. Does not improve and/or maintain the general health, resiliency, and sustainability of forest vegetative communities;
2. Does not reduce the growing risk for insects and disease infestation;
3. Does not reduce forest fuels buildup adjacent to public and private lands;
4. Does not provide a safer environment for the public and firefighters should a wildfire occur within proposed treatment areas;
5. Does not increase the probability of stopping wildfires on NFS lands before they burn onto private lands; and
6. Does not provide commercial and personal-use wood products for the local communities.

X. APPEAL PROVISIONS AND IMPLEMENTATION

Copies of the Cooney McKay DEIS are available for review at the Swan Lake Ranger Station in Bigfork, Montana. The supporting project file is available for review at the Swan Lake Ranger Station, 200 Ranger Station Road, Bigfork, MT 59911.

This decision is subject to appeal pursuant to 36 CFR 215.11. A written appeal must be submitted within 45 days following the publication date of the legal notice of this decision in *The Daily Inter Lake* Newspaper, Kalispell, Montana. It is the responsibility of the appellant to ensure their appeal is received in a timely manner. The publication date of the legal notice of the decision in the newspaper of record is the exclusive means for calculating the time to file an appeal. Appellants should not rely on date or timeframe information provided by any other source.

Paper appeals must be submitted to:

USDA Forest Service, Northern Region
ATTN: Appeal Deciding Officer
P.O. Box 7669
Missoula, MT 59807

Or

For package delivery by UPS, FED EX, etc. please use this address:

USDA Forest Service, Northern Region
ATTN: Appeal Deciding Officer
200 East Broadway
Missoula, MT 59802

Office hours: 7:30 a.m. to 4:00 p.m.

Electronic appeals must be submitted to:

appeals-northern-regional-office@fs.fed.us

In electronic appeals, the subject line should contain the name of the project being appealed. An automated response would confirm your electronic appeal has been received. Electronic appeals must be submitted in MS Word, Word Perfect, or Rich Text Format (RTF).

It is the appellant's responsibility to provide sufficient project- or activity-specific evidence and rationale, focusing on the decision, to show why my decision should be reversed. The appeal must be filed with the Appeal Deciding Officer in writing. At a minimum, the appeal must meet the content requirements of 36 CFR 215.14, and include the following information:

- The appellant’s name and address, with a telephone number, if available;
- A signature, or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the appeal);
- When multiple names are listed on an appeal, identification of the lead appellant and verification of the identity of the lead appellant upon request;

- The name of the project or activity for which the decision was made, the name and title of the Responsible Official, and the date of the decision;
- The regulation under which the appeal is being filed, when there is an option to appeal under either 36 CFR 215 or 36 CFR 251, subpart C;
- Any specific change(s) in the decision that the appellant seeks and rationale for those changes;
- Any portion(s) of the decision with which the appellant disagrees, and explanation for the disagreement;
- Why the appellant believes the Responsible Official's decision failed to consider the substantive comments; and
- How the appellant believes the decision specifically violates law, regulation, or policy.

If no appeal is received, implementation of this decision 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.

For further information on this decision, please contact Steve Brady, District Ranger (406-837-7501) or Joleen Dunham, Project Leader (406-837-7510).

/s/ Cathy Barbouletos

CATHY BARBOULETOS
Forest Supervisor
Flathead National Forest

4/18/08

Date

Cooney McKay Forest Health and Fuels Reduction Project

Record of Decision

Swan Lake Ranger District, Flathead National Forest
Lake and Missoula Counties, Montana

Appendices

Appendix 1

Details of the Selected Alternative

Discussion of specific vegetation management treatments and associated activities of **Alternative 3 - Modified** are discussed below.

Vegetation Management

A. Commercial Thinning

The existing mature tree canopy closure in the project area ranges from 0 to 100 percent with an average closure of 70 to 90+ percent. Within areas to be Commercially Thinned, the resulting stands would have an average of greater than 50 percent canopy closure within the ground-based and cable units. The target leave basal area would range between 70 to 100 square feet per acre, depending on the site. This equates to about 50 to 100 trees per acre, depending on the species and site. Generally, all dominant and most co-dominant crown classes will be retained, while some co-dominant and most intermediate and suppressed crown classes would be removed. The purpose of this treatment is to enlarge the growing space condition of desirable trees by reducing excessive tree competition for limited site resources, thereby modifying site conditions for improved tree crown and cone development, sustained vigor and growth, and overall forest health. This treatment simulates a low to moderate-severity, mixed-lethal burn. Understory or jackpot burning may be implemented as a secondary fuels treatment to recycle nutrients and restore fire as an ecological process. This treatment will occur on **522 acres.**

B. Thin From Below (Commercial)

The existing mature tree canopy closure in the project area ranges from 0 to 100 percent with an average closure of 70 to 90+ percent. Within areas to be thinned from below, the resulting canopy closure would be reduced by no more than 10 percent, as the majority of trees to be removed are under the existing overstory canopy. The target leave basal area would range between 70 and 120 square feet per acre, depending on the site. This equates to about 50 to 100 trees per acre, depending on the species and site. Generally, all dominant and co-dominant crown classes will be retained, removing primarily trees in the intermediate and suppressed crown classes. The majority of trees to be removed are smaller diameter lodgepole pine, with occasional Douglas-fir where they exist immediately under the dominant overstory canopy. The purpose of this treatment is to enlarge the growing space condition of desirable trees by reducing excessive tree competition for limited site resources, thereby modifying site conditions for improved tree crown and cone development, sustained vigor and growth, and overall forest health. This treatment simulates a low to moderate-severity, mixed-lethal burn. Understory or jackpot burning may be implemented as a secondary fuels treatment to recycle nutrients and restore fire as an ecological process. This treatment will occur on **81 acres.**

C. Seed Tree Harvest

The existing western larch and ponderosa pine will be retained to provide for seed sources and long-term structure. The majority of the Douglas-fir and all of the lodgepole would be removed to facilitate regeneration of western larch and ponderosa pine. The majority of trees removed will be in the co-dominant or intermediate canopy. This treatment is similar to a stand replacement fire regime. Mechanical treatments and prescribed fire will be used to reduce fuels, recycle nutrients, and restore fire as an ecological process. This treatment will occur on **79 acres.**

D. Salvage Harvest

The existing mature tree canopy will be reduced from the existing average of 70 to 80 percent canopy closure to approximately 50 to 60 percent canopy closure, removing trees primarily in the intermediate and co-dominant canopy. Lodgepole pine will be the primary species removed, as they are either dead, dying or at high risk of mortality due to age and mountain pine beetle susceptibility. Some Douglas-fir will be removed to reduce stand density and fuel loadings, if they are immediately adjacent to large overstory ponderosa pine or western larch. Mechanical treatments to reduce fuels will be implemented on **69 acres.**

E. Pre-Commercial Thinning

These are 40 to 50-year old past regeneration harvest and hand planted units, which are beginning to stagnate due to excessive tree densities. The existing immature tree canopy closure will be reduced from 80 to 100+ percent, to a 50 to 70 percent canopy closure (average 60 percent) within the units. About 200 to 225 trees per acre will be retained of desirable species (in priority ponderosa pine, western larch, Douglas-fir and lodgepole pine) on **105 acres**.

F. Restoration Planting

This will occur on units where previous management activities (past harvest, gravel extraction) have left the sites understocked with conifer trees. These sites will be planted to native species from local seed sources (primarily western larch and ponderosa pine). Site preparation will require hand scalping to remove grass and other vegetation from approximately 2 feet around each planting spot. In the gravel pit location, the soil will need to be treated by ripping or tilling to loosen soil so that tree roots will be free to grow. This will occur on **48 acres.**

G. Hand Planting

Species diversity planting will occur in Seed Tree harvest units to promote desirable species, including ponderosa pine and western larch. This treatment will occur after site preparation treatments on **79 acres.**

Treatment units associated with Alternative 3 – Modified are listed below in Table 1-1.

TABLE- 1-1.
ALTERNATIVE 3 - MODIFIED VEGETATIVE TREATMENTS

Unit Number	Unit acres	Alternative 3 Treatment	Logging System	Hazard (Fuels) Reduction	Full Planting	Forest Plan Direction (Management Areas)
18 - 12	9	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9
18 - 13	12	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9
18 - 16	9	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9
18 - 18	9	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9
18 - 19	7	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9
18 - 20	4	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9
18 - 90	29	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA 9
18 - 91	11	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA 9

TABLE- 1-1.
ALTERNATIVE 3 - MODIFIED VEGETATIVE TREATMENTS

Unit Number	Unit acres	Alternative 3 Treatment	Logging System	Hazard (Fuels) Reduction	Full Planting	Forest Plan Direction (Management Areas)
18 - 92	37	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA 9
18 - 93	8	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA 9
18 - 94	44	Salvage	Tractor	Grapple Pile/Burn/Chip		MA 9
20 - 161	32	Thin From Below Commercial	Tractor	Grapple Pile/Burn/Chip		MA 9
20 - 181	41	Thin From Below Commercial	Tractor	Grapple Pile/Burn/Chip		MA 9
20 - 34	4	Commercial Thin	Cable	Grapple Pile/Burn/Chip		MA 13
26 - 105	21	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA 9
26 - 20	6	Seed Tree	Tractor	Underburn	PP/WP diversity plant	MA 9
26 – 20a	11	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA-9
26 - 72	100	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA 9
26 - 75	23	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA 9
26 - 85	12	Seed Tree	Tractor	Grapple Pile/Burn/Chip	PP/WL diversity plant	MA 9
26 - 89	38	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA 9
26 - 91	28	Seed Tree	Tractor	Underburn	PP/WL diversity plant	MA 9
28 - 172	14	Salvage	Tractor	Grapple Pile/Burn/Chip		MA 13
28 - 178	40	Commercial Thin	Cable/Tractor	Grapple Pile/Burn/Chip		MA 13
3 - 33	46	Restoration Planting	N/A	N/A	PP/WL diversity plant	MA 9
3 - 36	2	Restoration Planting	N/A	N/A	PP/WL diversity plant	MA 9
30 - 103	11	Salvage	Tractor	Grapple Pile/Burn/Chip		MA 9
30 - 2	12	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9
30 - 5	6	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9

TABLE- 1-1.
ALTERNATIVE 3 - MODIFIED VEGETATIVE TREATMENTS

Unit Number	Unit acres	Alternative 3 Treatment	Logging System	Hazard (Fuels) Reduction	Full Planting	Forest Plan Direction (Management Areas)
30 - 56	8	Seed Tree	Tractor	Grapple Pile/Burn/Chip	PP/WL diversity plant	MA 9
30 - 78	8	Thin From Below Commercial	Tractor	Grapple Pile/Burn/Chip		MA 9
32 - 172	62	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA 9
32 - 4	7	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9
32 - 5	13	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9
32 - 6	5	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9
32 - 7	12	Pre-Commercial Thin	Hand	Hand Pile/Lop and Scatter		MA 9
36 - 1	43	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA 9
36 - 2	24	Commercial Thin	Tractor	Grapple Pile/Burn/Chip		MA 9
4 - 182	29	Commercial Thin	Forwarder	Grapple Pile/Burn/Chip		MA 13
4 - 185	42	Commercial Thin	Forwarder	Grapple Pile/Burn/Chip		MA 13
8 - 7	14	Seed Tree	Tractor	Grapple Pile/Burn/Chip	PP/WL diversity plant	MA 13
8 - 8	11	Seed Tree	Cable/Tractor	Grapple Pile/Burn/Chip	PP/WL diversity plant	MA 9

Fuels Management

A. Ecosystem Maintenance Burns

Ecosystem Maintenance Burns are proposed in the upper reaches of Condon Creek (419 acres), Smith Creek (458 acres), Cooney Creek (678 acres), and Cat Creek (250) acres. These burns have both habitat improvement objectives and fuel reduction objectives. Introducing fire onto the lower elevation portions of the prescribed burns will improve the conditions of important shrub fields and understory vegetation for many species of wildlife. The higher elevation portions of the proposed prescribed fire areas provide important whitebark pine habitat. Re-introducing fire into these stands may improve the capability of the area in providing important whitebark pine habitat for the grizzly bear.

