

# Chapter 1: Purpose and Need for Action

## Document Structure

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The Forest Service prepared this draft Environmental Impact Statement (DEIS) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This DEIS 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 of 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 DEIS. Included are a Monitoring Plan, Best Management Practices, Silvicultural Treatments, List of Preparers, Bibliography, and a Glossary that defines abbreviations, acronyms, and terms used.

### Project Area

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The Cooney McKay Project Area is located in the Swan Valley near Condon, Montana. The project area stretches from the Swan Mountain Range to the east, Highway 83 to the west, Cooney/Rumble Creek Divide to the south, and Lion/Meadow Creek Divide to the north. National Forest System (NFS) lands occupy 21,800 acres of the project area (57 percent); Plum Creek Timber Company (PCTC) owns about 10,068 acres (27 percent); and other private landowners own about 6,163 acres (16 percent). Elevation within the project area ranges from 3,400 feet along the Swan River to nearly

8,900 feet near Cooney Mountain on the Swan Crest (See Vicinity Map 1-1 displaying the Cooney McKay Project Area).

## **Historical Condition**

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In the Swan Valley (northwestern Montana), ponderosa pine, western larch, and Douglas-fir forests were once a mosaic of open, park-like stands supporting large trees. These forests developed through frequent, low and moderate intensity ground fires. In this century, fire suppression and timber harvesting changed these forests. In comparison to historical conditions, large-tree, open-grown forest communities have become a rarity in the landscape.

Fires ignited by lightning strikes and Native Americans shaped the forests of the Swan Valley. Fire history studies of the Swan Valley have traced ponderosa pine and western larch forests back to the early 1600s. These research studies were based largely on tree ring and fire scar analyses of existing older trees. Some of these trees are over 500 years old; one fire scar dates back to 1489. Data from these studies spans the years from 1600-1998. On the average, a fire occurred somewhere on the landscape every 8 years until 1919. Over time, these fire cycles created a variety of tree age classes.

Extensive records do not exist for timber harvest activities occurring in the early 1900s in the Upper Swan Valley. At the turn of the 20th century, timber sales were few and small. Timber was purchased primarily for fuel wood, house logs, and other homestead improvements.

A 1930s Swan Valley timber inventory indicates that approximately 19,000 acres of land supported open-grown mature forest communities. This inventory shows mature ponderosa pine, western larch, and Douglas-fir distributed in relatively large continuous forests; intermixed with lodgepole pine, Douglas-fir, spruce, and cottonwood trees. Ponderosa pine and western larch logging began in the 1960s. Today, about 3,000 acres of NFS lands supporting large diameter ponderosa pine remains in the Upper Swan Valley. This represents about 15 percent of the 1930s inventory. The amount of private property supporting ponderosa pine is unknown.

## **Existing Condition**

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The Cooney McKay 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. Warm-moist valley bottoms exist on the west, changing to moderately warm benches, and finally cold-steep uplands to the east. 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.

The moderately warm benches to the east include a pattern of riparian and potholes along its entire length, with ponderosa pine and western larch growing mostly on the drier areas. It is a mixture of forest types with deciduous species and Engelmann spruce around the wetlands and along riparian areas, and mixed stands of lodgepole pine, grand fir, subalpine fir, Douglas-fir and western red cedar. Historically, these tended to be open grown stands, where fire disturbances tended to be of low severity to mixed severity. A number of these historically open stands are now crowded with younger trees, mostly Douglas-fir and lodgepole pine, increasing the risk for intense fires that might kill the large, older ponderosa pine, western larch, and Douglas-fir.

The cool-moist mid slopes or foothills to the east includes a transition between the moderately warm benches to the west and the cold-steep uplands to the east. Tree species in this area include Douglas-fir, lodgepole pine, western larch, western white pine, Engelmann spruce, grand fir, western red cedar and subalpine fir. Disturbances in this area included a combination of low, mixed, and high severity fires. High severity winds causing blowdown have also occurred in the area causing increased insect problems.

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.

Insect and disease conditions are endemic in the project area, with minor levels of mortality occurring, primarily in lodgepole pine and Douglas-fir. Mountain pine beetle infestations occurred in the lodgepole pine in 1980 and 1981 and again between 1986 and 1989. Mortality levels were high in some localities, but not excessive across the project area as a whole, primarily due to the relatively young age and small size of the lodgepole pine. Mortality was limited to the patches and individual larger lodgepole pine trees, which were attacked and killed. These trees are now mostly on the ground, contributing to fuel loadings in a discontinuous pattern in the stands affected. Individual trees and small groups of trees within many stands are continuing to die from mountain pine beetle infestations.

