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Environmental Assessment

Holland Pierce Fuels Reduction and Forest Health Project

Swan Lake Ranger District
Flathead National Forest
Missoula County, Montana

For Information Contact: Keith Soderstrom
Swan Lake Ranger District
406-837-7510

TABLE OF CONTENTS

APPENDICES

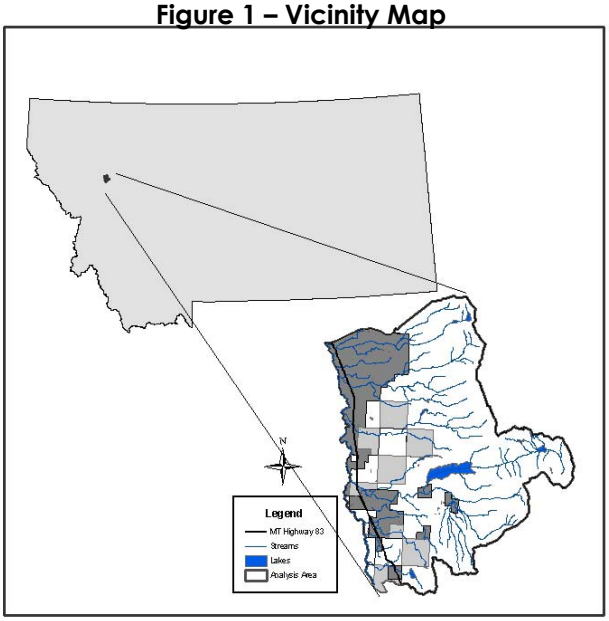
INTRODUCTION

With the Holland Pierce Fuels Reduction and Forest Health Project, the Swan Lake Ranger District proposes to reduce hazardous fuel loading and improve forest health on approximately 1,760 acres of National Forest System (NFS) lands in the Upper Swan Valley. This project is located approximately 6 miles southeast of Condon, Montana (Figure 1 – Vicinity Map) in Missoula County. The Project Area includes approximately 34,500 acres of mixed ownership lands, including 25,160 acres of NFS lands.

The analysis for this EA is being conducted in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. The Holland Pierce Fuels Reduction and Forest Health Project will be conducted under the authorities of the 2003 Healthy Forests Restoration Act (HFRA) (Project File Exhibit H-6).

Additional documentation, including more detailed analyses of project-area resources, may be found in the Project File located at the Swan Lake Ranger District Office in Bigfork, Montana. These records are available for public review.

Figure 1 – Vicinity Map



BACKGROUND

Following the 2000 fire season, Congress directed the Forest Service to identify high-risk wildland/urban interface areas, using the National Fire Plan Guidelines. Condon, Montana, which is adjacent to the Project Area, was identified as a "community at risk" from wildland fire.

On August 22, 2002, President Bush established the Healthy Forests Initiative, directing the Departments of Agriculture and the Interior, and the Council on Environmental Quality, to improve regulatory processes to ensure more timely decisions, greater efficiency, and better results in reducing the risk of catastrophic wildland fires.

The Healthy Forests Restoration Act of 2003 (P.L. 108-148) contains a variety of provisions to expedite hazardous-fuel reduction and forest-restoration projects on specific types of Federal land that are at risk of wildland fire or insect and disease epidemics. The Act helps rural communities, States, Tribes, and landowners restore healthy forest and rangeland conditions on State, Tribal, and private lands.

Recently, an Interdisciplinary (ID) Team comprised of Forest Service natural resource specialists, in cooperation with members of the public, local fire departments, and other agencies, have worked to identify areas in the wildland-urban interface that could benefit from fuel reduction and forest health projects. The Holland Pierce Fuels Reduction and Forest Health Project was identified as such an area. This proposal is consistent with and would implement fuels reduction treatments recommended in the *Seeley-Swan Fire Plan* (Project File Exhibit H-20). This plan identified the project area as an area with a high risk of catastrophic wildland fire. This plan also identified providing for firefighter and public safety as a need. Information provided in the *Upper Swan Valley Assessment* (Project File Exhibit H-16) contributed to the assessment and analysis of the existing condition in the Project Area.

Existing Condition

The Holland Pierce Fuels Reduction and Forest Health Project Area extends from the Swan Valley bottom (adjacent to Montana Hiway 83) on the west, the Swan Range to the east, the Rumble Creek to the north, and the Clearwater Divide to the south. Treatment area elevations range from slightly under 3,000 feet to over 5,000 feet. Western white pine, Engelmann spruce, western larch, Douglas-fir, and lodgepole pine are the major tree species inhabiting the Project Area.

Land ownership in this area is mixed. The Project Area lies within the wildland urban interface, the highest priority area for hazardous fuels treatment in the National Fire Plan. As stated above, Condon, Montana, has been identified as a "community at risk" from wildland fire. Private lands and development within the Project Area, including numerous recreation residences, are located within areas designated in the *Seeley-Swan Fire Plan* as being at a high-to-moderate risk from potential wildland fire.

Over the years, fuels have built up along the NFS and private lands bordering the Holland Pierce Fuels Reduction and Forest Health Project Area. In some areas, this is partially the result of lack of wildfire and other vegetation treatments in the area. In other areas, homes have been located in stands that have relatively high natural fuels buildup. Along with this buildup comes the increased potential of fires originating on NFS lands spreading onto adjoining private lands, which can result in fires of high intensity; with correspondingly reduced safety to the public and firefighters should a fire occur. Such fuel conditions also lead to a decreased probability of stopping a wildfire before it spreads to adjoining lands.

Within the Project Area, there is a need to reduce the potential for crown fires and fuel loads. Presently, the Project Area is Fire Behavior Fuel Model 8/10 Mosaic and 10: Fuel models are a tool used to estimate fire behavior. Each fuel model is described by (1) the fuel load and the ratio of surface area to volume for each size class; (2) the depth of the fuel bed involved in the fire front; and (3) fuel moisture, including that at which the fire will not spread (called the moisture of extinction). These are based on Albini's (1976) paper titled, "Estimating Wildfire Behavior and Effects" (Project File Exhibit I-1)

Following is a description of this fuel model:

Fire Behavior Fuel Model 8/10 Mosaic and 10 (timber litter and understory) - The fires burn in the surface and ground fuels with greater fire intensity than the other timber litter models. Dead and down fuels include greater quantities of three-inch or larger limbwood resulting from overmaturity or natural events that create a large load of dead material on the forest floor. Crowning out, spotting, and torching of individual trees are more frequent in this fuel situation, leading to potential fire control difficulties. Any forest type may be considered if heavy downed material is present; examples are insect or disease-ridden stands, windthrown stands, overmature situations with deadfall, naturally thinned stands, and aged light thinning. These types may have a well-developed vertical or ladder fuel component.

DESIRED CONDITION

The desired condition for the area includes the reduction of fuels along NFS lands and the creation of a safer environment for firefighters and the public should a wildfire occur. Wildfire intensity should decrease with the reduced fuel loadings; and the probability of stopping a wildfire from spreading to adjoining lands would increase also because of reduced fuels in the treatment areas.

The desired condition would also include the improved health of the vegetation within the fuel reduction areas by:

- Leaving the more vigorous, healthy trees;
- Leaving the more wind-firm, fire-resistent and longer-lived species, such as ponderosa pine, larch, and Douglas-fir;
- Leaving some younger confier understory trees on site to provide greater stand diversity, and
- Increasing growth of overstory trees.

The desired condition for the Project Area is a Fire Behavior Fuel Model 8. This model includes a forest vegetative and down woody debris profile that allows small fires with flame lengths of less than 4 feet. Four feet is the maximum flame length in which firefighters with hand tools can safely operate. A description follows:

Fire Behavior Fuel Model 8 (timber litter and understory) – Slow-burning ground fires with low flame lengths are generally the case, although the fire may encounter an occasional "jackpot" or heavy fuel concentration that can flare up. Only under severe weather conditions involving high temperatures, low humidity, and high winds do the fuels pose fire hazards. Close canopy stands of short-needle conifers or hardwoods that have leafed out support fire in the compact litter layer. This layer is mainly needles, leaves, and occasionally twigs because little undergrowth is present in the stand.

PURPOSE AND NEED

The ID Team identified the following two purpose and need statements for taking action:

- Provide a safer environment for firefighters and the public by creating defensible space for initial attack fire suppression actions.
- Restore and maintain the health of forest vegetative communities (including native shrubs, forbs, and grasses) within the fuels reduction treatment areas.

The need for these actions is based upon present fuels and stand conditions in the project area, both on private and public land, and the ongoing residential use and development in the Holland Pierce Fuel Reduction and Forest Health Project Area.

PROPOSED ACTION

The Proposed Action includes management activities on approximately 1,760 acres of NFS lands within the Project Area (Figure 2 – Proposed Action Map, page 9). The proposed management actions are summarized below:

Vegetation Treatments

Mechanized and non-mechanized vegetation treatments methods will be used to reduce the hazardous fuel loading and improve forest health conditions within approximately 1,652 acres and 107 acres of NFS lands respectively. The size, shape, and extent of each treatment area differs because of the terrain, forest condition, and resource concerns specific to that site, or input from the adjacent landowner. More specific information on individual treatment units can be found in Appendix B of this EA and in the Project File (Exhibit G-12).