Within areas with high concentrations of smaller trees and brush, chainsaw slashing of a portion of this material will be conducted before burning. This hand slashing will reduce ladder fuels and minimize the potential of excessive overstory tree mortality. Where needed, fuel breaks, consisting of a 20-foot space cleared of brush and dead fuels, may be constructed by hand around the perimeter of the burns. Both hand and aerial methods will be used for fire ignition.

Prescribed burning will be conducted in the spring or fall, when surrounding fuel conditions are moist (e.g., low fire danger). All non-consumed material will remain on site. No product removal will occur in the prescribed burn areas.

Two general stand types are included in this prescription, areas where shrubs/grasslands dominate, and areas where forested stands dominate. These two stand types are intermixed within the burn areas.

B. Shrub/Grassland Maintenance:

This treatment method will use a cool, low to moderate intensity burn covering 70 to 90 percent of the area. The range of desirable conditions is:

- 50 to 80 percent mortality of overstory trees in grassland/shrubland areas;
- Less than 20 percent mortality in heavily forested areas;
- 50 to 80 percent consumption of understory trees and plants;
- 20 to 30 percent consumption of down woody fuels.

The objectives are to:

- Rejuvenate at least 40 percent of the on-site shrubs; promote the growth of native grasses and forbs, increase the availability of snags for small animals and birds, and improve elk habitat by restoring the natural openings;
- Slow the invasion of conifers into dry parks and shrub fields, and reduce the understory stocking of conifer seedlings and saplings; and
- Improve the health and vigor of rejuvenated understory vegetation and residual trees.

C. Stand Maintenance:

Stand maintenance will use a cool, low to moderate intensity underburn covering 70 to 90 percent of the area. The range of desirable conditions is:

- Less than 20 percent mortality in overstory trees;
- Less than 20 percent consumption of understory trees and plants;
- Less than 20 percent consumption of woody fuels;
- Less than 10 percent duff reduction.

The objectives are to:

- Improve the health and overall vigor of rejuvenated understory vegetation and residual trees; and
- Reduce fire hazards by reducing natural fuels less than 3 inches in diameter by 50 to 90 percent.

Ecosystem Burn Units associated with **Alternative 3 – Modified** are listed below in Table 1-2.

TABLE 1-2.
ALTERNATIVE 3 – MODIFIED ECOSYSTEM BURN UNITS

Unit Number	Unit acres	Alternative 3 Modified Treatment	Logging System	Hazard (Fuels) Reduction	Forest Plan Direction (Management Areas)
Cat Creek #33	250	Prescribed Burn	N/A	Ecosystem Maintenance Burn	MA 2
Condon Creek #10	419	Prescribed Burn	N/A	Ecosystem Maintenance Burn	MA 2
Cooney Creek #1	312	Prescribed Burn	N/A	Ecosystem Maintenance Burn	MA 2
Cooney Creek #2	366	Prescribed Burn	N/A	Ecosystem Maintenance Burn	MA 2
Smith Creek #15	458	Prescribed Burn	N/A	Ecosystem Maintenance Burn	MA 2

Road Management

Road management activities that will be implemented with the Selected Alternative are temporary road construction and road maintenance. No new permanent roads will be constructed.

A. Temporary Road Construction:

Temporary roads will be constructed to the minimum standards necessary for log hauling from Forest Development Roads (FDR) #9544, #9594, #10512, and # 560 on an estimated **1.25 miles**. Temporary road surface width will be limited to truck bunk width plus 4 feet. Both of these temporary roads will be reclaimed following their use using drain dips, outsloping, scarifying, seeding, and recontouring.

TABLE 1-3.
TEMPORARY ROADS NEEDED FOR ALTERNATIVE 3 - MODIFIED

Unit	Access Needs	Miles
#26-85 #26-91	Access via new NFS temporary road beginning from NFSR 9544	0.25
#26-105	Access via new NFS temporary road beginning from NFSR 9594	0.25
#18-94	Access via new NFS temporary road beginning from NFSR 10512	0.25
#4-182 #4-185	Access via new NFS temporary road beginning from NFSR 560	0.5
TOTAL		**1.25**

B. Road Maintenance:

This is the ongoing upkeep of a road necessary to meet the approved Road Management Objectives (RMOs). The present focus of RMOs is to meet the current BMPs for each road. Best Management Practices required under Timber Sale Contracts must be completed before timber is hauled. Refer to Appendix D for a list of BMPs that will be implemented with the Selected Alternative.

Road maintenance objectives are to reduce the concentration of sub-surface and surface water runoff, minimize road surface erosion, filter ditch water before entering streams, and decrease the risk of culvert failures during peak runoff events. Road maintenance work could include culvert installation, replacement of existing culverts with larger culverts, installation of drainage dips and surface water deflectors, placement of riprap to armor drainage structures, aggregate surface

replacement, aggregate placement to reinforce wet surface areas, ditch construction and cleaning where needed, and surface grading to restore the drainage efficiency of the road surface. These actions will bring the roads up to current BMP standards, better accommodate traffic and reduce deferred maintenance needs on approximately **19.8 miles.**

Alternative 3 - Modified timber harvest and associated activities are summarized in the table below.

TABLE 1-4.
SUMMARY OF PROPOSED TREATMENT ACTIVITIES FOR ALTERNATIVE 3 - MODIFIED

Commercial Harvest Treatments	
Commercial Thin	522 acres
Seed Tree	79 acres
Salvage	69 acres
Thin From Below	81 acres
Total Harvest Acres / Volume (MBF)	**751 acres / 3217 MBF**
Non-Commercial Harvest Treatments	
Pre-Commercial Thin	105 acres
Hand Planting (Occurring with Seed Tree Units)	79 acres
Restoration Planting	48 acres
Total Acres Treated Non-commercial (includes planting in Seed Tree Units)	**232 acres**
Total Acres of All Treatments	**983 acres**
Logging System	
Cable	4
Tractor	625
Forwarder	71
Cable/Tractor	51
Fuels Management	
Ecosystem Maintenance Burning	1805 acres
Grapple Pile/Burn/Chip	717 acres
Hand Pile/Lop and Scatter	105 acres
Underburn	34 acres
Fuels Treatment within Wildland Urban Interface (WUI)	497 acres
Fuels Treatment outside Wildland Urban Interface	2164 acres
Road Management	
Road Maintenance BMPs to meet Timber Sale Requirements	19.8 miles
Temporary Road Construction	1.25 miles

Resource Enhancement Projects

Resource enhancement projects identified during project design are shown in the table below. These projects were identified to improve other resource values within the project area. Please refer to Map 3 at the end of this chapter for a display of the project locations.

Several sources of funding exist for resource enhancement projects. Many items have the potential to be funded with Knutson-Vandenberg (KV) funds, while other items will be funded with congressionally approved funds or Stewardship dollars. This project may be offered under a Stewardship Contract. Actual authority to offer under such a contract comes from the Regional Forester on a case-by-case basis. If approved as a Stewardship offering, these items will be included as Stewardship Projects, but inclusion of the projects in the final award will depend of the bid value received for the project. Some, none or all of the projects may be implemented through Stewardship contracting depending on market conditions at the time of offer. Implementation through direct project funding will be based on annual budgets and program direction. These projects are not necessary to mitigate impacts of the Selected Alternative, but are specific resource enhancements within the project area that will be beneficial to a variety of resources. If funding were not available, the improvements from these projects will not be accomplished.

TABLE 1-5.
RESOURCE ENHANCEMENT PROJECTS

Ground Location	Enhancement Project
Enhancement Project #1 - FDR 899 at Pony Creek	Replace culvert to prevent a potential wash-out.
Enhancement Project #2 - FDR 124 at Condon Creek	Replace culvert to provide fish passage and avoid beaver problems
Enhancement Project #3 - FDR 901 at Condon Creek	Replace culvert with bridge to provide fish passage
Enhancement Project #4 - FDR 9762 at Smith Creek	Replace culvert with bridge to provide fish passage
Noxious Weed Spraying	Weed Spraying on Roads **not** included on Haul Routes

Design Criteria

Appendix 2 of this document describes the Design Criteria applied to this project to protect resources.

Monitoring

Monitoring and evaluation compares the end results being achieved to those projected in the Forest Plan. Monitoring is conducted on a sample basis to evaluate the overall progress in implementing the Forest Plan, the assumptions on which the Forest Plan is based, and to provide a feedback loop for determining effectiveness of project and mitigation implementation (USDA Forest Service, 1987a). For this project, monitoring and evaluation will be conducted as described in Appendix 3. Those monitoring components not specifically discussed in this appendix tier to the monitoring described in the Forest Plan.

Appendix 2

Management Requirements and Design Criteria

The measures identified in the following table serve to further reduce impacts to the specific resources identified. Most are considered design criteria and are included in the Selected Alternative.

Several abbreviations are used in the responsibility section of Table 2-1. The following explains those abbreviations:

DR	District Ranger	BT	Botanist
SA	Sale Administrator	TMC	Timber Marking Crew
SP	Sale Prep	NWM	Noxious Weed Manager
WB	Wildlife Biologist	LEO	Law Enforcement Officer
FMO	Fire Management Officer	IDT	Interdisciplinary Team Members
ENG	Engineer	ARCH	Archaeologist
SILV	Silviculturist	HYD	Hydrologist
DRC	District Road Coordinator	TP	Timber Sale Purchaser
RF	Resource Forester	RA	Range Administrator
FAFMO	Fuels Assistant Fire Management Officer	SS	Soils Scientist
FISH	Fisheries Biologist		

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK	RESPONSIBILITY	DUE DATE
Grizzly Bear Security and SVGBCA Compliance	Comply with Swan Valley Grizzly Bear Conservation Agreement (SVGBCA). Implementation (sale layout and preparation) of the project is expected to begin in 2009. Harvest operations are expected to begin in 2010 and are expected to be completed within a 3-year time frame. If contract extensions result in sale activities extending beyond 3 years into the time period when the grizzly bear subunit is “Inactive,” then standards and guidelines for an “Inactive” grizzly bear subunit will be followed (as per SVGBCA).	WB, SA, SP	Pre - & Post - Sale

