



Draft Environmental Assessment

Mountain Home Ridge Fuels Reduction Project

5182-07 HMGP WA

Chelan County, Washington

October 2020



FEMA

Federal Emergency Management Agency
Region X
Department of Homeland Security
130 – 228th Street SW
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This document was prepared by



Contract No.: HSFE60-15-D-0015

Task Order: 70FA6019F00000024

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Acronyms and Abbreviations

APE	area of potential effects
BMP	best management practice
CDLT	Chelan Douglas Land Trust
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DAHP	Washington Department of Archaeology and Historic Preservation
DBH	diameter at breast height
EA	environmental assessment
EFH	Essential Fish Habitat
EMD	Washington State Emergency Management Division
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FMAG	Fire Mitigation Assistance Grant
FONSI	finding of no significant impact
HMGP	Hazard Mitigation Grant Program
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHMP	Natural Hazard Mitigation Plan
NMFS	National Marine Fisheries Service
NRD	Natural Resource Department
NSO	Northern Spotted Owl
SIORCA	Wenatchee Mountains checker-mallow (<i>S. oregana</i> var. <i>calva</i>)
UCR	Upper Columbia River
U.S.C.	United States Code
USFS	U.S. Forest Service

USFWS U.S. Fish and Wildlife Service

WUI wildland-urban interface

Glossary

Canopy: The cover provided by the crowns of trees. A closed canopy occurs when the crowns of adjacent trees touch to form a continuous cover over the forest floor. An open canopy occurs when trees are more widely spaced so that their crowns do not touch or where there are gaps in the canopy.

Hazardous Fuels Reduction: Includes thinning vegetation, removing ladder fuels, reducing flammable vegetative materials, and replacing flammable vegetation with fire-resistant vegetation for the protection of life and property. Vegetation may include excess fuels or flammable vegetation.

Ladder Fuels: Includes shrubs, small trees, down wood or brush, and low limbs that may provide a route for a fire to climb from ground fuels up into the forest canopy.

Limbing: Removal of tree limbs to reduce fuel loads and ladder fuels.

Loam: Well-drained soils composed of sand, silt, and clay in relatively even proportions.

Slash: Vegetative debris created by hazardous fuels reduction and other forest management activities.

Suppression: Response to wildland fire that results in the curtailment of fire spread and elimination of all identified threats from the fire; wildland fire suppression requires a variety of unique tactics to successfully curtail fires.

Thinning: Removal of some trees, branches, or shrubs from a forest stand.

Wildfire: Any uncontrolled fire that spreads through vegetative fuels such as forests, shrubs, or grasslands, exposing and possibly consuming structures.

Wildland-Urban Interface: the geographical area where buildings and structures and other human development meet or intermingle with wildland or vegetative fuels (U.S. Department of Agriculture and U.S. Department of Interior 2001).

SECTION 1. Introduction

Chelan County Natural Resource Department (NRD) is partnering with Chelan Douglas Land Trust (CDLT) to perform hazardous fuels reduction work on up to 14 acres of land located within the Mountain Home Ridge property near Leavenworth, Washington. In January 2019, Chelan County NRD applied to the Federal Emergency Management Agency (FEMA) through the Washington State Emergency Management Division (EMD) for a grant under FEMA's Hazard Mitigation Grant Program (HMGP). EMD is the direct recipient for the grant, and Chelan County is the subrecipient.

The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Under the HMGP, federal funds pay 75 percent of the project cost, and the remaining 25 percent comes from nonfederal funding sources. The HMGP funds were made available via a Fire Mitigation Assistance Grant (FMAG) declaration made by FEMA in 2017 related to the Spromberg Fire for projects that reduce the increased risk of future wildfires.

The Mountain Home Ridge parcel is owned by CDLT and is located on the ridge to the south-southeast of the City of Leavenworth in Chelan County. The property is forested with a mix of older pine-fir forest and dense younger stands. The canopy spacing and ladder fuels in the younger stands are susceptible to supporting stand-replacing wildfires. The property is approximately 0.3 miles from the nearest home and less than 1 mile from the Leavenworth National Fish Hatchery. The project area is less than 2 miles south-southeast of the City of Leavenworth city limits (**Figure 1-1**). The Mountain Home Ridge parcel is in Township 24 North, Range 17 East in Section 25.

Chelan County NRD (the subrecipient) proposes to reduce hazardous fuels on a 14-acre project area in the Mountain Home Ridge parcel to reduce the risk of wildfire spread (**Figure 1-2**). Fuels reduction work would include limbing, spacing, or removing trees and shrubs in several of the dense younger stands of pine and fir. Most of these younger stands are "doghair" thickets where most of the trees would be removed. Contractors would use chainsaws to fell or trim trees. Discarded material would be scattered on the forest floor where it would quickly decompose.

This environmental assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) of 1969; the President's Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [CFR] Parts 1500 to 1508); U.S. Department of Homeland Security Instruction 023-01-001; and FEMA Instruction 108-01-1, NEPA implementing procedures. FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this draft EA is to analyze the potential environmental impacts of the proposed action. FEMA will use the findings in this draft EA to determine whether to prepare an environmental impact statement or to issue a finding of no significant impact (FONSI).