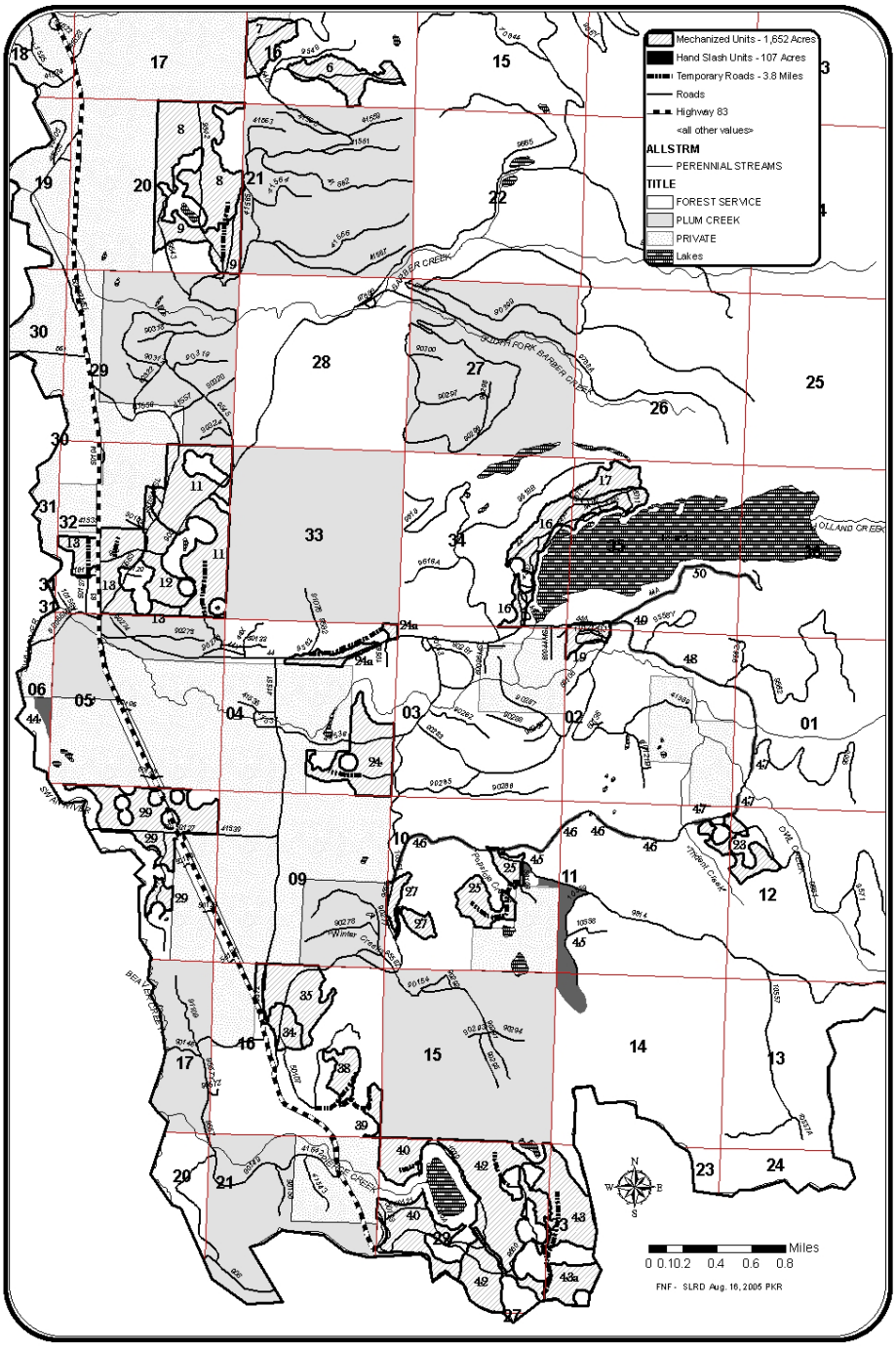
Access Management Actions

Approximately 3.8 miles of temporary road access would be needed to access treatment units. Of these, 1.1 miles would be new temporary road construction, and 2.7 miles would require opening old, brushed-in road templates. Temporary roads would be reclaimed after the vegetation treatments have been completed. Best Management Practices would occur on 22 miles of specified road used for haul of commercial products (Project File Exhibit H-17). .

Project Design Features

Appendix B of this EA provides a complete listing of restoration / protection measures and monitoring activities associated with the Proposed Action.

Figure 2 – Proposed Action



PUBLIC INVOLVEMENT AND THE SCOPING PROCESS

The public and other agencies, such as local fire districts, the US Fish and Wildlife Service, MT Department of Natural Resources and Conservation, were involved in the Holland Pierce Fuels Reduction and Forest Health Project through informational news releases, mailings, public meetings, field trips, publication of the project in the Forest Service's Schedule of Proposed Action, and one-on-one meetings. Section B of the Project File provides documentation of the public involvement and scoping process.

This project is subject to the Predecisional Administrative Review Process (referred to as the 'objection process') pursuant to 36 CFR 218, subpart A. It is not subject to notice, comment, and appeal provisions pursuant to 36 CFR 215 (see 36 CFR 218.3). Reference the cover letter, as well as the legal notice for this project, for additional information regarding the 'objection process."

ISSUES

The ID Team and the Responsible Official thoroughly reviewed comments and concerns received on the Holland Pierce Fuels Reduction and Forest Health Project. The issues identified in those comment letters were classified for consideration in the analysis by the following criteria (Project File Exhibit – H-21).

- Already decided by law, regulations, Forest Plan, or other higher level decisions;
- Addressed through implementation of project-specific design features (protection and restoration measures);
- Addressed during analyses routinely conducted by the ID Team;
- Addressed through spatial location and/or temporal bounds of activities during alternative design; and/or
- Beyond the scope of the project.

Appendix C to this EA provides a detailed description of the issues identified during the scoping process and describes how those issues were accounted for during the analysis process.

RELATIONSHIP TO THE FOREST PLAN

The Forest Plan embodies the provisions of the National Forest Management Act (NFMA), its implementing regulations, and other guiding documents. The Forest Plan details the direction for managing the land and resources of the Flathead National Forest. Where appropriate, the Holland Pierce Fuels Reduction and Forest Health EA tiers to the Forest Plan Final Environmental Impact Statement (FEIS), per 40 CFR 1502.20.

The Forest Plan provides forest-wide goals and objectives (pages II-1 through II-57).
The Forest Plan uses management areas (MA) to guide management of NFS lands within the Flathead National Forest. Each MA provides for a unique combination of activities, practices,

and uses. Chapter III of the Forest Plan contains a detailed description of each MA. A summary of applicable MA direction for the Holland Pierce Fuels Reduction and Forest Health Project proposed treatment areas is provided below and in the Project File (Exhibit H-7).

TABLE 1. MANAGEMENT AREA DESCRIPTIONS, APPLICABLE STANDARDS, AND ACRES PROPOSED FOR TREATMENT (PROPOSED ACTION)

MA	DESCRIPTION	APPLICABLE STANDARDS	ACRES TREATED (ALT. 2)
5	Roaded timberlands in areas of high scenic value. Much of this MA lies along the Swan Valley Highway (MT Highway #83)	Timber Management – Lands are classified as suitable for timber management, and timber harvest will be scheduled. Visual Quality Objectives – Retention (maintain a pleasing, natural-appearing landscape in which management activities, including timber management with roads, are not evident) Road Management – Design and construct roads which are in harmony with Retention VQO.	**284**
9	Timberlands capable of providing white-tailed deer winter habitat.	Timber Management – Lands are classified as suitable for timber management, and timber harvest will be scheduled. Visual Quality Objectives – Partial Rentention. Road Management – Road construction and reconstruction activities will be restricted if adverse impacts could occur to white-tailed deer populations.	**569**
11C	Consists of timberlands capable of providing grizzly bear habitat located on the southern portion of the Swan Lake Ranger District	Timber Management – Lands are classified as unsuitable for timber management, and timber harvest will not be scheduled. Visual Quality Objectives – Modification. Road Management – Road location and design will be responsive to grizzly bear habitat management needs.	**538**
13	Roaded and unroaded lands capable of providing mule deer and elk winter habitat.	Timber Management – Lands are classified as suitable for timber management, and timber harvest will be scheduled. Visual Quality Objectives – Modification. Road construction and reconstruction activities will be restricted if adverse impacts could occur to mule deer and elk populations.	**94**

TABLE 1. MANAGEMENT AREA DESCRIPTIONS, APPLICABLE STANDARDS, AND ACRES PROPOSED FOR TREATMENT (PROPOSED ACTION)

MA	DESCRIPTION	APPLICABLE STANDARDS	ACRES TREATED (ALT. 2)
15	Timberlands where timber management with roads is economical and feasible. Emphasize cost efficient production of timber with roads, while protecting the productive capacity of the land and timber resources	Timber Management – Lands are classified as suitable for timber management, and timber harvest will be schedule. Visual Quality Objective – Modification or maximum modification. Road Management – Road construction is allowed to meet management area objectives.	**266**
15C	Timberland where timber harvest is economical and feasible – special consideration will be given to white-tailed deer summer range	Timber Management – Lands are classified as suitable for timber management, and timber harvest will be schedule. Visual Quality Objectives – Modification. Road Management – Road construction is allowed to meet management area objectives.	**8**

DECISION FRAMEWORK

The criterion used to make a decision on this project includes:

- Achievement of the Purpose and Need;
- Relationship to environmental and social issues, and public comment;
- Consistency with the *Seeley Swan Fire Plan*;
- Consistency with the Healthy Forests Restoration Act of 2003; and
- A finding of no significant environmental effects (FONSI) (Appendix A);
- Consistency with the Forest Plan.

ALTERNATIVES

Alternatives were developed in response to issues identified during scoping, either from within the agency or from the public. According to Section 104(d)(2) of the Healthy Forests Restoration Act of 2003 (Project File Exhibit H-6), this EA is not required to study, develop, or describe any alternative to the Proposed Action.

This section describes and compares the alternatives considered by the Forest Service for the Holland Pierce Fuels Reduction and Forest Health Project. It includes a description of each alternative considered in detail, alternatives considered but not in detail, and a comparison of the relevant environmental effects of these alternatives.

Alternatives Considered in Detail

Alternative 1 - No Action Alternative

The No Action Alternative would result in no management activities on NFS lands within the Project Area at this time.

Alternative 2 – Proposed Action

The Proposed Action is described in detail in the EA and displayed in Figure 2. Appendix B of this EA describes the design features associated with Alternative 2.

Alternatives Not Considered in Detail

Based upon comments received, the ID Team considered three additional alternatives, but not in detail. Following is a brief description of those alternatives, along with the reasons they were not considered in detail:

Limit Treatment to a 40-Meter Zone along Interface Areas and/or Limit Treatment to Less Than 400 Meters from Structures

Public comments on the Proposed Action included a suggestion that any treatment should be limited to 40 meters from structures. This recommendation was based upon research by Jack Cohen. It was also suggested that the ID Team adopt the concepts of Community Protection Zone and Home Ignition Zones (Nowicki, 2003), where fuels reduction treatments would extend less than 400 meters from structures.

The ID Team recommended, and the Responsible Official concurred that this alternative did not meet the purpose and need for action since:

- An alternative 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 alternative would leave significant areas of fuel buildup and dense canopies with ladder fuels within the wildland urban interface area. 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 wildland urban interface area.

- Such an alternative does not address the need to improve forest health within the interface area being treated.