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK	RESPONSIBILITY	DUE DATE
Grizzly Bear Security	Comply with SVGBCA rotation schedule. The Meadow Smith Subunit (where the Cooney McKay Project is located) is "Inactive" from 2006 through 2008, and becomes "Active" again from 2009 through 2011. Commercial Use, defined as major forest management activities (including road construction and timber harvest), is not permitted in an "Inactive" subunit except during the denning (Nov. 16th – March 31st) period or during a short "window" in the summer.	WB, SA, SP	Pre & Post - Sale
Grizzly Bear Security	In order to avoid the potential disturbance of important grizzly bear spring habitat, management activities planned in spring habitat, which is defined as areas within designated Linkage Zones, below 5,200 feet, will not occur within the spring period (April 1 through June 15). This timing restriction will apply to the following treatment units: **3-36, 8-7, 8-8, 18-12, 18-13, 18-16, 18-18, 18-19, 18-20, 18-90, 18-91, 18-92, 18-93, 18-94, 20-34, 20-161, 20-181, 26-20, 26-20a, 26-72, 26-105, 28-172, 28 -178, 30-2, 30-56, 30-78, and 30-103.**	SP, SA, TMC, WB	Pre & Post - Sale
Grizzly Bear Security	Lay out Seed Tree Units so that no point in the unit is more than 600 feet from cover; in other words, a bear in the unit would be able to find cover, anywhere in the unit, within 600 feet or less.	SP, WB	Pre & Post - Sale
Grizzly Bear Security	To maintain the integrity of grizzly bear security core, treatment of the portion of Unit 28-178 above the last switchback on Road 10515 will occur during the denning season (November 16 through March 31).	SA, WB	During Harvest Activities
Wildlife Security	Leave available visual screening adjacent to open roads in proposed cutting units.	SP, SA, TMC, WB	Pre - & Post - Sale

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK	RESPONSIBILITY	DUE DATE
Wildlife – TES Species	Include provisions in the contract to cease activity or otherwise protect populations and individuals of threatened, endangered, or sensitive species. This allows for modification of the project should an unforeseen issue(s) be identified during operations. Standard contractual requirements used in all contracts provide for modification or termination of the contract to avoid impacts and protect TES species.	WB, SA, SILV	Contract Prep & During Harvest Activities
Wildlife – T&E Species	Public access will be restricted on temporary roads and roads normally closed to use.	WB, SA, DRC	Pre- & Post-Sale & During Harvest Activities
Wildlife – T&E Species	Contractors working under contract would be prohibited from carrying firearms within the Project Area on National Forest lands, Plum Creek Timber Company lands, or State lands (SVGBCA).	SA, LEO, WB	Pre- & Post-Sale, During Harvest
Wildlife – T&E Species	All temporary roads constructed on NFS lands will be reclaimed after use.	SA, DRC, WB	Post Sale
Wildlife - Security	With the exception of Seed Tree Units, vegetation treatments will be designed to meet Forest Plan standards for MA 9 (winter habitat for white - tailed deer). The MA 9 standards include “achieving at least 50 percent of the area in winter thermal cover.”	WB, SILV	Pre- Sale
Wildlife - Security	Vegetation and/or rock barriers will be retained around berms and gates, where needed, to maintain closure effectiveness.	DRC, SA, WB	Pre- & Post-Sale, During Harvest Activities
Wildlife – Security	If berms are removed for access to treatment units, temporary gates will be installed. Berms will be reinstalled when sale activities are complete.	SB, SA, DRC	Pre & Post-Sale, During Harvest

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK	RESPONSIBILITY	DUE DATE
Public Safety	Contracts will require the contractor to clearly post signs warning the public of nearby activities and truck hauling traffic associated with the treatments.	SA, DRM	Pre- & Post - Sale, During Harvest Activities
Public Safety	The District Assistant Fire Management Officer (Fuels) or designated liaison will notify nearby landowners prior to fuel reduction activities commencing on NFS lands that are adjacent to their properties.	FAFMO	Pre-Sale, During Harvest Activities
Special Use Permits	All permitted improvements, including power and phone service lines and water transmission lines (authorized by special use permits) will be clearly marked and protected during project implementation.	SA, TMC, IF, FMO, SP, RF	Pre- & Post-Sale
Soil Productivity	Log all mechanized units using designated skid trails. Equipment may occasionally leave the trails to access trees or accomplish other activities.	SA, SP, SS	Pre & Post-Sale, During Harvest Activities
Soil Productivity	Logging may occur in either winter or summer (subject to applicable timing restrictions required for other resources, such as grizzly bear). In all seasons, skid trails must be spaced on average 75 to 100 feet apart. The goal is to reduce adverse soil impact and to limit such impact to less than 15 percent of the harvest area, which includes detrimental soil disturbance from skid trails, temporary roads, and landings associated with either past activities or proposed activities.	SA, SP, SS	Pre & Post-Sale, During Harvest Activities
Soil Productivity	Reuse all existing roads and skid trails to the extent feasible unless doing so would adversely affect soil, water or other resources. Reusing existing roads and trails will reduce the amount of additional soil disturbance (cumulative effects). If roads or trails cannot be reused, their extent must be considered when laying out additional skid trails.	SA, SP, SS	Pre & Post-Sale, During Harvest Activities

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK	RESPONSIBILITY	DUE DATE
Soil Productivity	Summer logging will occur, to the extent possible, when the soils are drier than field capacity as determined by the hand feel method. This method is described in Project File Exhibit J-4.	SA, SS,	During Harvest Activities
Soil Productivity	Winter logging must occur when there is enough settled snow and/or frozen ground to protect the soil from detrimental disturbance. If equipment does not mix soil into the snow or cause muddy water to bleed into the snow then conditions are right for winter logging.	SA, TP, SS,	During Harvest Activities
Soil Productivity	All mechanical fuel reduction will be accomplished with excavators and/or low ground pressure chipping machinery. Excavators will, to the extent feasible, remain on skid trails. If chipping is implemented, excavators with mounted chipping heads would be used exclusively.	SA, TP, SS	During Harvest Activities
Soil Productivity	Logging may occur in any season (subject to applicable timing restrictions required for other resources). Skid trails must be spaced on average of 120 feet apart in Units 18-94, 26-105, 30-56, 36-1, 36-2, and 8-7. The goal is to reduce adverse soil impact and to limit such impact to less than 15 percent of the harvest area, which includes detrimental soil disturbance from skid trails, temporary roads, and landings associated with either past activities or proposed activities.	SA, SP, SS	Pre & Post-Sale, During Harvest Activities
Soil Productivity	Monitor soil moisture conditions prior to allowing equipment to begin operations in summer and monitor snow and temperature conditions prior to winter logging. This monitoring must be documented in the Timber Sale Daily Report.	SA	Pre & Post-Sale, During Harvest Activities
Soil Productivity	Fuel reduction/slash disposal will occur after the material to be piled has sat for one wet season in **Units 26-85, 30-56, 8-7 and 8-8.**	SA, FMO, SS	Post-Harvest
Soil Productivity	Cut to length systems are required in **Units 4-182 and 4-185** which will leave heavy slash on the skid trails to reduce the detrimental effects on soils.	SA, TP, SS	During Harvest Activities

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK	RESPONSIBILITY	DUE DATE
Soil Productivity	All Ecosystem Maintenance Burn Units will be ignited when burning conditions will maintain soil erosion and nutrient levels within the range of historic burns.	FMO, FAFMO, SS	During Harvest Activities, Post - Sale
Soil Productivity	If monitoring results indicate that detrimental soil disturbances for a given treatment unit exceed or equal 15 percent, then all or a portion of the following actions will be used to begin the restoration of soil quality. Restoration would occur on sites with a high amount of detrimentally disturbed ground such as designated skid trails and landings: ▪ Scarify heavily used skid trails and landings with the teeth on an excavator bucket to a depth of 2 to 4 inches. ▪ Plant Montana - Certified Weed Free native grasses on the scarified soils as recommended by the Forest Botanist. This process will add organic matter to the soil and mulch to the surface. ▪ Plant native shrubs where needed to augment natural vegetation and scarification. The site conditions will be used to determine which of the above mitigations will be used. These mitigations do not result in instant restoration of detrimentally disturbed soils; rather they begin the restoration process. ▪ All temporary roads constructed for this project that utilize existing road templates will be reclaimed by removing any installed culverts or temporary bridges, by placing large woody material on the template (where that material is available), and by seeding exposed soils with the native plant mix as specified by the Forest Botanist. In addition, all newly constructed temporary roads will be reclaimed after use, as soon as logistically practicable. The reclaiming of new temporary roads will include re - contouring the entire road template to natural ground contour, and to the extent feasible, placing the top soil back on the soil surface.	SA, SS	During Harvest Activities, Post-Sale
Water Quality	All drainage features will be put in place and functioning before, during, and after activities.	HYD, SA, SP, DRM	Pre-& Post-Harvest, During Harvest Activities

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK	RESPONSIBILITY	DUE DATE
Water Quality	If activities carry over into another operating season or are delayed because of incumbent weather, all 'jump ups' or other temporary transportation features will to be cleared from roadside ditches to prevent damage to the roads.	HYD, SA, SP, DRM	Pre- & Post-Harvest, During Harvest Activities
Water Quality	All activities will meet Montana Best Management Practices and the State Streamside Management Zone Law, therefore will comply with State Water Quality Laws and Federal Soil and Water Quality Handbook.	HYD, SA, SP	Pre- & Post-Harvest, During Harvest Activities
Protect Fisheries Resource	No "jump ups" or other temporary roads will enter or cross any riparian habitat conservation areas.	SA, SP, FMO, FAFMO, FISH	Pre- & Post-Harvest, During Harvest Activities
Protect Fisheries Resource	No timber activities, jackpot burning or log decking will be conducted within Riparian Habitat Conservation Areas (RHCA's) as established by INFISH. This action would help prevent sedimentation, maintain water quality, and provide sufficient large woody debris recruitment to aquatic species habitat.	SA, SP, FMO, FAFMO, FISH	Pre- & Post-Harvest, During Harvest Activities
Protect Fisheries Resource	The following Treatment Units require **NO** RHCA buffer: **Units 26-75, 26-89, 3-36, 8-8, 18-13, 18-19, 18-91, 18-93, 20-34, 30-56, 30-5, 36-1, 36-2, 28-178, 32-7, and 4-182.**	SA, SP, FMO, FAFMO, FISH	Pre- & Post-Harvest, During Harvest Activities
Protect Fisheries Resource	Designate the following RHCA buffers for Treatment Units: **Unit** — **Buffer** 26-72 — 200' from Alder Creek 26-20 — 200' from Alder Creek 26-91 — 200' from Alder Creek, small wetland potholes would need 50'	SA, SP, FMO, FAFMO, FISH	Pre- & Post-Harvest, During Harvest Activities

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK		RESPONSIBILITY	DUE DATE
Protect Fisheries Resource	Designate the following RHCA buffers for Treatment Units: (Continued)		SA, SP, FMO, FAFMO, FISH	Pre- & Post-Harvest, During Harvest Activities
	26-105	300' from Meadow Creek, may also be a small tributary in unit. If scour in channel, needs 50'.		
	8-7	50' from small tributary on south end of unit		
	18-12	150' tributary on north end of unit		
	18-16	50' from small tributary in west end of unit, 300' from Howellia ponds in northwest corner and southern portion of unit, 150' from wetland in southwest corner		
	18-18	300' from Condon Creek		
	18-20	300' from Condon Creek		
	18-90	300' from Condon Creek		
	18-92	150' from stream		
	18-94	300' from Condon Creek		
	20-161	300' from Falls Creek, small wetlands in unit, if high water mark is found, needs 50' buffer		
	20-181	300' from Falls Creek and 50' from small tributary in southern portion of unit, small wetlands in unit, if high water mark is found, needs 50' buffer		
	30-2	50' from both streams in unit		
	30-78	300' from Smith Creek		
	30-103	300' from Smith Creek		
	32-4	150 'from wetland in southern portion of unit		
	32-5	150' from wetland in southwest portion of unit		
	32-6	150' from wetland in east portion of unit		
	32-172	50' from stream in western portion of unit, 150' from wetlands in northwest corner, southern portion and near Unit 32-6.		
	4-185	50' from stream, wetlands with high water mark need 150'		