The lodgepole pine stands in the area are now mature and at the age of high risk for mountain pine beetle attack. The larger lodgepole pine is most vulnerable to attack, due to its thicker phloem, which provides more favorable beetle habitat. The dense, small diameter and low vigor lodgepole is less vulnerable to beetle attack and mortality, though in periods of high epidemic population levels of beetles, these smaller trees can also be killed in large numbers.

Many of the larger Douglas-fir trees throughout the project area are being affected by mistletoe and root rot, with individual trees and small groups of trees being killed. This condition is widespread throughout the project area. Trees susceptible to root rot are primarily Douglas-fir, and typically the

larger diameter trees are affected first, spreading to younger trees that are nearby with overlapping root systems. Root rot weakens the defense mechanisms of affected trees, which increases the risk of insect infestation, primarily by bark beetles. This risk is increasing in the area.

## Desired Condition

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The desired future conditions described for the 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 project area.

- There is a diverse and healthy ecosystem that has been managed so forests are in a condition that has the capacity for renewal and recovery from disturbances (healthy stand conditions, adequate seed sources, and productive soils).
- Fuel loads have been managed to reduce the risk of stand-replacement fires in stands adjacent to private property.
- Fire is being used to emulate its natural ecological role.
- Threatened, endangered, sensitive, and management indicator species habitat needs, as defined by research and science, have been met.
- Water quality effects from roads to streams, riparian areas, and wetlands have been reduced.
- Forest products and other economic opportunities related to the forest are made available to contribute to the local timber related economy.

## Management Direction

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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, the Lake County Community Wildfire Protection Plan, the Seeley-Swan Fire Plan, and the Healthy Forests Restoration Act.

## Purpose and Need

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

### Forest Health

- Improve and/or maintain the general health, resiliency, and sustainability of forest vegetative communities;

- Reduce the growing risk for insects and chronic disease infestation.

## Hazardous Fuels Reduction

- Reduce forest fuels buildup adjacent to public and private lands;
  - Provide 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.

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

## **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 Cooney McKay Project Area:

- Mechanically treating **921 acres** of mature forest with commercial harvest prescriptions, using a combination of mechanized ground-based and cable logging systems. An estimated 7,544 CCF (cubic hundred feet) or 4,100 MBF (thousand board feet) of commercial timber products would be produced.
  - Mechanically treating **105 acres** of immature forest with the Pre-Commercial Thinning prescription using hand chainsaw.
  - Ecosystem Maintenance Burning on **1,833 acres** of upper elevation forest and shrub land stands, using aerial and hand ignition methods.
  - Hand planting **79 acres** of western larch and ponderosa pine after commercial harvest.
  - Restoration planting of **48 acres** of western larch and ponderosa pine on sites of previous harvest and gravel extraction.
  - Thinning overstocked small diameter lodgepole pine stands totaling **93 acres** using a Thin From Below-Commercial treatment.
  - Thinning overstocked lodgepole pine stands totaling **50 acres** primarily removing trees between 2 and 6 inches diameter using a Thin From Below –Non-Commercial Treatment.
  - Constructing several segments of temporary road totaling approximately **1.25 miles** in order to implement prescriptions requiring mechanized treatment and to provide for product removal. These roads would be reclaimed following their use.
  - Applying Best Management Practices (BMPs) to all temporary roads constructed and roads temporarily opened, as well as all system roads as requirements of the timber sale.

Approximately **20.9 miles** of systems roads would have BMPs applied to reduce sediment yields.

- Thinning From Below on approximately **119 acres** of western larch and ponderosa pine old growth in 5 stands to reduce the potential of loss of the large trees due to crown fire.

## Project Scope

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### Scope of the Proposed Action

The proposed action would result in timber sales anticipated to be sold in 2010. It is anticipated that timber harvest would be completed within 2 to 3 seasons after the sale date. Implementation of road work associated with timber sales would be estimated to begin once the project is awarded.

Reforestation activities would be completed no more than 5 years after logging is completed.

Management activities not involving timber harvest (Ecosystem Maintenance Burning) might occur during the next 10 years and be completed by 2018. This is dependent on the availability of burning windows, funding, and equipment needed to achieve the desired results. When conditions are favorable the actual burning would only take a day or less for each project, but this time frame provides a conservative margin for all these elements to come together.

### 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 Best Management Practices (BMPs) described in Appendix B, and
- Project Design Criteria described in Table 2-14 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 (EIS, 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 of the Flathead National Forest. After the close of the DEIS 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 Final EIS. She will decide whether and how to meet the Purpose and Need to improve forest health, reduce fuels, and provide wood products for local communities in the Cooney McKay Project Area. In addition, based on the findings on the Final EIS, the Forest Supervisor will make the following decisions documented in the Record of the Decision:

- The location, design, and scheduling of proposed activities, temporary road construction, and silvicultural practices;
  - Design Criteria to protect or enhance resources;
  - 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 DEIS.