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

Prescribed fire in lieu of mechanical treatment

Another comment suggested that the ID Team consider the use of prescribed fire in lieu of mechanical treatment. However, because of the volume of ground and ladder fuels, the Responsible Official decided the risk associated with using prescribed fire to reduce the buildup presented an unacceptable risk to surrounding properties.

Use restoration practices that do not require heavy machinery and commercial logging

The ID Team considered a suggestion for an alternative that would accomplish the fuel reduction treatments without the use of logging machinery. Activities under this alternative would include hand slashing and burning activities and avoid disturbances that some people associate with logging, such as soil compaction and the spread of spotted knapweed.

The ID Team did not consider this alternative in detail because:

- The existing stand conditions require the removal of material and related heavy equipment use on many sites within the Project Area to meet the purpose and need of the project. A significant portion of the material that needs to be removed to achieve the project objectives is large enough that it would not be practical or economically feasible to do this work by hand.

Comparison of the Alternatives

The following table provides a comparison of relevant environmental consequences associated with the implementation of the alternatives. A more detailed description of environmental effects can be found in this EA beginning on page 19 and in the Project File Sections F and G.

In following table, "DFPZ" refers to the "defensible fuel profile zone," the area closest to structures and private property and the area where the greatest degree of fuel reduction is sought. The "FRZ" or the "fuel reduction zone" is further from structures or private property and where a lesser degree of fuels reduction is sought.

TABLE 2. COMPARISON OF RELEVANT ENVIRONMENTAL EFFECTS BY ALTERNATIVE		
NATURAL RESOURCE AND ENVIRONMENTAL CONSEQUENCE	**ALT. 1 (NO ACTION)**	**ALT. 2 (PROPOSED ACTION)**
Forest Fuels Management		
Direct Effects within DFPZs (treatment unit averages):		
Coarse down woody material (> 3 inches)	27 to 100 tons/acre	5 tons/acre
Small down woody material (< 3 inches)	13 to 27 tons/acre	3 tons/acre
Canopy closure	30 to 90%	40%
Crown bulk density	0.013 lb/cu. ft.	0.006 lb/cu. ft.
Indirect Effects on Proposed Fire Behavior as a Result of Treatments within the DFPZs:		
Rate of spread	Medium	Medium
Fire intensity	High	Low
Torching/crowning	High	Low
Resistance to Control (containment/suppression)	High	Low
Direct Effects within FRZs (treatment unit averages):		
Coarse down woody material (> 3 inches)	29 to 100 tons/acre	10 tons/acre
Small down woody material (< 3 inches)	15 to 27 tons/acre	5 tons/acre
Canopy closure	30 to 90%	40 to 60%
Crown bulk density	0.013 lb/cu. ft.	0.007 lb/cu. ft.
Indirect Effects on Potential Fire Behavior as a Result of Treatment with FRZs:		
Rate of spread	Medium	Low
Fire intensity	High	Medium
Torching/crowning	High	Medium
Resistance to control (containment/suppression)	High	Medium
Soils (Areas occupied by roads, landings, and ski trails - areas with reduced soil productivity)		
Meets Regional Soil Quality Guidelines	Yes	Yes
Hydrology		
Sediment increases	0	1%
Increased water yield	0	1%

TABLE 2. COMPARISON OF RELEVANT ENVIRONMENTAL EFFECTS BY ALTERNATIVE		
NATURAL RESOURCE AND ENVIRONMENTAL CONSEQUENCE	**ALT. 1 (NO ACTION)**	**ALT. 2 (PROPOSED ACTION)**
Fisheries T&E and Sensitive Species		
Bull Trout & T&E species biological assessment determination	No Effect	Not Likely to Adversely Affect
Cutthroat - Sensitive species biological evaluation	No Impact	May impact individuals or habitat, but will not likely result in a trend towards federal listing or reduced viability for the population or species
Vegetation – T&E & Sensitive Plants		
Threatened Plants – water howellia – biological assessment determination	No Effect	Not Likely to Adversely Affect
Threatened Plants –Spalding's catchfly – biological assessment determination	No Effect	No Effect
Sensitive Plants – Biological assessment evaluation	No Impact	May affect individuals, but is not likely to result in a trend towards Federal listing or loss of viability
Vegetation – Invasive Plants		
Weed abatement along NFS roads	0	30 miles
Temporary road construction	0	3.8 miles
Potential risk for spread and/or introduction within the project area	Low/Moderate	Moderate
Vegetation – Forest Vegetation		
Vegetation openings larger than 40 acres	Not applicable	
Short-term (up to 20 years) improvement in forest health, resilience and sustainability … effects of thinning/fuels reduction would diminish after 20 years	None	High 1653 acres (mechanical) Low to Moderate 107 acres (hand)
Risk of severe insect infestations and disease infections within stands proposed for treatment (short-term – less than 20 years)	Moderate to High	Low to Moderate - 1652 acres Moderate – 107 acres
Risk of severe insect infestations and disease infections within stands proposed for treatment (long-term – greater than 20 years)	High to Severe	Moderate – 1652 acres Moderate to High – 107 acres
Probability of a high severity fire occurring with treated stands	High	Moderate (mechanical) Moderate to High (hand)
Fire hazard along private land boundaries treated	High	Low to Moderate
Miles of DFPZ treated to reduce fuels hazard	0	6.7
Miles total private land boundaries treated	0	11.8

TABLE 2. COMPARISON OF RELEVANT ENVIRONMENTAL EFFECTS BY ALTERNATIVE		
NATURAL RESOURCE AND ENVIRONMENTAL CONSEQUENCE	**ALT. 1 (NO ACTION)**	**ALT. 2 (PROPOSED ACTION)**
Wildlife – T&E Species (Biological Assessment Determinations)		
Grizzly bear	No Effect	May effect - not likely to adversely affect
Gray wolf	No Effect	May effect - not likely to adversely affect
Bald eagle	No Effect	May effect - not likely to adversely affect
Canada lynx	No Effect	May effect - not likely to adversely affect
Wildlife – Sensitive (Biological Assessment Determinations)		
Black-backed woodpecker	No Impact	May impact individuals
Common loon	No Impact	May impact individuals
Fisher	No Impact	May impact Individuals
Flammulated Owl	No Impact	May impact individuals
Harlequin duck	No Impact	No Impact
Northern Bog Lemming	No Impact	No Impact
Northern leopard frog	No Impact	No Impact
Northern goshawk	No Impact	May impact Individuals
Peregrine falcon	No Impact	No Impact
Western big-eared bat	No Impact	May impact Individuals
Western toad	No Impact	May impact Individuals
Wolverine	No Impact	May impact individuals
Wildlife- Old Growth Associated Species		
Acres of old growth forest treated	0	0
Wildlife – White-tailed Deer Habitat		
Meets Forest Plan direction for winter habitat	Yes	Yes
Acres of winter range habitat treated	0	Up to 284 acres
Wildlife - Elk and Mule Deer Habitat		
Acres of winter range habitat treated	0	0
Impact on elk security habitat	None	None

TABLE 2. COMPARISON OF RELEVANT ENVIRONMENTAL EFFECTS BY ALTERNATIVE		
NATURAL RESOURCE AND ENVIRONMENTAL CONSEQUENCE	**ALT. 1 (NO ACTION)**	**ALT. 2 (PROPOSED ACTION)**
Recreation		
Visual Resource – meets Forest Plan VQOs	Yes	Yes
Impacts or restricts existing recreation opportunities	No	No
Heritage Resources		
Number of sites affected	0	0
Social and Economic		
Direct employment	None	28 job years
Total jobs (direct and indirect/induced)	None	65 job years
Products		
Sawlogs	None	3.5 MMBF *(estimate)*

SUMMARY OF ENVIRONMENTAL EFFECTS

This section describes the environmental impacts of the proposal and alternatives in relation to whether there may be significant environmental effects as defined at 40 CFR 1508.27.

Specialist reports, which include more detail on analysis area descriptions (including spatial and temporal bounds and existing condition), can be found in Section G of the Project File. Section G also contains the biological assessments (BA) and biological evaluations (BE).

Past, present, and reasonably foreseeable actions, including cumulative effects, are included in the specialists' reports filed in the Project File (Section G). The following table (Table 3) provides a summary of the actions considered in the cumulative effects analysis for Holland Pierce Fuels Reduction and Forest Health proposal.

The Affected Environment narratives in the resource specialists reports includes the effects of past actions in that they are now assessed as part of the existing condition of the landscape. For instance, consider a hypothetical example of a past timber sale in 1979 harvesting 150 acres of forest and constructing two miles of new road within the Holland Pierce Fuels Reduction and Forest Health Project Area. The effects of the harvest and road construction as well as the vegetation regrowth and roadbed stabilization occurring over the past 25 years would be accounted for in several assessments of the affected environment based on the specific resource being analyzed. Following are a few illustrations of the consideration of past actions in the affected environment with a scenario of this type:

- The change in forest structure from this past regeneration harvest would be displayed in the existing successional stage distribution disclosure in the vegetation section. Field examinations indicate this 150-acre harvest area supports a fully stocked stand of 20 foot trees and has progressed into a mid-seral successional stage over the past 25 years. This

information would be included in the acreage of mid-seral successional classification and used in disclosure of existing vegetation and wildlife habitat conditions.

- The existing level of past regeneration harvest in the project area would include the 150 acres from this activity.

- Stream channel surveys assessing stream conditions in the project area would reflect any remaining physical and biological effects of the past timber sale and road construction. These field classifications of existing conditions of specific streams would be disclosed in the Affected Environment section of the specialist report.

- The present contribution of sediment and increased stream flow from the two miles of road construction would also be accounted for in the calculation of existing watershed conditions as specific road segments and their construction dates are entered into the WATSED models. Likewise, any residual effects of the 150-acre harvest unit would be reflected in the existing condition model outputs based on vegetative recovery validated through field and aerial photo reconnaissance.

- Field examinations of road conditions would provide additional data on residual contributions of sediment from the two miles of road. These effects would be incorporated into existing road condition disclosures and provide a basis for proposed BMP projects for improved drainage, if needed.

- The two miles of open road would also be included in the open and total motorized route densities and reflected in the level of core security habitat presently provided for grizzly bears.