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK	RESPONSIBILITY	DUE DATE
Protect Fisheries Resource	Designate the following RHCA buffers in **Ecosystem Burn Units:** Cat Burn Unit #33 — No ignition within 50' of Upper Cat Creek Condon Burn Unit #10 — No ignition within 300' of Condon Creek Smith Burn Unit #15 — No ignition within 150' of Upper Smith Creek Cooney Burn Units #1 and 2 — No ignition within 300' of Upper Cooney Creek. Burn one of the Cooney Creek units one year and the other in a subsequent year.	SA, SP, FMO, FAFMO, FISH	Pre- & Post-Harvest, During Harvest Activities
Protect Fisheries Resource	All culvert removals/replacements scheduled for removal or replacement will be done during low flow (defined as July 15 to November 15). Any necessary permitting with MTFWP will be acquired before the project is implemented. All culvert replacements and the Alder Creek temporary road culvert removal will have mitigation to prevent erosion. The area will be seeded and mulched with straw or erosion matting. Stream banks at the Alder Creek site will be armored with rock and shrubs planted. Road approaches will be sloped to a 2:1 slope.	SA, FISH, DRC	Pre- & Post-Harvest
Preserve TES Plant Populations and Their Habitats	Sensitive plant surveys were partially completed during the 2006 field season. If new occurrences of sensitive or threatened plant species are discovered during activities or surveys conducted prior to ground disturbance, contractual requirements provide for modification of the contract to avoid impacts and protect their habitat. Special treatment zones will be created or unit boundaries will be relocated to avoid negative impacts. Avoid disturbance of sensitive plant populations observed during sale activities through cooperation between Sale Administrators and loggers. Any sensitive plant species observed during sale activity will be given protective measures as afforded by standard contract clause CT6251.	BT, SA, SP, FMO	Prior to Implementation
Preserve TES Plant Populations and Their Habitats	Comply with Forest Plan Amendment 20 (Conservation Measures for the Threatened Plant, Water Howellia) and the Conservation Strategy for Howellia aquatilis. If wet areas are identified as "occupied howellia habitat" within treatment units, establish a 300 - foot buffer around occupied howellia ponds where no ground disturbance will occur, regardless of activity. The 300 - foot buffer begins where facultative wet plants persist.	SA, BT	Prior to Implementation, During Harvest Activities

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK	RESPONSIBILITY	DUE DATE
Preserve TES Plant Populations and Their Habitats	Establish a 150-foot buffer zone for potentially unoccupied howellia ponds, where no ground disturbance will occur. If sensitive or threatened plant species are discovered during activities, steps will be taken to minimize impact and protect their habitat.	SA, BT	Prior to Implementation, During Harvest Activities
Preserve TES Plant Populations and Their Habitats	Protect Occupied Pond O-18 located near the junction of FDRs #899 and #124 (haul roads). If ground-disturbing BMP-related activities occur within 300 feet to the north and south of FDR #899 junction with FDR #124, establish buffers (buffer begins where facultative wet plants persist). See Project File Exhibit H-3 for specific locations of pond.	SP, SA, BT	Prior to Implementation, During Harvest Activities
Preserve TES Plant Populations and Their Habitats	Protect Unoccupied Ponds U-046, U-051, and U-085 located near FDR #124A (haul route). If ground disturbing BMP activities occur in the vicinity of these ponds, natural filtration zones, sediment retention structures, or straw bales will be applied to ensure limited sediment deposition into these ponds.	SP, SA, BT	Prior to Implementation, During Harvest Activities
Control Spread of Noxious Weeds	Landings, temporary roads, and roadsides with soil disturbance will be seeded with a Montana - Certified grass ground cover (seed mix of native plants and non - native annual will be specified by the Forest Botanist), as soon as practicable after implementation.	SA, BT, DRC	Post - Sale
Control Spread of Noxious Weeds	Power scrub or steam clean all off-road logging and construction equipment associated with sale activities and temporary road construction on the undercarriage and chassis before transport to the project area. This cleaning shall remove all soil, plant parts, seeds, vegetative matter, or other debris that could contain or hold seeds. All subsequent move - ins of equipment to the project area shall be treated in the same manner as the initial move in. “Off-road equipment” includes all logging and construction machinery, except for log trucks, chip vans, service vehicles, water trucks, pickup trucks, cars, and similar vehicles.	SA, TP	Pre-Harvest

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK	RESPONSIBILITY	DUE DATE
Control Spread of Noxious Weeds	Seed landings, temporary roads, and roadsides with soil disturbance with a Montana-Certified grass ground cover (seed mix of native plants and non-native annual will be specified by the Forest Botanist), as soon as practicable after disturbance to provide for site protection until native species are established. When use of the temporary road is no longer needed for the project, soil will be pulled back over the road template. Seeding of temporary roads will occur after soil is replaced.	SA, TP	Pre- & Post -Sale & During Harvest Activities
Control Spread of Noxious Weeds	Spray weeds along designated Forest Roads (prism) and disturbed areas. Existing roads within the project boundary will be identified for noxious weed treatment. Road prism is the road and associated toe of the fill to the top of the cut slope, including the running surface and turnouts. However, when a contiguous patch of weeds extends beyond the road prism, it shall be treated (via force account or other means). Spraying of appropriate herbicides will occur pre- and post-haul, during the periods from June 1 to July 15 or September 1 to September 30.	SA, NWM	Pre-& Post-Sale
Control Spread of Noxious Weeds	Treatment of invasive plants will be consistent with the strategy outlined in the Noxious and Invasive Weed Control EA (March 2001). Specific roads and mileage will be prepared in consultation with the Forest Weeds Coordinator.	SA, NWM	Pre- & Post-Sale
Forest Vegetation	Consult with the Project Silviculturist where treatment deviations are required during contract execution, as a result of changed conditions that materially affect the intended treatment as described in the site-specific silvicultural prescription. As needed, the silvicultural prescription will be modified and re-approved by a Certified Silviculturist.	SILV, SA, SP, FMO	Pre- & Post-Sale, During Harvest Activities
Forest Vegetation (Leave Tree Protection)	Contractor will take all reasonable care to avoid damage to the root, bole and crown of trees reserved from cutting. No more than 5 percent of the trees designated to be left and protected should be damaged beyond recovery by the Contractor's operations. Any tree damaged beyond recovery, (will die within one year because of damage), will be removed or otherwise treated by the Contractor as instructed by the Forest Service.	TP, SA, SILV	Pre- & Post-Sale, During Harvest Activities

TABLE 2-1.
MANAGEMENT REQUIREMENTS AND DESIGN CRITERIA

OBJECTIVE	TASK	RESPONSIBILITY	DUE DATE
Forest Vegetation (Leave Tree Protection)	All hardwood trees will be designated to be left and protected.	SILV, SA, TP, SP	Pre- & Post-Sale, During Harvest Activities
Forest Vegetation (Down Woody)	In the Seed Tree, Commercial Thin, and Salvage Units the minimum retention for down woody material would be, where available, 15 pieces average per acre 9 to 20 inches diameter and 10 pieces average per acre greater than 20 inches diameter. This amount of down woody material equates to 5 to 10 tons per acre. Generally, down woody material to be left would be further than 150 feet from private land boundaries.	SILV, SA, TP, SP	Pre- & Post-Sale, During Harvest Activities
Forest Vegetation Snag Protection	At a minimum, in the Seed Tree, Commercial Thin, and Salvage Units, 6 snags average per acre that are 12 to 20 inches DBH would be left. If existing snag densities are below these densities, substitute live trees would be left. All snags greater than 20 inches DBH would be left, where available. All standing dead cull western larch, ponderosa pine, and Douglas-fir trees 16 inches DBH or greater may be retained and all hardwood trees would be designated to be left. Generally, the snags to be left would be further than 150 feet from open roads and private land boundaries, and well distributed. Snags that pose a safety hazard to the Contractor's operation would be removed.	SILV, SA, SP, TP	Pre- & Post-Sale, During Harvest Activities
Protect Heritage Resources	Modify contractual requirements to provide for protection of heritage resources and modify the contract to avoid impacts to heritage resource if cultural resources are discovered during ground disturbing activities.	SA, ARCH, SP	Pre- & Post-Sale, During Harvest Activities
Preserve Recreation & Scenic Values	Rehabilitate all landings to a near-natural appearing landscape. Rehabilitation would include slash and debris disposal, re-contouring (where necessary), and re-vegetation.	RF, SA, FAFMA, FMO, SA	Pre- & Post-Sale, During Harvest Activities

Appendix 3

Monitoring Plan

Introduction

The following monitoring matrix describes monitoring associated with the Cooney McKay Project and summarizes the purpose, methods, and expected results and uses of the proposed monitoring activities. The Forest Service is currently seeking opportunities for multi-party monitoring of post treatment conditions.

TABLE 3-1.
SUMMARY OF MONITORING ACTIVITIES

WHAT	WHERE	WHEN / DURATION	WHY	WHO	EXPECTED RESULTS AND USE
FOREST ROADS					
Monitor and oversee temporary road construction.	Temporary roads.	Throughout duration of project implementation.	Insure road construction activities comply with contract specifications.	Contracting Officer, Forest Service Representative, and Timber Sale Administrator.	Routinely determine compliance with contract specifications.
Monitor and oversee condition of permanent roads.	Permanent roads.	Throughout duration of project implementation.	Insure activities are not negatively affecting road condition and adjoining resources.	Contracting Officer, Engineering Representative, and Timber Sale Administrator	Routinely determine road integrity and BMP compliance.
SOIL QUALITY					
Extent of detrimental effects.	Units 26-105, 30-56, 36-1, 36-2, and 8-7.	During and after implementation.	Determine if soil quality standards are met.	Forest Soil Scientist or his designated Representative	Ensure Design Criteria were implemented and determine if they are effective.

TABLE 3-1.
SUMMARY OF MONITORING ACTIVITIES

WHAT	WHERE	WHEN / DURATION	WHY	WHO	EXPECTED RESULTS AND USE
WATER RESOURCE					
Clear drainage features – through notes to the Sale Administrator.	Through activity area.	Continually	Prevent sediment transport	Sale Administrator	No negative effects on the water resource.
FISHERIES					
Validate the use of WEPP Modeling for Prescribed Burns and the impacts of the burns to fish spawning habitat. Dependent on sufficient funding and staffing.	Cooney Creek	Collect baseline data prior to implementation. Validate WEPP Modeling after first significant precipitation. Assess for fish habitat conditions annually for 2 years after project implementation.	To improve analysis of effects for similar future projects.	Fisheries Biologist and Soils Scientist	Determine validity of WEPP Model and projections of impacts to fish habitat.
FOREST VEGETATION					
Review Contract prior to advertisement.	Swan Lake District Office	Prior to advertisement.	Insure contract complies with the NEPA Decision.	TMO/Presale Forester, IDT Members, Line Officer, Contracting Officer, Timber Sale Administrator, Engineering Representative	Assure project implementation complies with the NEPA Decision.
Monitor and oversee vegetation treatments (commercial and noncommercial).	All treatment units.	Throughout duration of project implementation.	Insure treatment activities comply with contract specifications.	Contracting Officer, Forest Service Representative, Timber Sale Administrator, and Harvest Inspector, Silviculturist	Assure compliance with contract specifications.
Conduct reforestation surveys to determine regeneration success.	All planting units.	First, third and fifth year after planting occurs.	Determine regeneration success	Silviculturist or designated Representative	Assure adequate stocking of preferred species occurs.

