

Chapter 1: Purpose and Need for Action

Document Structure

The Forest Service prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This EA discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and the other alternatives.

Chapter 1. Purpose and Need for Action

This chapter includes information on the historical and existing resource conditions of the project area, the desired conditions of the project area, the Purpose and Need for the project, and the agency's proposal for achieving that Purpose and Need. This section also describes the decisions to be made.

Chapter 2. Alternatives Considered

This chapter details how the Forest Service informed the public of the proposal and how the public responded. Alternative methods for achieving the Purpose and Need were developed and are described in this section. These alternatives were based on key issues raised by the Interdisciplinary (ID) Team, other agencies, and/or the public. This chapter also includes Design Criteria to reduce impacts to specified resources identified. Finally, this section provides summary tables of the environmental consequences associated with each alternative.

Chapter 3. Affected Environment and Environmental Consequences

Chapter 3 describes the existing condition and potential environmental effects of implementing the Proposed Action and other alternatives. This chapter is organized by resource area.

Appendices

The appendices provide more detailed information to support the analyses presented in the EA. Included are a Monitoring Plan, Best Management Practices (BMP), Silvicultural Treatments, List of Preparers, Bibliography, and a Glossary that defines abbreviations, acronyms, and terms used.

Project Area

The Hemlock Elk Fuels Reduction and Forest Health Project Area is located in the Swan Valley near Condon, Montana. The project area is bounded by Montana Highway 83 on the east, the South Fork of Cold Creek on the north, Kraft Creek on the south, and the ridges of the Mission Mountains to the west. National Forest System (NFS) lands occupy approximately 26,915 acres of the project area (73 percent); Plum Creek Timber Company (PCTC) owns about 5,989 acres (16 percent); and other private landowners own

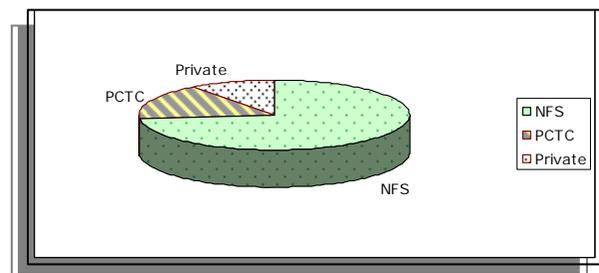


Figure 1-1 -Hemlock Elk Project Area Ownership

approximately 3,749 acres (10 percent). Elevation within the project area ranges from 3,800 feet along the Swan River to nearly 8,600 feet on the Mission Mountains Divide (See Vicinity Map 1-1).

Historical Condition

Fires were frequent in the Upper Swan Valley until the early 1900's, with the earliest fire evidence dating from about 1241 AD. On average, a fire occurred about every 8 years (range of 3 to 23 years) between 1586 and 1929 in the Upper Swan Valley. The last major fire occurred in 1929 (Barrett, 2002). Barrett (1998) reported that 1768, 1814, 1850, 1889, 1919, 1929 were important fire years in the area.

These fires resulted from natural causes, such as lightning and traditional burning by Indians. Most Indian fires occurred in the valley grasslands and lower-elevation forests dominated by ponderosa pine, Douglas-fir, and western larch. These fires were likely ignited to improve big game browse, berry production, food gathering and hunting, improved travel, communication and horse grazing (Barrett 1981).

In the summer of 2003, the Crazy Horse Fire burned approximately 11,000 acres with approximately 8,000 acres occurring within the project area. The Holland Peak Fire burned roughly 1,600 acres on the east side of the Swan Valley nine miles from the Hemlock Elk Project Area in the summer of 2005. These fires are the largest and most recent fires in the Upper Swan Valley.

Historical accounts indicate that epidemic insect outbreaks have occurred in the area in the past. The most well documented epidemic was an outbreak of spruce bark beetles in the Swan Valley following a large scale wind event in 1949 (Project File Exhibit Q-4).

H. B. Ayers recorded observations of the Swan Valley in 1899 during his mission to survey the timber of the then Lewis and Clark Forest Reserve. His journals describe large expanses of the Swan Valley dominated by large trees of ponderosa pine, Douglas-fir, and western larch grown in an open canopy on the valley, benches and foothills and denser stands of shade-tolerant species on the stream bottoms and high elevations.

“The lands of the upper valley, where the rather scant covering of larch and lodgepole pine at first gives the impression of very poor soil, but upon close examination it is found that the sparseness of tree growth is largely due to frequently occurring fires which have thinned the forest.” (Ayers 1898)

Existing Condition

The Hemlock Elk Project Area contains some of the most highly productive sites found on the Swan Lake Ranger District. A mix of forest conditions exist, which are largely due to elevation/topographical variations. The warm-moist valley bottoms on the east, change to cool-moist mid slopes or foothills, and finally to cold-steep uplands to the west. The following excerpts from the Upper Swan Valley Landscape Assessment (Project File Exhibit Q-4) describe these mixed-forest conditions.