Figure 3. Land Ownership in the Holland Pierce Fuels Reduction and Forest Health Project Area

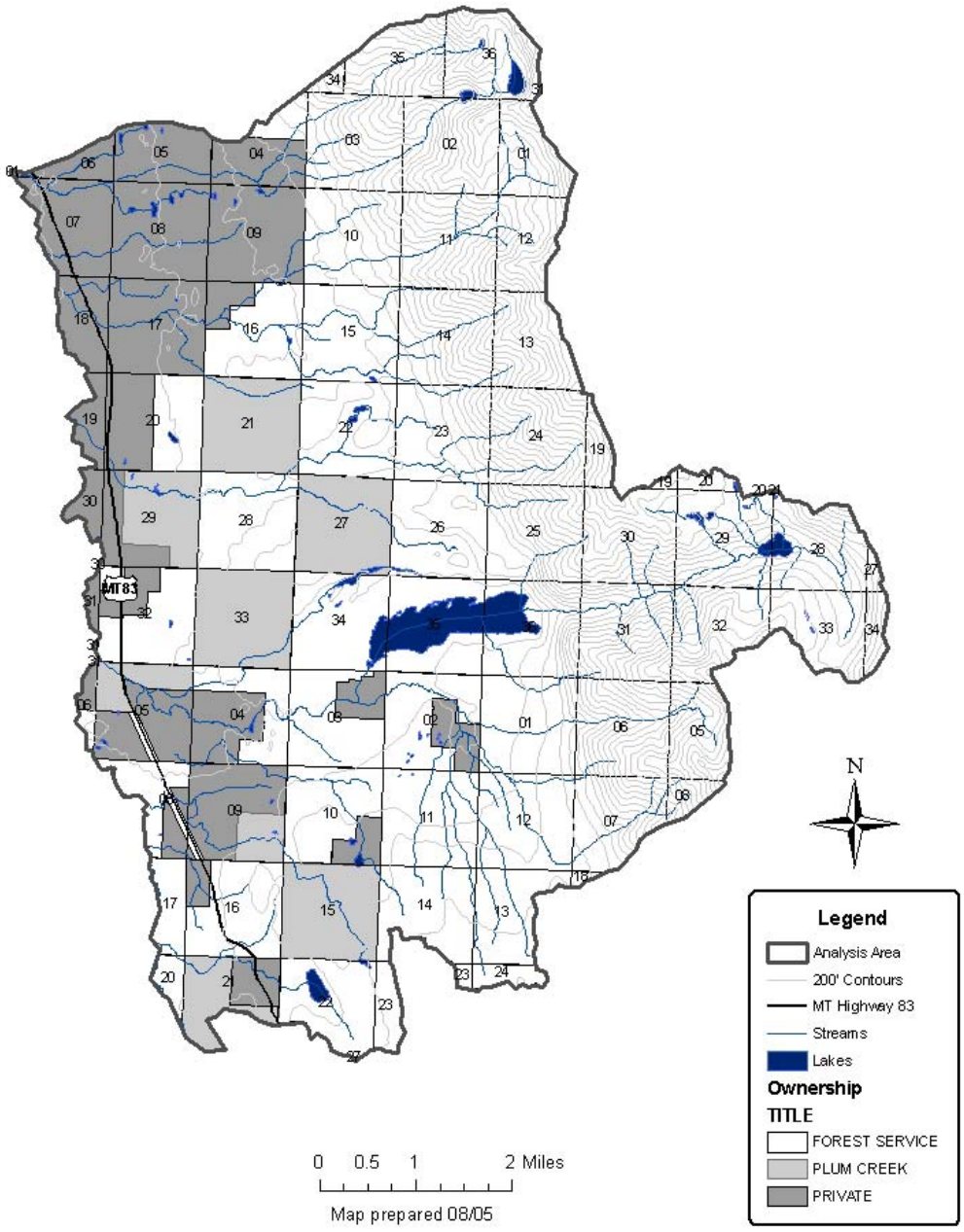


TABLE 3. ACTIONS CONSIDERED IN THE CUMULATIVE EFFECTS ANALYSIS			
ACTION	PAST	PRESENT	FUTURE
Forest Service Actions			
Timber harvest	3,662 acres (*Project File Exhibit F-.1)*		
Road construction	72.1 miles (*Project File Exhibit F-1)*		
Road management	Road maintenance, road closures *(Project File Exhibit F-1)*	X	X
Trail maintenance and/or construction	NFS Trail Numbers 35, 42, 415, 192, *(Project File Exhibit F-1)*	X	X
Grazing Permits	Holland Allotment (20,808 acres) Barber Creek Allotment (8,217 acres) *(Project File Exhibit F-1)*	X	X
Campground/picnic area maintenance	Holland Lake Campground, Owl Creek Packer Camp (*Project File Exhibit F-1)*	X	X
Prescribed fire	*(Project File Exhibit F-1)*		X Approximately 2,000 acres (*Project File, Exhibit F-1)*
Special use permits	X	X Recreation residences (32); Rec Lodging (1); Campground (1); O&G (1); Livestock area (1); Sign (2); REA Power line (1); FRTA Road Easement (13); FLPMA Road Permit (11); REA Telephone / Fiber Optic Cable (1); Irrigation Water Ditch (2); Water Pipeline ≥12" D; Stream Gauging Station (1) (*Project File Exhibit* F-1)	X
Purchase of Plum Creek lands (*Project File, Exhibit F-1)*			SE ¼ Section 9 & 15, T19N R16W

TABLE 3. ACTIONS CONSIDERED IN THE CUMULATIVE EFFECTS ANALYSIS			
ACTION	PAST	PRESENT	FUTURE
PLUM CREEK			
Timber harvest	3,539 acres (*Project File Exhibit 1)*		
Road construction	18.7 miles (*Project File Exhibit 1)*		
Road management	Road maintenance *(Project File, Exhibit 1)*	X	X
ACTIONS ON ALL FOREST LANDS *(PUBLIC, TIMBER INDUSTRY, AND PRIVATE LANDS)*			
Dispersed recreation	Hunting, firewood gathering, hiking, camping cross-country skiing, snowmobile, ATV, site seeing, etc.	X	X
Noxious weed control	X	X	X
Private land development	X	X	X
ADDITIONAL ROAD CONSTRUCTION AND MAINTENANCE PROJECT FILE EXHIBIT 1)			
State of Montana	9.5 miles	X	X
Missoula County	8.3 miles	X	X
Private landholdings	29.5 miles	X	x

SOIL RESOURCE

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

With this alternative, there would be no direct, indirect, or cumulative effects for the soil resource from implementing Alternative 1. The No Action Alternative provides a baseline to evaluate the effects of the Action Alternative.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Direct and indirect effects include detrimental soil disturbance caused by the proposed vegetative treatments and temporary road construction. These effects are typically soil displacement, rutting, compaction, and puddling. Design features include measures to reduce the risk of detrimental soil impacts (Appendix B) by limiting the amount of ground the equipment operates on and by imposing restrictions that reduce soil disturbance. Findings from monitoring of similar type projects on the Flathead National Forest show that design features like those planned for this project reduce detrimental soil disturbance and met the Region 1 Soil Quality Guidelines. The direct and indirect effects of the Alternative 2 would not result in adverse or significant effects on the soil resource because on-the-ground monitoring shows less than 15 percent soil

disturbance in all proposed treatment units. In addition Regional Soil Standards will be met after harvest (including cumulative effects of previous harvest). Project File Exhibit G-2 provides more detail supporting this conclusion.

Cumulative Effects

Within units with previous management activities, cumulative effects include minor increases in the amounts of detrimental soil disturbances. The alternative design features would reduce the effects of proposed management actions on soils and keep the total detrimental soil disturbance to less than 15 percent, the Regional Soil Quality Standard. By implementing the design features described in Appendix B of this EA, the Regional Soil Quality Guidelines would be met during and after implementation of the Proposed Action. As discussed above, the cumulative effects of the Proposed Action, combined with previous activity and foreseeable future activities within the Project Area, indicate that detrimental soil disturbance would be limited and would be within Regional standards in that regard. Project File Exhibit G-2 contains the detailed information supporting this analysis.

Regulatory Framework and Consistency

The soils analysis indicated that Alternative 2 would meet the Region 1 Soil Quality Standards through implementation of management practices (design features), which include the restoration of landings and heavily used ski trails, if needed, to reduce the total amount of detrimental soil impacts. All Forest Plan direction for the management of the soil resource would be met during and after implementation of the Proposed Action.

HYDROLOGY

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

The No Action Alternative would not result in any direct, indirect, or cumulative effects to the water resource. There would be no impact on watershed health or increases in sediment, water yield, or nutrient levels within the Project Area caused by the implementation of this alternative.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Direct and indirect effects include ground disturbance activities (such as temporary road construction, road maintenance, and culvert replacement) and vegetative changes resulting from the fuel reduction treatments that potentially could result in erosion and sediment sources, increased water yield, and increased nutrient levels.

The alternative design features include measures to reduce the risk of adverse impacts to the water resource (Appendix B). They do so by restricting ground disturbing activities within Streamside Management Zones (SMZs), not allowing mechanized treatment or prescribed burning within the Riparian Habitat Conservation Areas (RHCAs), protection of wet areas and occupied/potential howellia ponds, and the application of road Best Management Practices (BMPs) (Project File Exhibit H-17). .

The potential effect of Alternative 2 on water yield and sediment was calculated using the R1WATSED model. Compared to 'baseline' conditions, the model predicted that there would be about a 1 percent increase in water yield and 2 days of increased peak flow in the watershed within the analysis area. This model also predicted that there would be a short-term sediment increase of less than 1 percent within these watersheds. The WATSED model is a predictive tool and as such has limitations on its accuracy; however, the model does provide a good relative comparison of effects of the existing condition compared to the Proposed Action. Because of the design features mentioned previously that protect the streams and wet areas, the implementation of this alternative would not affect the nutrient levels within the watershed in the analysis area. The direct and indirect effects of the action alternative would not result in an adverse or significant effect on the hydrology resource. (Project File Exhibit G-3 contains more detailed information on this resource.)

Cumulative Effects

The cumulative effects analysis includes consideration of past, present, and reasonably foreseeable actions (Project File Exhibit G-3). Based on baseline conditions, alternative design features that minimize the impacts on the water resource, the above discussion of direct and indirect effects, and the evaluation of reasonably foreseeable actions, there is no evidence that the implementation of this alternative would have a measurable cumulative effect on water quality in streams in the analysis area, Swan River, or Swan Lake. Analysis of the existing watershed conditions (based on existing data and field visits) and modeling of anticipated affects of the proposed harvest prescriptions lead to this conclusion. Details of this analysis can be found in Project File Exhibit G-3.