TABLE 3-1.
SUMMARY OF MONITORING ACTIVITIES

WHAT	WHERE	WHEN / DURATION	WHY	WHO	EXPECTED RESULTS AND USE
Conduct post treatment surveys. Monitor the changes in forest structure, composition, insect and disease conditions	All treatment units.	Immediately following treatment and periodically thereafter as specified in the silvicultural prescription.	Determine how well treatment objectives were met and to gather data as needed for possible follow-up treatments.	Silviculturist or designated Representative	Determine the effectiveness of the treatments. This information will be used in making future recommendations for similar fuel reduction projects.
FUELS REDUCTION					
Conduct pre-treatment sampling prior to implementation.	Selected treatment units.	Prior to implementation	Establish pre-treatment baseline sampling for later comparison.	Fuels Manager or designated Representative	Establish baseline for fuels treatment proposals.
Conduct post treatment surveys. Monitor the reduction in fuel loads, including changes in canopy cover, structure, ladder fuels, and down woody material.	All treatment units.	First year after treatment; then every 10 years.	Determine how well treatment objectives were met and to gather data as needed for possible follow-up treatment.	Silviculturist and Fuels Manager or designated Representative.	Determine the effectiveness of the treatments. This information will be used in making future recommendations for similar fuel reduction projects.
INVASIVE PLANTS					
Monitor the presence and spread of noxious weeds.	All (ground disturbed areas) treatment units and lands affected by activities; slash pile burns; and all existing and temporary system roads used for the project.	Annually, starting at year 1 through 3 years following harvest / haul activities.	To determine the presence and/or spread of noxious weeds and needed containment or eradication measures, and to direct future treatment activities.	Botanist, Noxious Weed Specialist, or Weed Crew	Determine recovery rates of native plants in harvested units; determine if weed control measures should be considered.

Appendix 4

Best Management Practices

Introduction

Federal agency compliance with pollution control is addressed through Section 313 of the Clean Water Act, Executive Order 12580 (January 23, 1987), National Nonpoint Source Policy (December 12, 1984), USDA Nonpoint Source Water Quality Policy (December 5, 1986) and the Environmental Protection Agency in their guidance "Nonpoint Source Controls and Water Quality Standards" (August 19, 1987). In order to comply with State and local non-point pollution controls the Forest Service will apply BMPs to all possible non-point sources resulting from management activities proposed in this Environmental Assessment. These BMPs are the Soil and Water Conservation Practices described in the FSH 2509.22.

BMPs are the primary mechanism for achievement of water quality standards (EPA, 1987). This appendix describes the Forest Service's BMP process in detail, and lists the key Soil and Water Conservation Practices that have been selected to be used in the action alternatives analyzed in this DEIS.

Best Management Practices include, but are not limited to, structural, and non-structural controls, operations, and maintenance procedures. BMPs can be applied before, during, or after pollution-producing activities to reduce or eliminate the introduction of pollutants into the receiving watershed (40 CFR 130.2, EPA Water Quality Standards Regulation). BMPs are usually applied as a system of practices rather than a single practice. They are selected based on site-specific conditions that reflect natural background conditions and political, social, economic, and technical feasibility.

The Flathead National Forest emphasizes the application of BMPs “to protect or improve the quality of the water resource” (Forest Plan, page II-40). Practices compiled from the Flathead Drainage 208 Project (May 1980), Flathead NF Hydrologic Guidelines (1980), and other sources are listed in the Water and Soils Sections of Chapter II, Forest-Wide Standards portion of the Flathead Forest Plan (pp. II-40 thru II-46). Additional BMPs are listed with the descriptions of individual management areas and in Appendix Q, Landtype Guidelines (pp. Q-1 through Q-9). The Water Standards section further states: “Water quality limits listed in the State Water Quality Standards are coordinated with BMPs” (p. II-40).

Road Maintenance Associated with the Cooney McKay Project

As summarized on the following table, road maintenance (application BMPs) would occur on **19.8 miles** of specified road used for haul of commercial products.

TABLE B-1
ROAD MAINTENANCE ASSOCIATED WITH THE COONEY MCKAY PROJECT

Road Number	Miles
FDR #560	0.94
FDR #899	1.59
FDR #901	3.43
FDR #9550	2.45
FDR #9551	0.24
FDR #9544	0.7
FDR #9546	1.81
FDR #9594	0.6

TABLE B-1
ROAD MAINTENANCE ASSOCIATED WITH THE COONEY MCKAY PROJECT

Road Number	Miles
FDR #9760	0.6
FDR #9762	2.48
FDR #9813	0.78
FDR #10512	1.31
FDR #10513	0.82
FDR #10515	1.2
FDR #10517	0.81
Total BMPs	**19.76**

State Requirements for Protection of Water Quality

Montana State Water Quality Standards require the use of reasonable land, soil, and water conservation practices (similar to BMPs) as the controlling mechanism for non-point pollution. The use of BMPs is also required in the Memorandum of Understanding between the Forest Service and the State of Montana as part of the agency's responsibility as the designated water quality management agency on NFS lands.

BMP Implementation Process

In cooperation with the State, the Forest Service's primary strategy for the control of non-point sources of pollution is based on the implementation of preventive practices (i.e., BMPs). The BMPs have been designed and selected to protect the identified beneficial uses of the watershed.

The Forest Service non-point source management system consists of the following steps:

A. BMP Selection and Design

Water quality goals are identified in the Forest Plan. These goals meet or exceed applicable legal requirements including State water quality regulations, the Clean Water Act, and the NEPA. Environmental assessments for projects are tiered to Forest Plans using the NEPA process. The appropriate BMPs are selected for each project by an ID Team. In each new location, there is flexibility to design different BMPs depending on local conditions and values and downstream beneficial uses of water. The BMP selection and design are dictated by the proposed activity, water quality objectives, soils, topography, geology, vegetation, and climate. Environmental impacts and water quality protection options are evaluated, and alternative mixes of practices are considered. A final collection of practices is selected that not only protect water quality but meet other resource needs. These final selected practices constitute the BMPs for the project.

B. BMP Application

The BMPs are translated into contract provisions, special use permit requirements, project plan specifications, and so forth. This ensures that the operator or person responsible for applying the BMPs actually is required to do so. Site-specific BMP prescriptions are taken from plan-to-ground by a combination of project layout and Resource Specialists (hydrology, fisheries, soils, etc.). This is when final adjustments to fit BMP prescriptions to the site are made.

C. BMP Monitoring

When the resource activity begins (e.g., timber harvest or road building), Timber Sale Administrators, Engineering Representatives, Resource Specialists, and others ensure the BMPs are implemented according to plan. Best Management Practices implementation monitoring is done before, during, and after resource activity implementation. This monitoring answers the question: Did we do what we said we were going to do? Once BMPs have been implemented, further monitoring is done to evaluate if the BMPs are effective in meeting management objectives and protecting beneficial uses. If monitoring indicates that water quality standards are not being met or beneficial uses are not being protected, corrective action will consider the following:

a. Is the BMP technically sound? Is it really best or is there a better practice that is technically sound and feasible to implement?

b. Was the BMP applied entirely as designated? Was it only partially implemented? Were personnel, equipment, funds, or training lacking which resulted in inadequate or incomplete implementation?

c. Do the parameters and criteria that constitute water quality standards adequately reflect human-induced changes to water quality and beneficial uses?

D. Feedback

Feedback on the results of BMP evaluation is both short and long term in nature. Where corrective action is needed, immediate response will be undertaken. This action may include: modification of the BMP, modification of the activity, ceasing the activity, or possibly modification of the State Water Quality Standard. Cumulative effects over the long term may also lead to the need for possible corrective actions. Effectiveness of BMPs is based on audit results. Audit results specific to the Swan Lake Ranger District of the Flathead National Forest are on file at the District Office.

Best Management Practice Effectiveness

In looking at the effectiveness of BMPs for the Flathead National Forest, it is reasonable to group BMP audit results for the Kootenai and Flathead National Forests together since they have similar soils. Both Forests are dominated by soils formed in the glacial till formed in material weathered from Belt rocks. This material is topped with wind blown volcanic ash from west coast eruptions up to 6000 years ago.

Best Management Practice audits have occurred on the Flathead and Kootenai National Forests since 1988. Audits are done to determine if BMPs were properly applied and, if so, if they were effective at maintaining soil and water quality. Since 1988, individual BMPs have been audited or monitored 2,232 times on the Flathead and Kootenai National Forests. They were effective 2,211 times.

In order to analyze the results of the BMP audits, they were grouped according to the soil type on which they occurred. The simplest way is to group them by two classes:

1. Residual soils that formed from the underlying bedrock, or
2. Soils formed from glacial till.

Looking at these soil criteria, BMPs were effective when properly applied on glacial soils 1,585 times out of 1,596 applications. BMPs were effective when properly applied on residual soils 154 out of 156 applications. An additional 480 BMPs were monitored without reference to the soil types on which they are applied. Of these, 472 were effective at protecting soil and water quality.

In summary, BMPs were effective 99.3 percent of the time they were properly applied on glacial till soils. Lumping the entire audit results together regardless of their soil types and including the earliest audits that were not specific to soil type, BMPs were effective 99 percent of the time they were properly applied on the Flathead and Kootenai National Forests.

Items Common to All Soil and Water Conservation Practices

Responsibility for Implementation

The Swan Lake District Ranger is responsible for ensuring that all applicable SWCPs are applied and implemented. The Timber Management Assistant is responsible for ensuring that the objectives of the SWCPs identified in this appendix are incorporated into the Timber Sale Contract by use of the appropriate Timber Sale Contract CT provisions. The Timber Sale Administrator and Engineering Representative/Contracting Officer's Representative (ER/COR) is responsible for ensuring that contract provisions are properly administered on the ground.

Monitoring

The Timber Sale Administrator, ER/COR, Forest Soil Scientist, and Forest Hydrologist as needed, will monitor the effectiveness of the applied SWCPs. If the practice is not effective in meeting State or Forest Plan standards, the practice or project activity will be redesigned, rescheduled, or dropped. Feedback of the results of the site-specific SWCP monitoring to the Forest Soil Scientist will ensure that the best practices are incorporated into all projects impacting water quality. This requirement conforms to the objectives of Practice 11.02 - Soil and Water Resource Monitoring and Evaluation.

SITE-SPECIFIC BEST MANAGEMENT PRACTICES

Description of the soil and water conservation practices from the Forest Service Soil and Water Conservation Handbook (FSH 2509.22) will be applied in **Alternative 3 - Modified**. The location where the practices will be applied is specified in the table below. For a more detailed description of a specific BMP, refer to the Soil and Water Conservation Handbook.