“The warm-moist valley bottoms include the undulating flat lands of the valley floor with its many wetlands. This is a warm moist habitat that is mostly forested with a large diversity of conifer and deciduous tree species. Openings in the forest are numerous, largely due to human settlement. These areas contain a mix of western larch, western white pine, lodgepole pine, Douglas-fir, ponderosa pine, Engelmann spruce, grand fir and subalpine fir on the more well drained sites. The neighboring riparian zones are bordered with cottonwood, birch and aspen. Disturbances in this area included primarily low and mixed severity fire, and occasionally high severity

fire. High intensity winds have also occurred at intervals and caused extensive blowdown.

Moving from the Valley Bottom Ecosystem into the Cool, Moist ecosystem, other tree species include Douglas-fir, lodgepole pine, western larch, and western white pine. Some other plants in these forests include pinegrass, elk sedge, beargrass, Oregon grape, juniper spirea, serviceberry, and alder. Cool, low elevation moist sites within these areas are dominated by Engelmann spruce.

Moving up into the drier foothills, the forest consists of Douglas-fir, western larch, and lodgepole pine. Where hot fires burned over the landscape, lodgepole pine and western larch are the dominant tree species. Warm, moist sites have western red cedar, grand fir, western larch, and western white pine. Going up in elevation dry, cool sites transform from Douglas-fir/blue huckleberry to alpine fir/bear grass. Subalpine fir and fool's huckleberry dominate cold moist sites in this forest type at higher elevations. Grand fir is abundant on warmer and moist sites at mid-elevations. A large area on the west side of the valley along the mountain foothills is dominated by large, old-growth western red cedar that ranges in age from 600 to 1,000 years old. Stands of 4- and 5-foot diameter Engelmann spruce can be found in the Cold Creek drainage. Large western white pines were visible in the Cold Creek area along the Cold Creek road. Once a key component of the Cool, Moist Ecosystem, they have been severely reduced in numbers by white pine blister rust. (Rust-resistant white pine have been re-planted in some areas of the Cold Creek Drainage.) Western hemlock is unique to this mid-slope position in this ecosystem on the flanks of Hemlock Peak.”

The cold-steep uplands form a narrow band between the barren rocky ridges and peaks on the Swan Range and the more heavily forested areas on the lower slopes. Vegetation is scattered and clumped across the landscape. Trees and shrubs develop in areas where there is soil. Tree species include whitebark pine, Engelmann spruce, lodgepole pine, mountain hemlock, and subalpine fir. Disturbances in this area include a combination of mixed and high severity fires. Fires tended to be less frequent, and usually occurred during dry periods, and were the result of lower elevation fires carrying into the higher elevations.”

Review of the stand inventories and stand-level diagnosis revealed the following major insect and disease agents present within the project area.

- Mountain pine beetle;
- Western balsam bark beetle;
- Douglas-fir beetle;
- White pine blister rust;
- Larch dwarf mistletoe; and
- Root disease

Desired Condition

The desired future conditions described for the Flathead National Forest Land and Resource Management Plan (Forest Plan) Management Areas (MA), in conjunction with the other Forest Plan direction outlined below, provide the parameters for identifying and defining project-specific desired future conditions. The following desired future conditions will help guide management of the project consistent with the Forest Plan, the key issues, and the ecological conditions of the Hemlock Elk Project Area.

- Manage riparian areas throughout the Forest to enhance vegetation and wildlife diversity and maintain or enhance water quality and fisheries.

- Emphasize water and soil protection and old-growth habitat.
- Emphasize cost-efficient production of timber while protecting the productive capacity of the land and timber resource.
- The visual landscape may be altered.
- Roaded natural-appearing recreation opportunities environment will be provided.
- Special consideration will be given to white-tailed deer summer range within this management area.

Management Direction

The Forest Plan embodies the provisions of the National Forest Management Act (NFMA), its implementing regulations, and other guiding documents. The Forest Plan sets forth in detail the direction for managing the land and resources of the Flathead National Forest.

Several plans and other regulations also provide context to the management direction for these lands. These include the National Fire Plan (Project File Exhibit Q-18), the Missoula County Community Wildfire Protection Plan (Project File Exhibit Q-17), the Seeley-Swan Fire Plan (Project File Exhibit Q-9), and the Healthy Forests Restoration Act (Project File Exhibit Q-12).

Purpose and Need

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

Hazardous Fuels Reduction

- Reduce the associated risk of high-severity landscape wildfire risk within the Wildland Urban Interface (WUI) as identified in the Seeley Swan Fire Plan;
- Provide a safer environment for the public and firefighters should a wildfire occur within the proposed treatment areas;
- Increase the probability of stopping wildfires on NFS lands before they burn onto private lands.