Regulatory Framework and Consistency

Through implementation of the alternative design features and project layout, all management actions included in this alternative are consistent with Forest Plan standards and meet Montana Water Quality Standards and the Federal Clean Water Act.

FISHERIES

Bull trout (*Salvelinus confluentus*) and Westslope cutthroat trout (*Oncorhynchus clarki*) are classified as threatened and sensitive species respectively, are native to the Swan valley and are present within the Holland Pierce Fuels Reduction and Forest Health analysis area.

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

The No Action Alternative would not result in any direct, indirect, or cumulative effects to the fisheries resource. The no action alternative provides a baseline to evaluate the effects of the action alternative.

Alternative 2 – Proposed Action

Direct and Indirect Effects

The Proposed Action potentially could result in some short-term direct and indirect sediment transport to streams in the area. The most risk is associated with the road BMP work. However, Best Management Practices and associated road work are well-known to reduce and mitigate the effect of roads to water quality. This type of work is considered a short-term negative effect that leads to a long-term positive impact. Additionally, direct sedimentation is expected because of removing and replacing culverts that block fish or are otherwise poorly installed and are currently sedimentation sources. All work will comply with State permit requirements, but it is anticipated that some sedimentation will occur. These will be short term effects that will result in a long-term positive impact.

The vegetation management (fuels reduction treatments) of this project in itself would not result in any direct sedimentation, because there is no activity proposed in streamside riparian areas and all default INFISH riparian buffers will be applied. These riparian buffers are designed to block surface erosion from adjacent fuels treatment activity from reaching streams (USDA Forest Service 1995). Local monitoring has found this is a valid assumption (Crazy Horse Fire Salvage Project File, available at the Swan Lake Ranger District office).

An indirect effect of the project is that it will open up new areas for cattle to forage. Most streams are within active cattle grazing allotments and it is reasonably foreseeable that this will continue. Due to the existing forest canopy, cattle primarily graze along roads and old harvest units. The Proposed Action will remove small trees and thin the area forest, which may make it more desirable for cattle. The indirect effect of this is the possibility of more stream bank trampling along streams as cattle wander down to drink and seek shade. Streambank trampling will be minimal, since the riparian area is brushy and fuels reduction will not occur within such areas.

This alternative includes design features to minimize adverse impacts of increased sediment on the fisheries, which include restricting treatments within RHCAs and the elimination of existing road sediment sources.

Cumulative Effects

The cumulative effects analysis includes consideration of past, present and reasonably foreseeable actions (Project File Exhibit G-7).

The Holland Pierce Fuels Reduction and Forest Health Project has a mix of positive and negative impacts to fisheries resources. It will result in short-term increases of sediment, primarily due to road-related work. But the project will also help reduce sediment from roads over the long run and this is beneficial to trout streams and Swan Lake far downstream. Several existing culverts that are fish migration barriers will be removed and this is a positive step forward. The invasion of non-native brook trout, rainbow trout and lake trout will continue to be the most significant cumulative effect to native fish and this project does nothing to help or hinder that situation.

When considering the past, present and reasonably foreseeable actions, there may be cumulative effects from these projects to water quality of Holland Lake and Pierce Lake. These impacts are described in the Project File. The only other reasonably foreseeable impact is that fuel reduction is expected within the permitted areas near the 17 recreational residences of Holland Lake and 15 recreational residences of Pierce Lake. The current permit allows limited amount of fuel and hazard tree reduction within the permit area (usually about 30-50 feet from the cabin). This activity is not part of the Holland Pierce project but it is reasonably foreseeable. No impact to fish habitat is expected from clearing vegetation around homes.

Regulatory Framework and Consistency

Based upon the above discussion, the Biological Assessment (Project File Exhibit G-8) and Biological Evaluation (Project File Exhibit G-9) concluded with the following determination of the direct and indirect effects of this alternative: a “may affect, not likely to adversely affect” for the bull trout; and a “may impact individuals or habitat, but will not likely result in a trend towards federal listing or reduced viability for the population or species” for the cutthroat trout.

The project complies with the Forest Plan, in that is does not result in “unacceptable fish losses” and does not have any activity in key cutthroat trout or bull trout streams listed in the Forest Plan (Amendment 3). The project complies with INFISH in that no activity is proposed in riparian areas and any new fish passage culvert will meet standards.

WILDLIFE – THREATENED & ENDANGERED SPECIES – Gray Wolf

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

With this alternative, none of the proposed management actions would occur on NFS lands. There would be direct, indirect, or cumulative effects to key wolf sites (denning, whelping, or rendezvous sites) from implementing the No Action Alternative. There would also be no anticipated effects to prey base.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Prey Base – Portions of the Project Area are located in areas mapped in the Forest Plan as white-tailed deer winter range. Since Forest Plan standards for winter range would be adhered to, an adequate prey base for wolves would be maintained across the south end of the Swan Valley and any effects to the wolf ungulate prey base would be minimal.

Key Habitat Areas - Since there are no known or historical den sites, rendezvous areas, or whelping sites in the vicinity of the Holland Pierce Fuels Reduction and Forest Health Project Area, there would be no direct or indirect effect on wolf security from disturbance to these key habitat areas.

Mortality Risk - Some displacement of wolves may occur from implementing the Proposed Action. However, since wolves are adaptable animals, the expected intensity of human use within the fuel reduction area and wolf displacement from hunting areas would be temporary. The mortality risk for the gray wolf from implementing the activities associated with the Proposed Action would not be significantly increased. This is due to the nature of the proposed activity and the likely movement of wolves to adjacent areas further from human development and activity.

Cumulative Effects

The past, present, and reasonably foreseeable actions included in the cumulative effects analysis are discussed detail in the specialist's report (Project File Exhibit G-1). The Holland Pierce area contains established human activities, including residential development, recreational residences, a campground, picnic area, and boat ramp, and a major highway. Logging and road building has occurred on all ownership lands in the Holland and Pierce Lake area. This proposal would maintain the existing wolf prey base and would not preclude gray wolf use of habitats in the area. There would be no increase in mortality risk; adverse cumulative effects are not expected.

Regulatory Framework and Consistency

The BA indicated that the Proposed Action would be consistent with Wolf Plan Direction and LRMP direction regarding gray wolf (Project File Exhibit G-1). The Wildlife Biologist determined that the Proposed Action "may effect – not likely to adversely affect." the gray wolf.

WILDLIFE – THREATENED & ENDANGERED SPECIES – Grizzly Bear

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

With this alternative, none of the proposed management actions would occur on NFS lands. There would be no direct effects on existing grizzly bear food production, hiding cover, or security. There would be no potential displacement of grizzly bears. There would be no direct, indirect, or cumulative effects on grizzly bear with the No Action Alternative.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Denning Habitat - Since most of the Project Area does not contain known or potential denning habitat for grizzly bear, there would be no direct or indirect effects to potential or known grizzly bear denning habitat because of proposed treatments. Treatments in the DFPZs and FRZs would reduce the average understory canopy closure and overstory tree canopies. The immediate decrease in the amount of available forage and cover in these areas could affect grizzly bear. However, forage opportunities would increase over existing conditions within 1 to 5 years as more sunlight and moisture reach the forest floor. Hiding cover would take about 5 to 15 years to recover, depending on stand conditions.

Food Production / Cover – A potential direct effect to grizzly bear would be an immediate decrease in the amount of available forage and cover in these areas. Existing forage is very limited in many of the more densely stocked stands in the proposed treatment areas, so effects in this regard would not likely be dramatic, even in the short term. Forage opportunities would increase over existing conditions within 1 to 5 years as a greater amount of sunlight and moisture reach the forest floor. Hiding cover would take approximately 5 to 15 years to recover, depending on stand conditions.

Displacement / Mortality Risk / Security – There is a potential for short-term displacement of bears from the immediate area during project implementation because of increased activities in the area; design features associated with the Proposed Action minimize this conflict. Overall, security and mortality risk for the grizzly bear would not be increased because of project implementation, largely because the fuel reduction project is located adjacent to private property in areas of relatively high, consistent human presence and activity.

Cumulative Effects

The past, present, and reasonably foreseeable actions included in the cumulative effects analysis are discussed detail in the specialist's report (Project File Exhibit G-1). The Direct and Indirect Effects discussed above would be cumulative to the existing situation. The avoidance by grizzly bears of the high human use areas in the Swan Valley, near residences, campground, and private property, would not be a negative effect. Security for the grizzly bear would not be reduced because of project implementation.

Regulatory Framework and Consistency

The Holland Pierce Fuels Reduction and Forest Health Project will meet Forest Plan direction. The Holland Buck Subunit currently meets Forest Plan Amendment 19 objectives for open and total road density, and for security core. Design criteria (Project File Exhibit B) have been identified to protect threatened, endangered, or sensitive species. This project also complies with direction in the Swan Valley Grizzly Bear Conservation Agreement (SVGBCA) and Interagency Grizzly Bear Guidelines.

The Wildlife Biologist determined that the Holland Pierce Fuels Reduction and Forest Health Project would have a "may effect – not likely to adversely affect" for the grizzly bear (Project File Exhibit G-1).

WILDLIFE – THREATENED & ENDANGERED SPECIES – Canada lynx

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

Since none of the proposed management actions would occur on NFS lands, there would be no direct effects on existing Canada lynx forage, denning, or travel cover. There would be no potential displacement of Canada lynx. There would be no direct, indirect, or cumulative effects on Canada lynx with the No Action Alternative.

Alternative 2 – Proposed Action

Direct and Indirect Effects

The implementation of the DFPZs and FRZs associated with the Holland Pierce Fuels Reduction and Forest Health Project could result in a loss of lynx travel cover and lynx habitat. However, the potential loss of lynx habitat is low in the DFPZs since there is lack of potential lynx habitat in these areas. In FRZs, there is the potential loss of lynx 6 acres of potential denning habitat. However, these areas would continue to provide travel cover due to the nature of the treatments proposed. The proposed hand treatments along existing roads would not significantly affect lynx because of the location. The proposed treatments are not located within forage habitat; therefore, the implementation of the Proposed Action would not affect lynx forage habitat. Project File

Exhibit G-1 shows the analysis of project units relative to lynx habitat. An analysis of this habitat and the areas proposed for treatment is the basis for these conclusions.