Abbreviations used in this table:

SPS = Special Project Specification
TSC = Timber Sale Contract
TSA = Timber Sale Administrator
SMZ = Streamside Management Zone
IDT = Interdisciplinary Team
SWCP = Soil and Water Conservation Practice
RHCA = Riparian Habitat Conservation Area
INFS = Inland Native Fish Strategy
FNF = Flathead National Forest
PSF = Pre Sale Forester
ER = Engineering Representative
COR = Contracting Officer's Representative
SAM = Sale Area Map
FMO = Fire Management Officer
EA = Environmental Assessment

SWCP	MT BMP	SWCP OBJECTIVE	APPLICABLE UNITS/ROADS	RECOMMENDED BEST MANAGEMENT PRACTICES BY IDT/TSA	CONSIDERATIONS FOR BEST MANAGEMENT PRACTICES	PERSON(S) RESPONSIBLE	STANDARD CONTRACT PROVISIONS	STEWARDSHIP CONTRACT PROVISIONS
14.01	IV. A-C	TIMBER SALE PLANNING - To incorporate soil and water resource considerations into Timber Sale Planning	All Activities	1. Unit design, mitigation, and effects analysis was done by IDT. 2. TSC will be prepared by PSF that will include management constraints and Design Criteria from EA. 3. Use standard interim RHCA widths unless modified through watershed analysis. 4. Use exiting skid trails where feasible.	IDT has evaluated watershed characteristics and estimated response to proposed activities. EA identifies Design Criteria to protect soil and water resources. Timber sale contracts will include provisions to meet water quality, soils, and other resources as directed by the Decision.	IDT, PSF	N/A	N/A

SWCP	MT BMP	SWCP OBJECTIVE	APPLICABLE UNITS/ROADS	RECOMMENDED BEST MANAGEMENT PRACTICES BY IDT/TSA	CONSIDERATIONS FOR BEST MANAGEMENT PRACTICES	PERSON(S) RESPONSIBLE	STANDARD CONTRACT PROVISIONS	STEWARDSHIP CONTRACT PROVISIONS
14.02	IV. A	TIMBER HARVEST UNIT DESIGN - To insure that timber harvest unit design will secure favorable conditions of water flow, maintain water quality and soil productivity, and reduce soil erosion and sedimentation.	All Activities	1. Cumulative effects analysis and unit design were performed by IDT. 2. The prescriptions and unit design are consistent with direction outlined in the considerations for BMPs. 3. Use standard interim RHCA widths unless modified through watershed analysis. 4. Use exiting skid trails where feasible.	Proposed activities were evaluated to estimate the potential watershed response. Prescriptions will be designed to assure an acceptable level of protection for soil and water resources. Management will protect soil/water values by avoiding sensitive areas, adjusting unit boundaries, adding specific BMPs to meet specific SWCPs, applying mitigation, and applying implementation/effectiveness monitoring.	IDT	N/A	N/A
14.03	N/A	USE OF SALE AREA MAPS (SAMs) FOR DESIGNATING SOIL AND WATER PROTECTION NEEDS - To delineate the location of protected areas and available water sources and insure their recognition, proper consideration, and protection on the ground.	All Activities	1. Water courses identified and protected using SMZ buffers as a minimum. 2. Skidding on soil when moisture is <18%. 3. Use designated skid trails agreed to by TSA. 4. Use standard interim RHCA widths unless modified through watershed analysis.	The IDT will identify water courses to be protected, unit boundaries, and other features. Ground verification and preparation of SAMs to be included in TSC will be done by PSF. TSA reviews areas of concern with purchaser before operations.	IDT, PSF, TSA	B(T)1.1 B(T)6.5 C(T)6.50# C(T)6.4#	B.1 G.5 K-G.5.0# K-G.4#
14.04	IV. A-2, B-1,2 VI. A	LIMITING THE OPERATION PERIOD OF TIMBER SALE ACTIVITIES - To minimize soil erosion, sedimentation, and a loss in soil productivity by insuring that the purchaser conducts his/her operations in a timely manner.	All Activities	1. Units located on soils sensitive to compaction and/or displacement have been identified. 2. Designate units needing harvest on frozen or snow covered ground. 3. All other ground disturbing activities will occur during dry, frozen, or snow-covered conditions.	If limited operating periods are identified and recommended during the analysis by the IDT, the PSF will prepare a contract that includes appropriate provisions.	IDT, PSF, TSA	B(T)6.31 B(T)6.311 B(T)6.6 C(T)6.6 C(T)6.316# C(T)6.4#	G.3.1 G.3.1.1 G.6 K-G.6 K-G.3.1.6# K-G.4#
14.05	IV. A-B III A-2-4	PROTECTION OF UNSTABLE AREAS - To protect unstable areas and avoid triggering mass movements of the soil mantle and resultant erosion and sedimentation.	All Activities	1. Unstable landtypes will be identified during the planning process. 2. Units found to need further protection will use alternative yarding techniques, seasonal restrictions, and/or unit boundary adjustments.	If the NEPA analysis concluded that soils/geology in the area were unstable, BMPs would be designed to prevent irreversible soil and water effects.	IDT, PSF, TSA	C(T)6.316# C(T)6.4#	K-G.3.1.6# K-G.4#

SWCP	MT BMP	SWCP OBJECTIVE	APPLICABLE UNITS/ROADS	RECOMMENDED BEST MANAGEMENT PRACTICES BY IDT/TSA	CONSIDERATIONS FOR BEST MANAGEMENT PRACTICES	PERSON(S) RESPONSIBLE	STANDARD CONTRACT PROVISIONS	STEWARDSHIP CONTRACT PROVISIONS
14.06	II	RIPARIAN AREA DESIGNATION - To minimize the adverse effects on riparian areas with prescriptions that manage nearby logging and related land disturbance activities.	All Activities	1. Identify areas with or adjacent to wet areas. 2. Default RHCA widths will be adhered to unless modified through watershed analysis. SMZ widths will be used as a minimum if modification is proposed. 4. Areas found during sale layout will be reported to the Hydrologist and afforded the same protections as those identified earlier.	All streams and wetlands in the project area will comply with Flathead National Forest Plan as amended by INFS. The width of the riparian areas will be decided upon by the IDT. These widths will be included on the sale area map, marked on the ground and included in the TSC.	IDT, PSF	B(T)1.1 B(T)6.5, C(T)6.4# C(T)6.41# C(T)6.50#	B.1 G.5 K-G.4# K-G.4.1# K-G.5.0#
14.07	IV, A-2 B-1	DETERMINING TRACTOR-LOGGABLE GROUND - To protect water quality from degradation caused by tractor logging ground disturbance.	All Activities	1. Tractor loggable units have been identified during the planning process. 2. Those areas found not to be tractor loggable were designated as alternative logging systems or were dropped form the unit.	IDT has identified tractor-loggable ground (in conjunction with personnel from timber operations) during transportation and timber sale planning process. The results have been used to determine intensity of and restrictions for land disturbance activities. TSC and SAM indicate areas and conditions under which tractors can operate.	IDT, PSF	B(T)1.1 B(T)6.42 C(T)6.4# C(T)6.316#	B.1 G.4.2 K-G.4# K-G.3.1.6#
14.08	IV, A-B	TRACTOR SKIDDING DESIGN - To minimize erosion and sedimentation and protect soil productivity by designing skidding patterns to best fit the terrain.	All Activities	1. Identify units with designated or dispersed skid trails. 2. TSA and purchaser agree on proposed locations before operation.	IDT has identified sensitive areas during the planning process. The TSA will execute the plan on the ground by locating the skid trails with the timber purchaser or by agreeing to the purchaser's proposed locations prior to operation.	IDT; TSA	B(T)6.422 C(T)6.4#	G.4.2 K-G.4#
14.09	IV. A-2	SUSPENDED LOG YARDING IN TIMBER HARVESTING - To protect the soil from excessive disturbance and accelerated erosion and maintain the integrity of the riparian areas and other sensitive areas.	Cable Logging Units	1. Units that have slopes that are unsuitable for or sensitive to ground base skidding will be identified. 2. Units with sustained slopes >40% will be designated cable harvest units.	IDT recognizes the hazards associated with operating on steep and/or rocky slopes. Areas found to be of concern will use appropriate harvest systems that provide for a safe work environment and protect natural resources.	IDT, PSF	B(T)6.42 C(T)6.4# C(T)6.50#	G.4.2 K-G.4# K-G.5.0#

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14.10	IV. A-5,6 B-4	LOG LANDING LOCATION AND DESIGN - To locate in such a way as to avoid soil erosion and water quality degradation.	All Activities	1. TSA and purchaser agree on landing locations before operation. 2. Use minimum size and least excavation needed. 3. No side-cast material into sensitive areas or waterways. 4. Install proper drainage.	TSA must agree to landing locations proposed by the purchaser. Approved landing locations will meet the criteria of: minimal size, least excavation needed, minimum skid roads necessary, no side-cast material into sensitive areas, and have proper drainage.	TSA	B(T)6.422 C(T)6.422	G.4.2.2 K-G.4.2.2
14.11	IV. A-5,6 B-4	LOG LANDING EROSION PREVENTION AND CONTROL- To reduce erosion and subsequent sedimentation from log landing through the use of mitigating measures.	All Activities	1. Proper drainage will be installed and maintained during operation. 2. Landings will be scarified, seeded and fertilized upon completion of harvest activities. 3. TSA will assess conditions and take necessary steps to ensure soil and water protection.	PSF and TSA assess what is necessary to prevent erosion from landings and to ensure stabilization. It is up to the TSA to request technical assistance as needed.	PSF, TSA	B(T)6.6 B(T)6.64 C(T)6.6 C(T)6.632# C(T)6.633#	G.6 G.6.4 K-G.6 K-G.6.3.2# K-G.6.3.3#
14.12	IV. A-C	EROSION PREVENTION AND CONTROL MEASURES DURING THE TIMBER SALE OPERATION - To ensure that the purchaser's operations shall be conducted reasonably to minimize soil erosion.	All Activities	1. Designate units with seasonal restrictions. 2. Do not operate during wet periods including spring-snowmelt and/or intense or long-duration rain storms. 3. TSA ensures that erosion control is kept current and prevents operation when excessive impacts are possible.	PSF and TSA sets purchaser's responsibility to prevent soil/water resource damage in TSC. TSA ensures that erosion control is kept current and prevents operation when excessive impacts are possible.	PSF, TSA	A16 B(T)6.6 B(T)6.64 C(T)6.6 C(T)6.601# C(T)6.316#	A.16 G.6 G.6.4 K-G.6 K-G.6.6.1 K-G.3.1.6#
14.13	IV. B 5,6	SPECIAL EROSION PREVENTION MEASURES ON AREAS DISTURBED BY HARVEST ACTIVITIES - To prevent erosion and sedimentation on disturbed areas.	All Activities	1. Waterbar, slash, seed, and/or fertilize skid trails and landings. 2. Rehabilitate constructed skid trails and temporary roads. 3. BMPs may be adjusted by the TSA to meet operational requirements.	IDT identifies locations needing special stabilization measures. If any such areas are identified, BMPs may be adjusted by the TSA to meet operational requirements.	IDT, TSA	C(T)6.601# C(T)6.32# C(T)6.633#	K-G.6.0.1# K-G.6.3.2# K-G.6.3.3#