Forest Health

- Restore and maintain forest health (restore historical tree species composition, structure and pattern);
- Reduce the growing risk for insects and chronic disease infestation;

Provide wood products for local economies

Proposed Action

The Swan Lake Ranger District ID Team has identified the following management activities to move toward the desired future (vegetative) condition of restoring and maintaining a healthy forest in the Hemlock Elk Project Area:

- Mechanically treating **668 acres** of mature forest with commercial harvest prescriptions (tractor logging system). An estimated 5,724 CCF (cubic hundred feet) or 3,111 MBF (thousand board feet) of commercial timber products would be produced.
- Mechanically treating **10 acres** of immature forest with a non-commercial treatment (Thin From Below)
- Hand treating **61 acres** of immature forest with non-commercial treatment (Pre-commercial Thinning)
- Hand planting of **203 acres** of desired species within regeneration units.
- Constructing several segments of temporary road totaling approximately **4.8 miles** in order to implement prescriptions requiring mechanized treatment and to provide for product removal. These roads would be reclaimed following their use.
- Applying fuel reduction treatments on approximately **321 acres** within the WUI and on **418 acres** outside the WUI, for a total of **739 acres** of fuel reduction treatments.
- Applying BMPs to all temporary roads constructed and roads temporarily opened, as well as all system roads as requirements of the timber sale. Approximately **21.4 miles** of systems roads would have BMPs applied to reduce sediment yields.

Project Scope

Scope of the Proposed Action

The Proposed Action would result in timber sales expected to be sold in 2010. It is expected that timber harvest would be completed within 2 to 3 seasons after the sale date. Implementation of road work associated with timber sales should begin once the project is awarded. Reforestation activities would be completed no more than 5 years after logging is completed. Management activities would be completed by 2018.

Scope of the Analysis

The Council on Environmental Quality (CEQ) regulations implementing the NEPA require that all Federal agencies consider the following three types of actions to determine the scope of the analysis (40 CFR 1508.25).

Connected Actions

Connected actions include closely-related actions that automatically trigger other actions that may require NEPA analysis; cannot or would not proceed unless other actions are taken previously or simultaneously; or are interdependent parts of a larger action and depend on the larger action for their justification. These actions are part of the proposed action and include all activities needed to complete the proposed project and provide for resource protection during and after project completion. Connected actions contained in the proposed action include, but are not limited to:

- Post-timber sale activities (such as slash piling for hazard reduction and revegetation of disturbed areas);
- Watershed BMPs described in Appendix B, and
- Project Design Criteria described in Table 2-15 associated with the action alternatives; and
- Tree planting and monitoring of reforestation success.

Similar Actions

Similar actions are actions with similarities to other actions that provide a basis for evaluating their environmental consequences, such as similar timing or geography. A number of these actions have been identified and evaluated in the analysis of environmental consequences (EA, Chapter 3). These are current and reasonably foreseeable actions described in the following section on cumulative actions.

Cumulative Actions

Cumulative actions are past, present, and reasonably foreseeable actions that may have cumulatively significant impacts when considered with the proposed action. The effects of these actions on NFS lands have been evaluated in the environmental analysis of the Proposed Action and its alternatives. Actions considered in the cumulative effects analysis are presented in more detail in Chapter 3.

Decisions to be Made

The Responsible Official for this proposal is the Forest Supervisor, Flathead National Forest. After the close of the EA review and comment period, the Forest Supervisor will consider comments submitted by the public, interested organizations and government agencies (Federal, State, and local) and respond to these comments in the Decision Notice. She will decide whether and how to meet the Purpose and Need to reduce fuels, improve forest health, and provide wood products for local communities in the Hemlock Elk Fuels Reduction and Forest Health Project. In addition, based on the findings in the EA, the Forest Supervisor will make the following decisions documented in the Decision Notice:

- The location, design, and scheduling of proposed activities, temporary road construction, and silvicultural practices;
- Design Criteria to protect or enhance resources; and
- Specific project monitoring requirements needed to assure Design Criteria are implemented and effective.

Applicable Laws and Executive Orders

A partial list of Federal laws and Executive Orders pertaining to project-specific planning and environmental analysis on Federal lands follows. While most pertain to all Federal lands, some of the laws are specific to Montana. Disclosures and findings required by these laws and orders are contained in Chapter 3 of this EA.

- Multiple-Use Sustained Yield Act of 1960.
- National Historic Preservation Act of 1966 (as amended).
- National Environmental Policy Act of 1969 (as amended).
- Clean Air Act of 1970 (as amended).
- Endangered Species Act of 1973 (as amended).
- Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 (as amended).
- National Forest Management Act (NFMA) of 1976 (as amended).
- Clear Water Act of 1977 (as amended).
- American Indian Religious Freedom Act of 1980.

- Archeological Resource Protection Act of 1988.
- Cave Resource Protection Act of 1988.
- Executive Order 11593 (cultural resources).
- Executive Order 11988 (floodplains).
- Executive Order 11990 (wetlands).
- Executive Order 12898 (environmental justice).
- Executive Order 12962 (aquatic systems and recreational fisheries).

Information Sources

The analysis and decision processes for this project are based on the consideration of the best available science. The manner in which best available science is addressed can be found within the disclosure rationale throughout the EA, biological assessments (BA), biological opinions (BO), and the project file.

This page intentionally left blank.