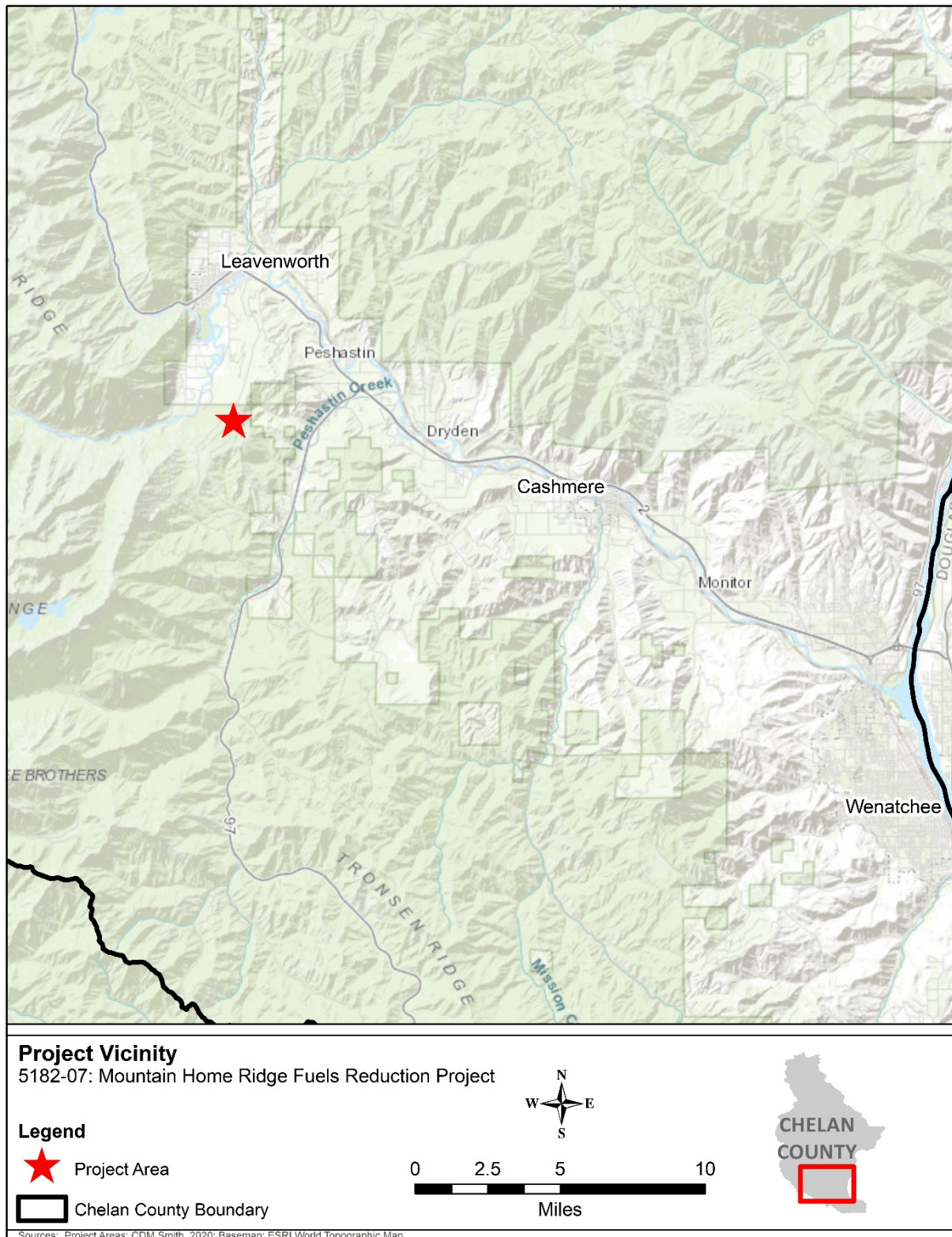


Figure 1-1. Project Vicinity

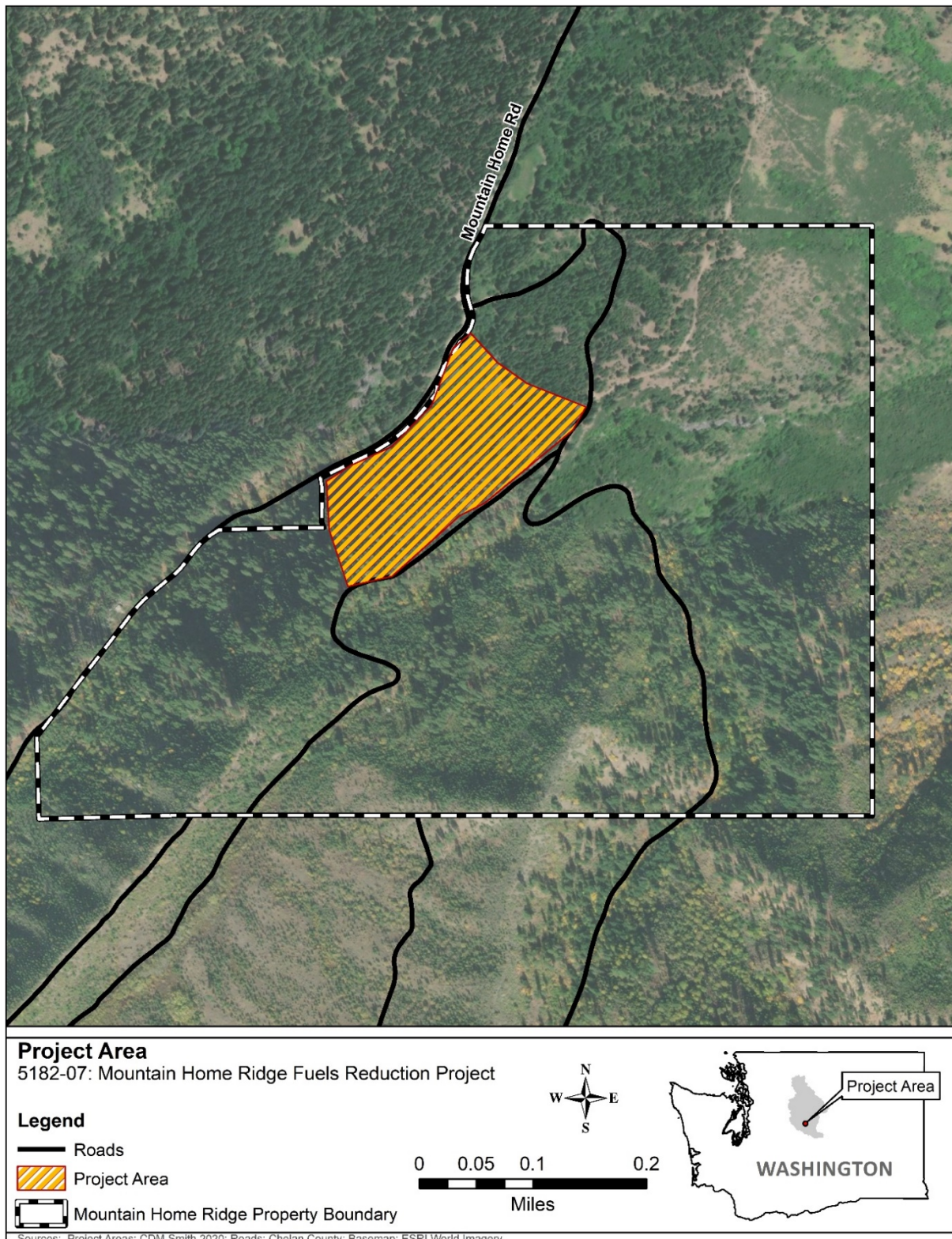


Figure 1-2. Project Treatment Area

SECTION 2. Purpose and Need

FEMA's HMGP provides funds to eligible state and local governments, federally recognized tribal governments, and nonprofit organizations to help implement long-term hazard mitigation measures after a presidential major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable risk mitigation measures to be implemented during the recovery from a declared disaster. Specifically, the purpose of the proposed Mountain Home Ridge fuels reduction project is to protect life and reduce the likelihood of fire damage to property.

According to data from the National Interagency Fire Center, the average wildfire size in the United States has increased from less than 40 acres in the 1980s and early 1990s to more than 120 acres in 2017 and 2018. Chelan County has a long history of recurring wildfires, which burn every year in the Leavenworth area. The most famous recent example occurred in 1994 when the Rat Creek Fire and three others affected 200,000 acres, consumed 39 homes, and required the evacuation of Leavenworth. In 2018, the Cougar Creek Fire affected over 40,000 acres a few miles north of Leavenworth.