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14.14	IV. B 5	REVEGETATION OF AREAS DISTURBED BY HARVEST ACTIVITIES - To establish a vegetative cover on disturbed areas to prevent erosion and sedimentation.	All Activities	1. Seed and fertilize areas of exposed soil with FNF approved vegetative and fertilizer mix.	IDT has established vegetation and fertilizer mix to be used in the project area with outlines on the extent to which it should be used. TSA is responsible for seeing that revegetation work required by purchaser is done correctly and in a timely manner. The purchaser will be responsible for revegetation immediately after the completion of harvest. Funds will be collected for the District to do follow-up seeding/fertilizing in years two and three after harvest.	IDT, TSA	C(T)6.01# C(T)6.633#	K-G.6.0.1# K-G.6.3.3#
14.15	IV. A-4,5 B-5,6	EROSION CONTROL ON SKID TRAILS - To protect water quality by minimizing erosion and sedimentation derived from skid trails.	All Activities	1. Ensure proper skid trail location. 2. Ensure proper drainage on skid trails. 3. Rehabilitate constructed skid trails and temporary roads. 4. Ensure maintenance of erosion control structures by purchaser.	Erosion control measures may be recommended by the IDT, but site-specifically adjusted by the TSA. TSA will ensure erosion control measures are applied prior to expected hydrologic events (spring runoff, high-intensity storms, etc.). Maintenance of erosion control structures by the purchaser may be necessary and requested by the TSA.	TSA	B(T)6.6 B(T)6.65 B(T)6.66 C(T)6.6 C(T)6.633#	G.6 G.6.5 G.6.6 K-G.6 K-G.6.3.3#
14.16	IV. B-2	WET MEADOW PROTECTION DURING TIMBER HARVESTING - To avoid damage to the ground cover, soil, and water in meadows.	All Activities	1. Identify units with or adjacent to wet meadows. 2. Units with unmapped wet areas will be reported to Hydrologist and afforded the same protection as those identified during the planning process. 3. Standard interim RHCA widths will be adhered to unless modification is in place. 2. SMZ law will be met or exceeded.	IDT has identified areas needing special protection. PSF will verify the areas needing protection and prepare the contract to prevent damage to meadows. The TSA will be responsible for on-the-ground protection of meadows. If meadows are found by the TSA during operations, it is their responsibility to either afford them the proper protection or pursue a contract modification.	IDT, PSF, TSA	B(T)1.1 B(T)6.422 B(T)6.61 C(T)6.4# C(T)6.62#	B.1 G.4.2.2 G.6.1 K-G.4# K-G.6.2#
14.17	V. A-C	STREAM CHANNEL PROTECTION (IMPLEMENTATION AND ENFORCEMENT) - Protect natural stream flows; provide unobstructed passage of flows; reduce sediment input; and restore flow if diverted by timber sale activity.	All Activities	1. Standard interim RHCA widths will be adhered to unless modification is in place. 2. SMZ widths will be used at a minimum if modification in place. 3. SMZ law will be met or exceeded.	IDT has identified the location of channels in the decision area. PSF will prepare a SAM locating the channels needing protection. Layout crew marks boundaries and trees according to HB-731 and FP guidelines. TSA will see that TSC items are carried out on the ground. Technical assistance will be consulted as needed.	IDT, PSF, TSA	B(T)1.1 B(T)6.5 B(T)6.6 C(T)6.50# C(T)6.6	B.1 G.5 G.6 K-G.5.0# K-G.6

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14.18	IV. A-C	EROSION CONTROL STRUCTURE MAINTENANCE - To insure that constructed erosion control structures are stabilized and working effectively.	All Activities	1. During the period of the TSC, the purchaser is responsible for maintaining their erosion control features.	During the period of the TSC, the purchaser is responsible for maintaining their erosion control features. If work is needed beyond this time, the District will pursue other sources of funding.	TSA	B(T)6.66 B(T)6.67	G.6.6 G.6.7
14.19	IV. A-C	ACCEPTANCE OF TIMBER SALE EROSION CONTROL MEASURES BEFORE SALE CLOSURE - To assure the adequacy of required erosion control work on timber sales.	All Activities	1. TSA reviews erosion prevention work before each harvest unit is considered complete. 2. The inspection will determine if the work is acceptable and will meet the objective of the erosion control feature.	A careful review of erosion prevention work will be made by the TSA before each harvest unit is considered complete. The inspection will determine if the work is acceptable and will meet the objective of the erosion control feature. A feature is considered not acceptable if it does not meet standards or is not expected to protect soil/water values. Technical assistance will be used as necessary.	TSA	B(T)6.36	G.3.6
14.20	IV. C	SLASH TREATMENT IN SENSITIVE AREAS - To protect water quality by protecting sensitive tributary areas from degradation that would result from using mechanized equipment for slash disposal.	All Activities	1. Where harvest is proposed within riparian areas, either slash should be removed with the tree or scattered and not treated. 2. Mechanical fuels treatments should not be used on sensitive land types.	All activities will comply with the FNF Forest Plan as amended by INFISH. Where harvest within riparian areas is proposed, either the slash would be removed with the tree or scattered and not treated.	TSA, FMO	B(T)6.5 B(T)6.7 C(T)6.50# C(T)6.7 C(T)6.71 C(T)6.753	G.5 G.7 K-G.5.0# K-G.7# K-G.7.1 K-G.7.5.3
14.22	N/A	MODIFICATION OF THE TSC - To modify the TSC if new circumstances or conditions indicate the timber sale will cause irreversible damage to soil, water, or watershed values.	All Activities	1. Environmental modification procedure.	If TSC is not adequate to protect soil/water resources, the TSA and Contracting Officer are responsible for recommending modification of the TSC.	TSA	B(T)8.33	i.3.3
15.01	III. A-E	GENERAL GUIDELINES FOR TRANSPORTATION PLANNING - To introduce soil and water resource considerations into transportation planning.	All Roads	1. Complete a roads analysis. 2. Transportation plans include installation and maintaining proper drainage.	The IDT has evaluated watershed characteristics and estimated the response of soil and water resources to proposed transportation alternatives and activities.	IDT, ER	N/A	

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15.02	III. A-B	GENERAL GUIDELINES FOR THE LOCATION AND DESIGN OF ROADS AND TRAILS - To locate and design roads and trails with minimal soil and water impact while considering all Design Criteria.	New Road and Trail Construction	1. Follow INFS Standards and Guidelines for road management. 2. Identify sensitive land types, riparian areas, and wetlands during planning. 3. Use the minimum amount of roads and trails necessary.	The IDT has insured that the location and design of roads and trails are based on multiple resource objectives. Mitigation measures have been designed to protect the soil and water resources identified in the NEPA process. Contract provisions will be prepared by the ER that meets the soil and water resource protection requirements.	IDT, ER		
15.03	III. A-E	ROAD AND TRAIL EROSION CONTROL PLAN - To prevent, limit, and mitigate erosion, sedimentation, and resulting water quality degradation prior to the initiation of construction by timely implementation of erosion control practices.	New Road and Trail Construction	1. Seed and fertilize disturbed areas. 2. Install proper ditching and road slope. 3. Install proper drainage. 4. Incorporate road grade breaks. 5. Use minimum road or trail length/width necessary. 6. Avoid wet areas or areas of sensitive soil types.	IDT has established soil/water conservation objectives and mitigation measures. ER will then prepare a contract that reflects the objectives. ER will see that erosion control measures are approved and completed in a timely manner. IDT reviews projects to check effectiveness of erosion control features.	IDT, ER	B(T)6.31 B(T)6.312 B(T)6.6 C(T)6.601#	G.3.1 G.3.1.2 G.6 K-G.6.0.1#
15.04	III. D 1, 4	TIMING OF CONSTRUCTION ACTIVITIES - To minimize erosion by conducting operations during minimal runoff periods.	New Road and Trail Construction	1. Avoid construction during wet periods.	IDT has outlined detailed erosion control measures in NEPA process. ER puts these measures into contract provisions. Compliance is assured by Contracting Officer or ER.	IDT, ER	B(T)6.31 B(T)6.312 B(T)6.6 SPS 204	G.3.1 G.3.1.2 G.6
15.05	III. A-E	SLOPE STABILIZATION AND PREVENTION OF MASS FAILURES - To reduce sedimentation by minimizing the chances for road-related mass failures, including landslides and embankment slumps.	New Road and Trail Construction	1. Avoid construction across unstable areas. 2. Construct embankments following approved engineering practices. 3. Use minimum road or trail length/width necessary.	Road and trail construction in mountainous terrain requires cutting and loading natural slopes which may lead to landslides and/or embankment failures. In areas with intrinsic slope stability problems, appropriate technical resource personnel must be involved in an interdisciplinary approach to route location.	IDT,; ER	N/A	
15.06	III. A-E	MITIGATION OF SURFACE EROSION AND STABILIZATION OF SLOPES - To minimize soil erosion from road cut slopes, fill slopes, and travel ways.	All Haul Roads	1. Seed and fertilize cut and fill slopes. 2. Install proper ditching and road slope. 3. Install proper drainage. 4. Incorporate road grade breaks. 5. Install ditch relief culverts before/after stream crossings.	IDT has outlined detailed erosion control measures in the NEPA process. Stabilization techniques are included in contract provisions. Compliance is assured by Contracting Officer or ER.	IDT, ER	SPS 203, 204, 206A 210, 412 619, 625, 626 630 B(T) 5.3 B(T)6.6 B(T)6.63 B(T)6.66 B(T)6.312 C(T)5.314# C(T)6.6 C(T)6.601#	F.3 G.6 G.6.3 G.6.6 G.3.1.2 K-F.3.1.4# K-G.6 K-G.6.0.1#

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15.07	III. E-2	CONTROL OF PERMANENT ROAD DRAINAGE - To minimize the erosive effects of concentrated water and degradation of water quality by proper design and construction of road drainage systems and drainage control structures.	All Haul Roads	1. Avoid long, steep grades. 2. Maintain adequate surface drainage. 3. Prevent erosion of culvert fills. 4. Maintain ditches. 5. Ditch relief culverts before/after stream crossings.	IDT has identified locations, Design Criteria, drainage control features, and mitigation. Compliance will be assured by the ER/Contracting Officer.	ER	B(T)5.3 B(T)6.6 C(T)5.31# C(T)6.6	F.3 G.6 K-F.3.1# K-G.6
15.08	III. D	PIONEER ROAD CONSTRUCTION - To minimize sediment production and mass wasting associated with pioneer road construction.	New Road and Trail Construction	1. Ensure stable slopes during construction. 2. Seed and fertilize exposed soil. 3. Avoid construction during wet periods. 4. Use slash filter windrows.	ER/Contracting Officer will be responsible for enforcing contract specifications. The purchaser is responsible for submitting an operating plan that includes erosion control measures.	ER	B(T)5.23 B(T)6.31 B(T)6.311 B(T)6.312 B(T)6.6 C(T)6.601# SPS 204	F.2.3 G.3.1 G.3.1.1 G.3.1.2 G.6 K-G.6.0.1#
15.09	III. E-7,8	TIMELY EROSION CONTROL MEASURES ON INCOMPLETE ROADS AND STREAM CROSSING PROJECTS - To minimize erosion of and sedimentation from disturbed ground on incomplete projects.	All Road construction, reconstruction, and maintenance	1. Avoid construction during wet periods. 2. Use slash filter windrows or silt fence. 3. Seed and fertilize disturbed areas.	IDT has identified project location and mitigation measures in NEPA process. Protective measures will be kept current on all areas of disturbed, erosion-prone areas. TSA ensures contract compliance.	IDT, TSA	B(T)5.23 B(T)6.31 B(T)6.6 B(T)6.66 C(T)6.6 C(T)6.601#	F.2.3 G.3.1 G.6 G.6.6 K-G.6 K-G.6.0.1#
15.10	III. D-8	CONTROL OF ROAD CONSTRUCTION, EXCAVATION, AND SIDE-CAST MATERIAL - To reduce sedimentation from unconsolidated excavated and side-cast material caused by road construction, reconstruction, or maintenance.	All Road construction, reconstruction, and maintenance	1. Do not side-cast into waterways or sensitive areas. 2. Use slash filter windrows or silt fence.	IDT has identified project location and mitigation measures in NEPA process. Protective measures will be kept current on all areas of disturbed, erosion-prone areas. TSA ensures contract compliance.	IDT, TSA	B(T)5.3 C(T)5.31# SPS 203 SPS 204	F.3 K-F.3.1#
15.11	VII. A-1,2	SERVICING AND REFUELING EQUIPMENT - To prevent contamination of waters from accidental spills of fuels, lubricants, bitumens, and other harmful materials.	All Activities	1. Ensure proper fuel storage and transportation. 2. Keep fuel from streams, wetlands, ponds, and lakes.	ER/TSA/Contracting Officer will designate the location, size, and uses of service refueling areas. All projects will adhere to the FNF Hazardous Substance Spill Plan in case of accidents.	ER, TSA	B(T)6.222 B(T)6.34 B(T)6.341	G.2.2.2 G.3.4 G.3.4.1