Cumulative Effects

The past, present, and reasonably foreseeable actions included in the cumulative effects analysis are discussed detail in the specialist's report (Project File Exhibit G-1). It is anticipated that timber harvest and road building will continue on all ownerships in the Holland Lake and Pierce Lake areas. No new road construction is proposed and no new over-the-snow routes would be created. About 4 miles of temporary road could be constructed, mostly within the actual fuel reduction units; they would be reclaimed after use. It is possible that dispersed snowmobile use in the Holland Pierce area could increase with more open stand conditions. However, dispersed recreation activities seldom results in a loss of Canada lynx habitat, but may indirectly increase competition for prey because of snow compaction.

Implementing this project would not preclude lynx use of habitats in the area, there would be a minor increase in mortality risk, and no significant adverse cumulative effects are expected.

Regulatory Framework and Consistency

The Wildlife Biologist determined that implementation of the Holland Pierce Fuels Reduction and Forest Health Project would have a "may effect – not likely to adversely affect" Canada lynx. This project is consistent with the recommendations in the LCAS standards and guidelines and is compatible with recommendations in the Lynx Science Report.

WILDLIFE – THREATENED & ENDANGERED SPECIES – Bald eagle

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

With this alternative, none of the proposed management actions would occur on NFS lands. There would be no direct effects on existing bald eagle nesting habitat or feeding/roosting habitat. There would be no potential displacement of bald eagles. There would be no direct, indirect, or cumulative effects on grizzly bear with the No Action Alternative.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Nesting Habitat

There are no known nesting sites in the vicinity of the Project Area. It appears there is the potential for nesting sites along Holland and Lindbergh Lakes, but surveys have failed to identify any bald eagles in the vicinity. Since the proposed actions do not include removal lf large trees

(potential nesting trees) along the lake shores, there would be direct or indirect effects to bald eagle nesting habitat by implementing this project.

Feeding/Roosting Habitat

There are no known concentrated feeding sites or roosting sites in the vicinity of the Holland Pierce Fuels Reduction and Forest Health Project. Therefore, there would be no direct or indirect effect to bald eagle roosting or feeding sites.

Mortality Risk

Increased traffic associated with removal of forest products from the Project Area could result in increased road-kill, a food source for bald eagles. A significant increase in road kills along the highway corridor resulting from project implementation is not expected, however the possibility exists that mortality risk for bald eagles could increase.

Cumulative Effects

The past, present, and reasonably foreseeable actions included in the cumulative effects analysis are discussed detail in the specialist's report (Project File Exhibit G-1). The Holland Pierce Fuels Reduction and Forest Health Project would not increase cumulative effects to bald eagles, due in large part, to its location in higher human use areas, away from bald eagle habitat. The cumulative effects of past activities, the proposed project, and future activities would not preclude or negatively affect bald eagle use of habitats in the area.

Regulatory Framework and Consistency

The Wildlife Biologist determined that implementation of the Holland Pierce Fuels Reduction and Forest Health Project "may effect – not likely to adversely affect" the bald eagle. This project complies with Montana Bald Eagle Management Guidelines (Project File Exhibit G-1).

SENSITIVE WILDLIFE SPECIES

Sensitive wildlife species are those species identified by the Regional Forester for which population viability is a concern. There are 12 sensitive wildlife species, including the recently de-listed peregrine falcon.

Following is a summary of conclusions for sensitive wildlife species. More information can be found in the Project File (Exhibit G-4).

TABLE 4. SUMMARY OF CONCLUSIONS FOR SENSITIVE WILDLIFE SPECIES

Species	*No Impact*	*MIIH*[1]	*Rational*
Black-backed Woodpecker		X	Low levels of disturbance may occur. Three is a possibility of a small decrease in available snag or damaged tree habitat
Common loon		X	Known use of Holland and Pierce Lake by loons. Buffering of known nesting site on Pierce Lake and timing restriction for grizzly bear will mitigate effects for the common loon
Fisher		X	Proposed project would not affect primary habitat; lower potential for any significant displacement of or effects to individuals
Flammulated Owl		X	There are no known nests in the area. Surveys did not identify the occurrence of flammulated owls. Proposed project would not affect primary habitat. Thinning from below (fuels reduction) may actually be beneficial to flammulated owl.
Harlequin Duck	X		No potential habitat in the area.
Northern Bog Lemming	X		No potential habitat in the area.
Northern Goshawk		X	Proposed project would not affect primary habitat.
Northern Leopard Frog	X		No potential habitat in the area.
Peregrine Falcon	X		No potential habitat in the area.
Western Big-eared Bat		X	There is no known maternity roost or hibernacula habitat in the area.
Western Toad		X	Low levels of disturbance or mortality may occur.
Wolverine		X	Proposed project would not affect primary habitat; little potential for any significant displacement of individuals.

Regulatory Framework and Consistency

Federal laws and direction applicable to sensitive species include the National Forest Management Act (NFMA, 1976) and Forest Service Manual (FSM) 2670. The USDA Forest Service is bound by federal statutes (ESA, NFMA), regulation (USDA 9500-4), and agency policy (FSM 2670) to conserve biological diversity on NFS lands. In accordance with FSM 2673.42, determinations have been made as to the degree of impact the proposed activities may have on sensitive species (Project File Exhibit G-4).

[1] May Impact Individuals or Habitat, but will not likely result in a trend toward Federal listing or reduced viability for the population or species.

MANAGEMENT INDICATOR SPECIES

(Old Growth Associated Species)

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

There would be no fuel reduction or forest health treatment proposed with this alternative. There would be no direct or indirect effects to old growth habitats on NFS lands or to old growth associated wildlife species using these lands. Natural vegetative processes would continue on NFS lands in the Holland Pierce Project Area.

Alternative 2 – Proposed Action

Direct, Indirect, and Cumulative Effects

The Proposed Action does not propose harvest in old growth stands. Fuel reduction activities may temporarily displace old growth habitat associated wildlife species if fuel reduction treatments are occurring in stands adjacent to old growth stands. There would be no long-term impact from this kind of displacement.

The proposed fuel reduction treatment in non-old growth forest stands is designed to leave the more vigorous, healthy trees, and the more wind-firm, fire-resistant and longer-lived species, such as ponderosa pine, larch, and Douglas-fir. This method of "thinning from below" may actually benefit old growth associated wildlife species over the long-term as mature forested stands are put on a trajectory where they could become future old growth habitat.

Implementing Alternative 2 is not expected to contribute significantly to cumulative effects on old growth or old growth associated species within the Holland Pierce Fuel Reduction and Forest Health Project Area.

Regulatory Framework and Consistency

The National Forest Management Act (NFMA) requires that Forest Plans "preserve and enhance the diversity of plant and animal communities" and that Forests manage for maintenance of "viable populations of existing native and desired non-native vertebrate species."

Amendment 21 to the Forest Plan was signed in January 1999. It has a goal to "maintain and recruit old growth forests to an amount and distribution that is within the 75 percent range around the median of the historical range of variability. Where current conditions are below this amount, actively management to recruit additional old growth." Amendment 21 contains additional management direction related to old growth forests.

MANAGEMENT INDICATOR SPECIES

(Commonly Hunted Big Game Species)

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

There would be no proposed fuel reduction activities under this alternative. The occurrence and abundance of forage and cover would fluctuate and change over time as the area progresses through various successional stages. There would be no affects to existing hiding cover and thermal cover; no significant effects to white-tailed deer or elk/mule deer winter range as a result of the No Action Alternative.

Alternative 2 – Proposed Action

Direct, Indirect, and Cumulative Effects

Mechanical/Non-mechanical Treatments

There may be temporary and short-term displacement of individual deer and elk as a result of fuel reduction activities (e.g. logging, hauling, noise). It is expected that deer and elk patterns will change slightly as the animals avoid areas of high human activity. There are large blocks of unroaded land and wilderness adjacent to the fuel reduction area that would provide secure habitat for deer and elk.

Temporary Road Construction –

There would be no new permanent road construction under the Proposed Action. There would be temporary road construction on NFS lands. The use of temporary roads and normally closed roads for hauling wood products could cause disturbance to deer and elk and a temporary reduction in habitat security. To mitigate effects on disturbance and security risk, the temporary roads and normally 'closed' roads would be closed to the public. Temporary roads would be reclaimed following use.

Cumulative Effects

White-tailed deer and elk are highly adaptive animals and would continue to use lands adjacent to the proposed fuel reduction area. Other lands in the Holland Pierce vicinity would continue to provide a mosaic of cover and forage. Although habitat use patterns may shift as a result of actions proposed in Alternative 2, habitat conditions across the upper Swan Valley would continue to support a year-long white-tailed deer population and historical levels of elk and mule deer.

Alternative 2 would not contribute significant adverse cumulative effects to the current situation.

Regulatory Framework and Consistency

The National Forest Management Act (NFMA) requires that Forest plans "preserve and enhance the diversity of plant and animal communities" and that Forests manage for maintenance of "viable populations of existing native and desired non-native vertebrate species."

Amendment 21 to the LRMP establishes a Forest-wide goal to "provide appropriate habitat and access to maintain desired hunting, fishing, and viewing opportunities, in coordination with the Montana Department of Fish, Wildlife, and Parks." The Forest Plan has identified white-tailed deer, elk, and mule deer as Commonly Hunted Big Game Management Indicator Species (MIS) that use general forest habitat. Conditions favorable to these species would generally also benefit other big game species found within the project area, such as moose, black bear, and mountain lion, which are considered under the umbrella of MIS evaluation. Goals, objectives, and standards in the LRMP, specific to managing white-tailed deer, elk, and mule deer have been followed in the preparation and analysis of the Holland Pierce Fuel Reduction project.

FOREST VEGETATION

Alternative 1 – No Action

Direct and Indirect Effects

There would be little noticeable immediate direct or indirect effects as a result of selection of this alternative, since no thinning harvest treatments in support of forest health and fuels reduction on NFS lands would occur. Forest composition, structure, and age class on NFS lands near private land boundaries would not immediately change in the short-term. Forests would remain densely stocked, multi-storied (in many cases), and with interlocked crown canopies. Trees and other plants would remain stressed during droughty periods due to competition for limited site resources, such as moisture, nutrients, and sunlight needed to carry out photosynthesis. Surface fuels would remain unchanged at moderate to high levels.

Endemic populations of insect and disease would remain at their current observed levels in the short-term. Tree damage, such as windthrow, stem and branch breakage and abrasion, etc., is expected to remain at its current natural levels.