- 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).

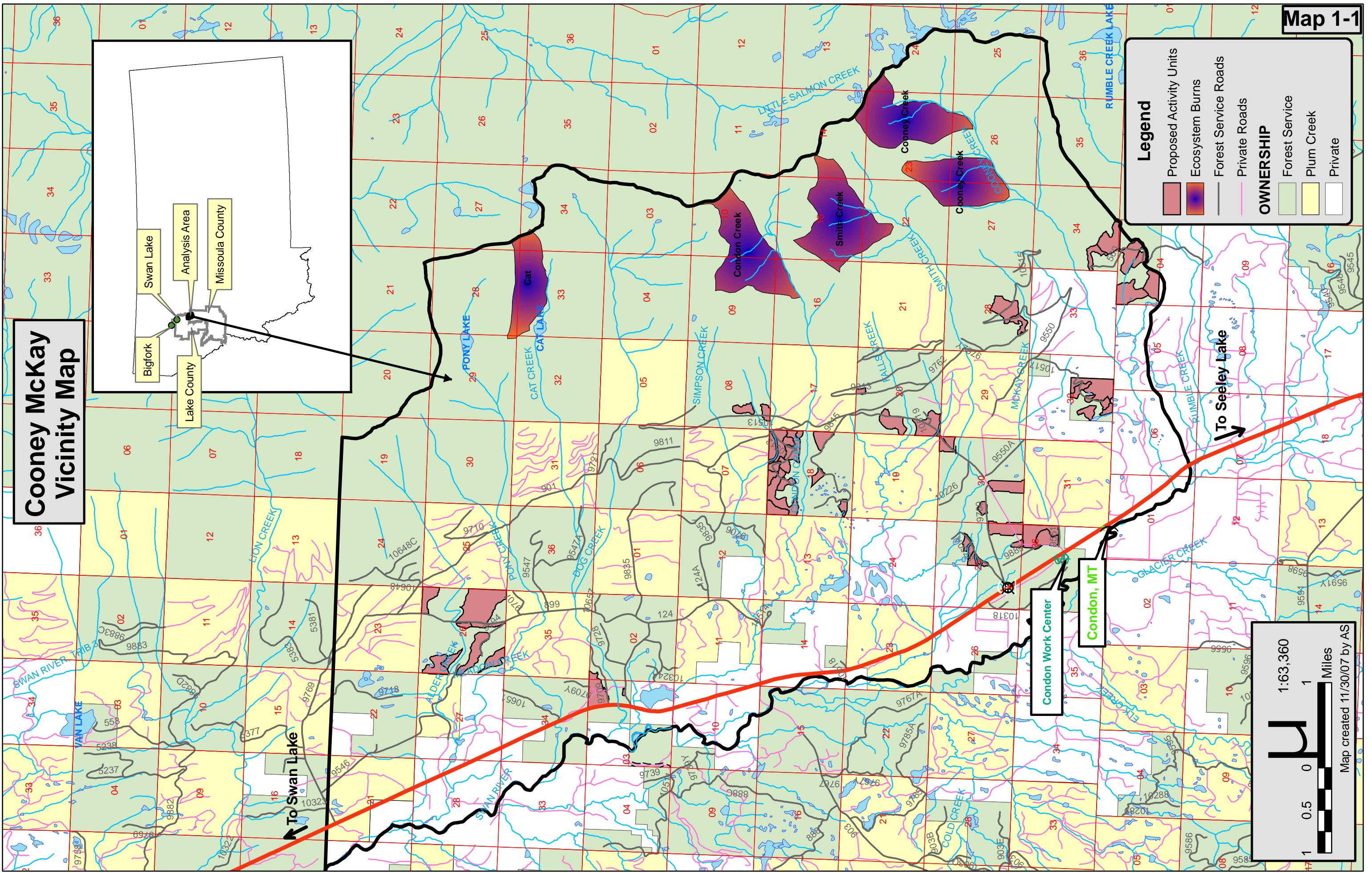
- Clear Water Act of 1977 (as amended).
- American Indian Religious Freedom Act of 1980.
- Archeological Resource Protection Act of 1988.
- Cave Resource Protection Act of 1988.
- Executive Order 11593 (cultural resources).
- Executive Order 11988 (floodplains).
- Executive Order 11990 (wetlands).
- Executive Order 12898 (environmental justice).
- Executive Order 12962 (aquatic systems and recreational fisheries).

## **Information Sources**

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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 DEIS, Biological Assessments, Biological Opinions, and the Project File.

**Map 1-1**



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