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15.12	III A. 4	CONTROL OF CONSTRUCTION IN RIPARIAN AREAS - To minimize the adverse effects on riparian areas from roads.	New Road and Temporary Road Construction	1. Follow INFS Standards and Guidelines for construction within riparian areas. 2. Use slash filter windrows or silt fence. 3. Install ditch relief culverts and surface water deflectors before/after stream crossings.	Proposed new and temporary roads will adhere to guidelines in the Montana Streamside Management Zone Law (HB-731). All road activities will follow INFS Standards and Guidelines for road management.	ER, TSA	B(T)6.5 B(T)6.62 C(T)6.50# SPS 206 SPS 206A	G.5 G.6.2 K-G.5.0#
15.13	V. C-1	CONTROLLING IN-CHANNEL EXCAVATION - To minimize stream channel disturbances and related sediment production.	All Road construction, reconstruction, and maintenance	1. Use silt fence to minimize introduced sediment. 2. Use minimum amount of road. 3. Construct minimum number of crossings.	BMP improvements at crossings would adhere to the guidelines in Montana Streamside Management Zone Law (HB-731) and the INFS Standards and Guidelines for road management.	ER, TSA	B(T)6.5 SPS 204 SPS 206 206A	G.5
15.14	V. A, C	DIVERSION OF FLOWS AROUND CONSTRUCTION SITES - To minimize downstream sedimentation by insuring all stream diversions are carefully planned.	All Work at Stream Crossings	1. Divert stream flow around construction. 2. Use silt fence to minimize introduced sediment. 3. Construction during low-flow	The IDT has determined, where stream crossings meet multiple resource objectives, the crossings would require a State 124 permit. This would require the State Fish, Wildlife, and Parks to review the adequacy of the proposed mitigation. Compliance with contract provisions would be done by the ER.	IDT, ER	B(T)6.5 B(T)6.31 C(T)6.50# C(T)6.6	G.5 G.3.1 K-G.5.0# K-G.6
15.15	V. A-C	STREAM CROSSINGS ON TEMPORARY ROADS - To keep temporary roads from unduly damaging streams, disturbing channels, or obstructing fish passage.	All Roads	1. Consult Hydrologist on placement of crossing 2. Use minimum number of stream crossings. 3. Construction during low-flow. 4. Follow INFS Standards and Guidelines for construction within riparian areas.	The IDT identifies areas in need of a temporary road during the NEPA process. Proposed stream crossings would adhere to the guidelines in Montana Streamside Management Zone Law (HB-731).	PSF, ER, TSA	N/A	
15.16	V. C 1-7	BRIDGE AND CULVERT INSTALLATION - To minimize sedimentation and turbidity resulting from excavation for in-channel structures.	All Road construction, reconstruction, and maintenance	1. Installation should be done during periods of low flow. 2. In-stream sediment retention devices should be used throughout implementation.	IDT has identified project location and mitigation measures in NEPA process. Protective measures will be kept current on all areas of disturbed, erosion-prone areas. TSA ensures contract compliance.	IDT, TSA	C(T)5.31# (T-310) B(T)6.312	K-F.3.1# (T-618) G.3.1.2

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15.17	III. D-9	REGULATION OF BORROW PITS, GRAVEL SOURCES, AND QUARRIES - To minimize sediment production from borrow pits, gravel sources, and quarries and limit channel disturbance in those gravel sources suitable for development in floodplains.	N/A			ER	B(T)6.5 C(T)6.50#	G.5 K-G.5.0#
15.18	III. D-8	DISPOSAL OF RIGHT-OF-WAY AND ROADSIDE DEBRIS - To insure that debris generated during road construction is kept out of streams and prevent slash and debris from subsequently obstructing channels.	All Road construction, reconstruction, and maintenance	1. Debris and slash generated during road construction should not be side-cast into streams.	Proposed road construction will adhere to the guidelines in the Montana Streamside Management Zone Law (HB-731).	ER	Std Spec 201 SPS 201	
15.19	III. A	STREAM BANK PROTECTION – To minimize sediment production from stream banks and structural abutments in natural waterways.	All Road construction, reconstruction, and maintenance	1. Take precautions to minimize or eliminate disturbance to stream banks. 2. Maintain in-stream structures.	IDT has identified project location and mitigation measures during NEPA process. Protective measures will be kept current on all areas of disturbed soils. TSA and ER ensure contract compliance.	IDT, ER, TSA	Std Spec 619	
15.20	N/A	WATER SOURCE DEVELOPMENT CONSISTENT WITH WATER QUALITY PROTECTION - To supply water for road construction and maintenance and fire protection while maintaining water quality.	N/A			ER, FMO	Std Spec 207	
15.21	III. E	MAINTENANCE OF ROADS - To maintain all roads in a manner that provides for soil and water protection by minimizing rutting, failures, side-cast, and blockage of drainage facilities.	All Road reconstruction, and maintenance	1. Maintain all roads in a manner that provides for soil and water protection	Road maintenance associated with a timber sale is the responsibility of purchaser. The ER/TSA will ensure that the purchaser maintains roads according to the appropriate maintenance level.	ER, TSA	B(T)5.12 B(T)5.3 B(T)6.6 C(T)6.6 C(T)5.31#	F.1.2 F.3 G.6 K-G.6 K-F.3.1#

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15.22	III. E-1	ROAD SURFACE TREATMENT TO PREVENT LOSS OF MATERIALS - To minimize the erosion of road surface materials and, consequently, reduce the likelihood of sediment production.	All Haul Roads	1. Maintenance of road surface should include proper blading and/or dust abatement. 2. Use crush-gravel where necessary.	Protective measures will be kept current on all areas of disturbed, erosion-prone areas. ER ensures contract compliance.	IDT, ER	B(T)5.3 C(T)5.31# C(T)5.314#	F.3 K-F.3.1# K-F.3.1.4#
15.23	III. E-6	TRAFFIC CONTROL DURING WET PERIODS - To reduce the potential for road surface disturbance during wet weather and reduce sedimentation.	All Haul Roads	1. Avoid hauling during wet periods.	Road restrictions and traffic control measures will be implemented on all haul roads when damage would occur during spring breakup. The decision to restrict a road is made by the ER. Hauling restrictions would be controlled by the TSA.	ER, TSA	B(T)6.6 C(T)6.6 C(T)5.316# C(T)5.41#	G.6 K-G.6 K-F.3.1.6# K-F.4.1#
15.24	III.E-4 VI. A-B	SNOW REMOVAL CONTROLS - To minimize the impact of snow melt on road surfaces and embankments and reduce the probability of sediment production resulting from snow removal operations.	All Winter Haul Roads	1. Be careful not to leave snow berm at edge of road. 2. Ensure proper drainage by opening sections of berm to allow water to leave road surface. 3. Ensure no side cast material enters waterways.	Snow removal will be kept current on all roads associated with winter logging operations. The TSA ensures compliance with contract provisions.	IDT, TSA	C(T)5.316# Std Spec 203.09	K-F.3.1.6#
15.25	III. E 7, 8	OBLITERATION OF TEMPORARY ROADS - To reduce sediment generated from temporary roads by obliterating them at the completion of their intended use.	All Temporary Roads	1. Re-contour road fully where feasible. 2. Seed and fertilize exposed soil. 3. Pull slash and woody debris back onto rehabilitated road.	This work will be done on all new temporary roads in the decision area. The purchaser will do the work with compliance by the TSA.	TSA	B(T)6.63 C(T)6.6 C(T)6.632# C(T)6.633# C(T)6.601#	G.6.3 K-G.6 K-G.6.3.2# K-G.6.3.3# K-G.6.0.1#
18.03	IV. C -8	PROTECTION OF SOIL AND WATER FROM PRESCRIBED BURNING EFFECTS - To maintain soil productivity, minimize erosion, and prevent ash, sediment, nutrients, and debris from entering surface water.	All Prescribed Burning	1. Follow INFS Standards and Guidelines for burning in RHCAs. 2. Adhere to SMZ Law. 3. Where harvest within riparian areas is proposed, either the slash should be removed with the tree or scattered and not treated.	Prescribed burning adjacent to riparian areas will adhere to guidelines in the Montana Streamside Management Zone Law (HB-731). Prescribed burn plans identify the conditions necessary to prevent soil damage and meet site preparation objectives.	FMO	N/A	

Appendix 5

U.S. Fish and Wildlife Service Terms and Conditions from the Biological Opinion for Bull Trout

Bull Trout

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure(s) are necessary and appropriate to minimize the impacts of incidental take of bull trout:

1. The primary source of sediment most likely to affect the Cooney Creek bull trout population is expected to result from the two large prescribed burns proposed at the headwaters of Cooney Creek. In order to mitigate any potential or unanticipated consequences from those burns, especially if they do not proceed fully as planned, the Service proposes that the Forest consider and adopt the following reasonable and prudent measures, or respond in a letter to the Service as to the reasons such reasonable and prudent measures were considered and are not feasible:

    a. Burn one of the Cooney Creek patches one year and the other in a subsequent year, to minimize the risk that concentrating the total burned area in a single season may present.

    b. Establish a 300-foot buffer width between the active stream channel in upper Cooney Creek and the toe of the unburned areas to improve the buffer and filtering capacity on these steep and unstable slopes. This is of particular concern in the area of active avalanche chutes.

Terms and Conditions

In order to be exempt from the prohibitions of Section 9 of the Act, the Forest must comply with the following terms and conditions, which implement the reasonable and prudent measures, described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

TC1. The following terms and conditions are established to implement reasonable and prudent measure #1:

In order to mitigate any potential or unanticipated consequences from the headwater ecosystem burns in Cooney Creek, the Service requires the Forest to adopt the following measures in their Selected Action, or respond in a letter to the Service within 120 days of the issuance of the letter of approval for the Cooney McKay Forest Health and Fuels Reduction Project as to the reasons such reasonable and prudent measures were considered and are not feasible:

a. Burn one of two Cooney patches one year and the other in a subsequent year.

b. Establish a 300-foot buffer width between the active stream channel in upper Cooney Creek and the toe of the unburned areas.

TC2 Upon locating dead, injured or sick bull trout, or upon observing destruction of redds, notification must be made within 24 hours to the Montana Field Office at 406-449-5225. Record information

relative to the date, time, location of dead or injured bull trout when found, and possible cause of injury or death of each fish and provide this information to the Service.

TC3 The Forest shall provide the results of any monitoring conducted by March 1st, for activities occurring in the preceding calendar year, or by an alternate date as agreed by the Service. Results of monitoring conducted shall follow the reporting format as described in the Biological *Assessment of Road Related Actions on Western Montana's Federal Lands that are Likely to Adversely Affect Bull Trout (USDA 2001).*

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of any incidental take that might otherwise result from the selected activities. With implementation of these measures, the Service expects that incidental take of bull trout that would result from changes in stream channel characteristics associated with sediment and modifications of in-stream habitat features (e.g. pool depths, channel width, substrate embeddedness) for the life of the proposed activities will be negligible. If, during the course of the action, the proposed project design and operations are not adhered to, the level of incidental take anticipated in the biological opinion may be exceeded. Such incidental take represents new information requiring re-initiation of consultation and review of the reasonable prudent measures provided. The Service retains the discretion to determine whether non-compliance with terms and conditions results in take exceeding that considered here, and whether consultation should be re-initiated. This may require suspension of project operations. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.