Cumulative Effects

Considering all past, present and reasonably foreseeable actions, in combination with the no action alternative, the overall cumulative effects on the forest vegetation resource (particularly those considered for treatment in the action alternative) would remain unaltered in the short-term, and would become increasingly more unstable as the forests age, multi-storied/ladder fuel stand conditions increase, natural fuels accumulate to higher levels without modification, and other natural succession processes in the long-term advance. The overall dense stand conditions and accumulating fuels in the project area show many similarities to the Crazy Horse Fire area,

prior to the 2003 fire event. Although a wildfire in this area is not predictable with any certainty, it is certainly foreseeable at some future point in time based on the developing stand conditions, and fire's natural presence in the Northern Rocky Mountain ecosystem. 

Alternative 2 – Proposed Action

Direct and Indirect Effects

Forest composition, structure, and age classes

Thinning treatments would reduce competition between trees, increasing availability of light and moisture to remaining trees. This would maintain or improve the vigor and growth of the leave trees. Thinning would also convert the multi-storied, mixed species stands to single story or two-storied, more open grown forests. The lodgepole stands are currently mostly single storied and will remain so after treatment, though with somewhat reduced stocking.

Proposed vegetation treatments would not change the age class of the stand, since the largest dominant and codominant trees would be left on site in the greatest proportion.

Forest condition – insects, disease, tree damage

Because of the increased tree vigor expected in the mixed species stands, thinning would also increase their ability to withstand future insect or disease influences. Thinning in lodgepole pine dominated stands should result in less dramatic (or very little) increase in tree vigor or growth. More open stand conditions also tend to create less favorable beetle habitat, which may also help maintain the stand for a longer period against possible mountain pine beetle attack. However, under epidemic beetle population levels, these effects would not offer much protection and the lodgepole pine would be expected to experience high mortality.

Some root, bole, and crown damage to residual trees may occur because of tree thinning operations using mechanized equipment. Some tree blowdown may occur along thinned (southwestern/western or prevailing wind facing) unit boundaries; and more likely where adjacent stand harvest activity has most recently occurred and the stand edge has not yet stabilized or adjusted to the new exposed environment.

Other vegetation:

Minimal soil disturbance is expected from the fuel reduction treatments, and this would maintain the current composition and coverage of understory shrubs, forbs and grasses in the stands affected. Temporary roads would be constructed to access some treatment areas. These road templates are the areas within units where soils would be most disturbed, and thus vulnerable to changes in understory vegetation composition and weed infestation.

Fuel reduction treatments would reduce downed surface fuel loadings (on average) to less than 10 tons per acre in the FRZ and 5 tons per acre in the DFPZ. Emphasis will be placed on leaving the larger (>9" diameter) wood where available, which provides for longer term soil productivity needs and is beneficial for many wildlife species. Also, all large diameter live or dead trees (i.e.

≥ 20" DBH) would be left within the stands, to preserve what remnant trees and snags exist and provide this important wildlife habitat component.

Cumulative Effects

Considering all past, present, and reasonably foreseeable actions, in combination with the action alternative, the overall cumulative effects on the forest vegetation resource would be positive in the near-term, resulting from reduced competition for limited site resources and improved stand health in the areas of treatment, lasting upward to 20 years or longer. As time goes by, and succession advances, the effects of the treatments will become less noticeable. The proposed treatments would improve the health, resiliency, and sustainability of the treated stands. Treatments would also reduce the current fire hazard associated with these stands located within 1½ mile of private land boundaries and within the wild-land urban interface. Treatment would not eliminate the risk of fire originating in or moving through the treated areas, but would create a more defensible space from which to initiate suppression action should a wildfire occur at some future, yet unknown time.

Maintenance of these vegetative conditions in the urban interface in the future would be desirable. The prescription described would allow for future maintenance of stand conditions to occur through underburning or light mechanized treatment (such as hand thinning). Funding availability for such future treatments is not known at this time.

Regulatory Framework and Consistency

The project has been designed to be consistent with the Forest Plan goals, objectives and standards. The treatments proposed in the action alternative are consistent with the regulatory framework and management area direction for the areas being treated. All areas are located within the suitable timber base, where timber harvest may be scheduled and is an appropriate management action. The proposed actions meet the intent of the NFMA findings for vegetation manipulation, suitability for timber production, appropriateness of even-aged management and optimality of clearcutting (not a feature of the proposed action, so not applicable), and maintenance of the diversity of plant and animal communities.

THREATENED & ENDANGERED PLANT SPECIES

The two threatened and endangered plants species may be present within the Holland Pierce Fuels Reduction and Forest Health Project Area - water howellia (*Howellia aquatilis*) and Spalding's catchfly (*Silene spaldingii*). Findings from plant surveys conducted within the project area during the 2005 field season determined that water howellia is present within the project area; 9 occupied sites and 3 unoccupied howellia sites were identified. The plant surveys did not find any evidence that Spalding's catchfly exists in the Project Area.

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

There would be no ground disturbance associated with the selection of this alternative; therefore, no effects to federally-listed Threatened and Endangered plant species.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Water Howellia

Repeated use of roads adjacent to howellia ponds may have effects on habitat quality for water howellia. Ponds may receive increased siltation from frequent hauling on road, possibly resulting in sediment accumulative, burying water seeds too deeply for generation or shifting the pond's vegetation composition, supporting emergent vegetation in place of submergent vegetation types.

Spalding's catchfly

Due to the lack of habitat and known occurrences of Spalding's catchfly, no direct or indirect effects are anticipated.

Cumulative Effects

Potential direct and indirect effects resulting from the Proposed Action are expected to contribute minimally towards the cumulative degradation of the environmental baseline. In addition, the direct and indirect effects from this project contributing to the cumulative effects of water howellia on State and private lands are negligible. The total of these effects would not likely reach thresholds where water howellia could not maintain its ability to survive in the Swan Valley.

Regulatory Framework and Consistency

Based upon FSM 2670, the Forest Botanist made a determination as the degree of impact and activities proposed might have a threatened plant species. Based upon the available information on water howellia and Spalding's catchfly's distribution, presence/absence from the Project Area, habitat requirements, and management strategies, as well as project deisng and location, the Proposed Action "may affect, but is not likely to adversely affect" water howellia, and would have "no effect" on Spalding's catchfly (Project File Exhibit G-16).

SENSITIVE PLANT SPECIES

The Regional Forester has recognized 52 species as sensitive on the Flathead National Forest (Project File Exhibit G-13). Two Regional Forester's sensitive plants occur within the Project Area: Small Yellow Lady's slipper (*Cypripedium parviflorum)* and *Howell's Gumweed (Grindelia howellia).*

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

There would be no ground disturbance associated with the selection of this alternative; therefore, no effects to federally-listed Threatened and Endangered plant species.

Alternative 2 – Proposed Action

Direct, Indirect, and Cumulative Effects

The Proposed Action is expected to have no direct effects to yellow lady's slipper and unsubstantial indirect effects. Howell's gumweed may experience direct effects of trampling and indirect effects soil compaction and noxious weed invasion. Foreseeable actions would be modified to mitigate anticipated impacts resulting from foreseeable action as required by Forest Service policy (FSM 2670). Due to the small scope of direct and indirect effects and the measures proposed to control noxious weeds, cumulative effects on known occurrences are expected to contribute minimally to the total effects. The cumulative effects on unknown occurrences can only be speculative due to lack of known locations.

The total of the direct and indirect effects from the Proposed Action and the cumulative effects from past, present, and reasonably foreseeable future actions would not likely result in thresholds where Regional Forester's sensitive plants could not maintain their ability to survive in the Swan Valley.

Regulatory Framework and Consistency

The Forest Service is bound by Federal statues (ESA, FNMA), regulations (USDA 9500-4), and agency policy (FSM 2670) to conserve biological diversity on NFS lands. The Proposed Actions will meet the direction of FSM 2670.3 (sensitive plant species, and is consistent with Forest Plan direction for sensitive plants. In addition, the Proposed Action also complies with the ESA and Forest Plan Amendments 20 and 21, with respect to Federally listed plants.

The Forest Botanist determined that the Proposed Actions "may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability" for yellow lady's slipper, Howell's gumweed, and other potentially occurring Regional Forester's sensitive plant species and proposed plant species (Project File Exhibit G-13).

NOXIOUS WEEDS

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

The existing weeds would continue to occupy their present sites. The persistence of these weeds would depend on their ability to out compete other vegetation. Shade-tolerant native plants would slowly replace shade-intolerant weeds as forest canopy increases and reduces the vigor of the shade-intolerant weeds.

Weeds would continue to spread along the roads within the analysis area. It is likely that orange hawkweed and meadow hawkweed complex would replace spotted knapweed overtime.

It is likely that weeds within the analysis area would provide a seed source that could be transported by people, vehicles, domestic animals, wildlife, or wind, and carried to other local sites or for very long distances far removed from the analysis area.

To-date, the 2005 Forest Weed Control (spraying) Program accomplishments includes 80 acres of weed spraying along road in the Holland Pierce project area.

In the No Action Alternative, the risk assessment for the likelihood of weed species spreading to the project area is moderate and the consequences of undesirable plant establishment in the project area is low to moderate. (Project File Exhibit G-19). No cumulative effects are expected.

Alternative 2 – Proposed Action

Direct and Indirect Effects

The primary source of weeds in the Holland Pierce Fuels Reduction and Forest Health project area is roads. Vehicle traffic associated with the proposed treatments would increase the potential for seed transport and the weed introduction and spread, especially along roads normally closed to motor vehicles. On closed roads, the rate of spread is expected to decrease over time, as other vegetation covers the exposed soil and forest canopies increase the shade on the roads.

Ground-disturbing activities, including the proposed thinning, piling, and burning thinning slash, would expose soil and provide a germination substrate for weeds. However, these activities are located in stands where varying amounts of canopy cover would be retained. The cool, moist habitats and shade would reduce the risk of weeds becoming well established.

The proposed action includes design features to minimize the risk of the spread of weeds (EA, Appendix B). These features include the pre- and post-treatment spraying of noxious weeds along up to 30 miles of NFS roads within the project area. The treatment on noxious weeds will be consistent with the strategy outlined in the Flathead National Forest NIWC EA (Project File, Exhibit H-8).

Based on the project design feature, which minimize the potential for the spread and/or introduction of weeds, and the recent Forest Weed Control (spraying) Program emphasis and accomplishments within the project, the likelihood of weed species spreading to the project area is moderate and the consequences of undesirable plant establishment in the project area is low to moderate.

Cumulative Effects

Based on the past and proposed weed abatement work within the project area, it is expected that there would be a decrease in the number of acres currently occupied by weeds within the Holland Pierce Fuels Reduction and Forest Health project area.

Regulatory Framework and Consistency

Management direction for noxious and invasive weed control on the Flathead National Forest is set at the national and forest levels. Forest Service policies were developed in response to Federal laws guiding implementation of noxious weed control actions. These policies are set forth in Amendment 2000-95-5 of the FSM Chapter 2080, Noxious Weed Management, and have been incorporated into the Forest Plan. Treatment and monitoring of known weed populations in the Holland Pierce Fuels Reduction and Forest Health project area would be implemented under the authority and guidance of the NIWC DN (May 2001) and EA (March 2001), which were designed to meet legal requirements and Forest Service policies for noxious weed control.

FIRE AND FUELS

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

Under this alternative, there would be no attempt at reducing the fuel hazard at this time on NFS lands in the wildland/urban interface areas in within the Holland Pierce Fuels Reduction and Forest Health Project Area.

The past, present, and reasonably foreseeable actions included in the cumulative effects analysis for fire and fuels are summarized in the Fire and Fuels Specialist Report (Project File Exhibit G-10). The natural fuel loads in the area would continue to increase. The continued buildup of fuel, especially in the100- and 1,000-hour fuel size classes would result in ever increasing potential for stand replacing fires. Fire suppression will become more difficult and more costly as conditions worsen with time. This would increase the likelihood of a crowning wildfire of significant magnitude and intensity that would involve the wildland/urban interface and private lands.

Alternative 2 – Proposed Action

Direct and Indirect Effects

The direct effects on the fire and fuel resource associated with the proposed fuel reduction actions include: 1) the reduction of hazardous fuels; and, 2) the opening of tree canopy and reduction of crown bulk density within the treated areas.

Within the DFPZs, coarse down woody material (greater than inches in diameter) would be reduced from existing levels (27 to 100 tons/acre) to about 5 tons/acre. Small down woody material (less than 3 inches diameter) would be reduced from 13 to 27 tons/acre to about 3 tons/acre. On average, the existing canopy closure would be reduced from 30 to 90 percent to about 40 percent, and the existing crown bulk density would be reduced from 0.013 pounds per cubic foot to 0.006 pounds per cubic foot.

Within the FRZs, coarse down woody material (greater than inches in diameter) would be reduced from existing levels (29 to 100 tons/acre) to about 10 tons/acre. Small down woody material (less than 3 inches diameter) would be reduced from 15 to 27 tons/acre to about 5 tons/acre. On average, the existing canopy closure would be reduced from 30 to 90 percent to about 40 to 60 percent, and the existing crown bulk density would be reduced from 0.013 pounds per cubic foot to 0.007 pounds per cubic foot.

The indirect effects of the proposed fuel reduction treatments would be a modification of a "potential fire event behavior" within the treated areas. The rate of spread, intensity, torching, crowning, and resistance to control (fire containment and suppression) of a potential wildland fire within the treated areas would be reduced, resulting in a safer conditions for firefighters and the public, and a lower probability that a wildland fire could escape from the treated areas and burn onto adjacent lands.

Cumulative Effects

The cumulative effects of the actions identified as reasonably foreseeable, combined with the past and present actions identified (Project File Exhibit G-10) would reduce the fuel hazard in the wildland/urban interface areas within the Project Area and decrease the threat of a wildfire event on NFS lands moving onto private property.

Regulatory Framework and Consistency

All fuels and fire management activities considered in the alternative are consistent with direction in the Flathead Forest Plan, Appendix G – Fire Management Direction. This alternative is consistent with the Healthy Forests Restoration Act (Project File Exhibit H-6), in that it is consistent with, and implements fuel reduction treatments that are generally recommended in the *Seeley-Swan Fire Plan*.

AIR QUALITY

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

None of the burning activities included in the Holland Pierce Fuels Reduction and Forest Health proposal would be implemented. There would not be any fugitive dust associated with post-decisional project road use or ground disturbances. Therefore, there would be no direct or indirect effects to air quality from the implementation of this alternative.

The natural fuel loads in the area would continue to increase. This continued buildup of fuel increases the risk of a potential large wildland fire that would produce high volumes of smoke.

Alternative 2 – Proposed Action

Direct and Indirect Effects

Fugitive dust

This analysis considered the impacts to air quality from dust associated with project implement, specifically, road dust. The direct effects include reduced visibility on and adjacent to roads and an increased level of small diameter particulates, specifically PM 2.5 and PM 10 (of concern for human health reasons). This analysis considered the total maximum dust production during the implementation of the Alternative 2 to be 10.5 tons of PM 10. The actual amount produced would be influenced by dust mitigation measures taken directly by the Forest Service and by Missoula County as general road maintenance, as well as actual precipitation, and timing of log hauling.

Smoke

Burning slash piles could temporarily affect air quality in the analysis area and surrounding area. This pile burning would produce light smoke emissions. It also would require monitoring of smoke transport and dispersion conditions to minimize effects to airshed quality. Coordination of smoke generating activities with the Montana Air Shed Group assures that effects comply with the Montana Air Quality Act and Federal Clean Air Act. No potential for significant effects on air quality have been identified.

Cumulative Effects

Smoke emission, road dust, and vehicle emissions produced by the implementation of this alternative could combine with air pollutants from other local and regional projects upwind would contribute to the cumulative impact of air pollutants within the Upper Swan Valley. Pile burning would be implemented during good smoke transport and dispersion conditions and would be accomplished over time, which should minimize any adverse effects.

Regulatory Framework and Consistency

By participating in the Montana and Idaho Interstate Airshed Group, complying with the MOU with the Montana Air Quality bureau, and meeting the requirements of the State Implementation Pan and Smoke Management Plan, the proposed activities would comply with the forest Plan and the Clean Air Act.

RECREATION, WILDERNESS, UNDEVELOPED AREAS, AND RANGE

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

Since no activities would take place under this alternative, there would be no direct, indirect, or cumulative effects on the recreation resource.

Alternative 2 – Proposed Action

Direct, Indirect, and Cumulative Effects

Recreation

Activities associated with the Holland Pierce Fuels Reduction and Forest Health Project could result in short-term disruption to recreational activities. However, activities would be scheduled to minimize disruptions from these activities. Activities would not occur within or immediately adjacent to the Holland Lake Campground Recreation Complex from May 1 through September 30.

Wilderness

No activities are proposed adjacent to or within the Bob Marshall Wilderness Area, so there are no direct, indirect, or cumulative effects to the Wilderness Resource. A temporary reduction in air quality could be an exception during burning of slash piles.

Inventoried Roadless Area / Undeveloped Areas

There are no inventoried roadless areas or undeveloped areas within the Project Area, so there are no direct, indirect, or cumulative effects to undeveloped areas.

Range

The Barber and the Holland range allotments lie within the boundaries of the proposed Holland Pierce Fuels Reduction and Forest Health Project. Both of these allotments are described in detail in the EA for the South Swan Grazing Allotments (Project File Exhibit H-19). The existing condition for the range resource is as described within that document with the following minor changes:

In the summer of 2005, several roads and other concentrated areas of noxious weeds were treated with herbicides. Approximately 44 acres were treated within the Holland allotment and 32 acres were treated within the Barber Creek Allotment. Thus, fewer weeds are now within the allotment boundaries than when the analysis was completed. This weed treatment was one of the decisions made with the South Swan Grazing Allotments EA. The effect of this activity was to increase the amount of forage along roads and to decrease the likelihood of spreading weeds by both cattle and the proposed Holland Pierce activities.

The goal of the Holland Pierce Fuels Reduction and Forest Health Project is to reduce fuels by thinning stands and removing trees. The effects on the range resource of implementing this project would be to allow more sun light on the ground, which could increase the amount of forage available to cattle. Generally, increased sunlight favors additional growth of grasses and forbs and shrubs. In addition, cattle would have better access to some sites that are now too thick for them to enter. Overall, cattle forage could increase.

Regulatory Framework and Consistency

All activities are consistent with Flathead Forest Plan direction and the Wilderness Act.

SOCIAL AND ECONOMIC FACTORS

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

The No Action Alternative would not implement any management activities at this time. Therefore, this alternative would not have any effect on employment or income in the local economy.

Alternative 2 – Proposed Action

Direct, Indirect, and Cumulative Effects

Alternative 2 proposes management actions that could include the harvest of up to 3.5 million board feet (MMBF) of forest products. Approximately $350,000 in timber receipts would generated from this project, which would be available to fund a portion of the proposed fuel reduction treatments described in Appendix B of the EA.

Based on information from a recent similar project (Island Unit Fuels Reduction Project, Swan Lake Ranger District, the management actions associated with Alternative 2 would produce approximately 28 direct and 37 indirect job years of potential employment opportunities. This would create an estimated 28 direct jobs in the wood products industry and another 37 jobs spread out over about a 3-year period. The economic effects would be primarily in the Upper Swan Valley in Missoula County, with minor effects to the adjacent Lake and Flathead Counties.

Regulatory Framework and Consistency

The management actions included in the Holland Pierce Fuels Reduction and Forest Health Project comply with Forest Plan direction and standards. The project is consistent with the 2003 Healthy Forests Restoration Act. At the local level, the proposal is consistent with and contributes towards the implementation of the *Seeley-Swan Fire Plan*.

HERITAGE RESOURCES

Alternative 1 – No Action

Direct, Indirect, and Cumulative Effects

Implementation of the No Action Alternative would not directly, indirectly, nor cumulatively affect heritage resources since there would be no change to the integrity of significant heritage resources.

Alternative 2 – Proposed Action

Direct, Indirect, and Cumulative Effects

Since there are no known heritage resource sites within the Holland Pierce Fuels Reduction and Forest Health Project Area, there would be direct or indirect effects. It could be possible that a field inventory to identify heritage resources may have missed identifying an existing cultural site. In this event, the contract associated with the Proposed Action would include an appropriate clause for the protection of cultural resources that allows the Forest Service to modify or cancel certain resource-activities to protect heritage resources regardless of when they are identified. In addition, potential project effects to these unidentified heritage resources would be moderated or avoided through normal consultation with the SHPO and Confederated Salish and Kootenai Tribes.

Regulatory Framework and Consistency

Protection of historic and prehistoric heritage resources is contained in a number of laws including the National Historic Preservation Act of 1966 (as amended in 1980). Implementing

regulations for the National Historic Preservation Act of 1966 are in 36 CFR 800. The Flathead Forest Plan standards and guidelines are designed to meet these regulations.