In 2018, the U.S. Forest Service (USFS) assessed the exposure of housing units to wildfire in Washington State (Gilbertson-Day et al. 2018). The study ranked the top 50 communities in Washington State with the greatest average burn probability. Leavenworth, Washington, was ranked number one as the most threatened by wildfire.

The Chelan County (2019) *Multi-Jurisdictional Natural Hazard Mitigation Plan Update* (NHMP) identifies the proposed project area as a high local hazard risk for wildfire. A fire that starts in an area where the local hazard is high can spread fast and burn at high intensity, creating significant wildfire exposure to any structures in the area (see **Figure 2-1**). Mountain Home Road is the only way in and out of the Mountain Home Ridge areas, and the road is adjacent to areas of grass, brush, and thick pine fuels.

Thirty acres of the Mountain Home Ridge parcel were thinned in 2018 to help reduce the spread of wildfire, but many dense doghair stands of smaller ponderosa pine (*Pinus ponderosa*) and Douglas fir (*Pseudotsuga menziesii*) could not be thinned. Doghair thickets are young stands of equally aged trees that are densely packed because of the exclusion of fires. These thickets are highly susceptible to insect outbreaks, diseases, and wildfire. These patches are located throughout the project area and connect to dense, stressed forests on adjacent properties. If left untreated, the patches could carry wildfire to other properties along the ridge and toward homes and businesses in Icicle Creek and Peshastin Creek, including the towns of Leavenworth and Peshastin.

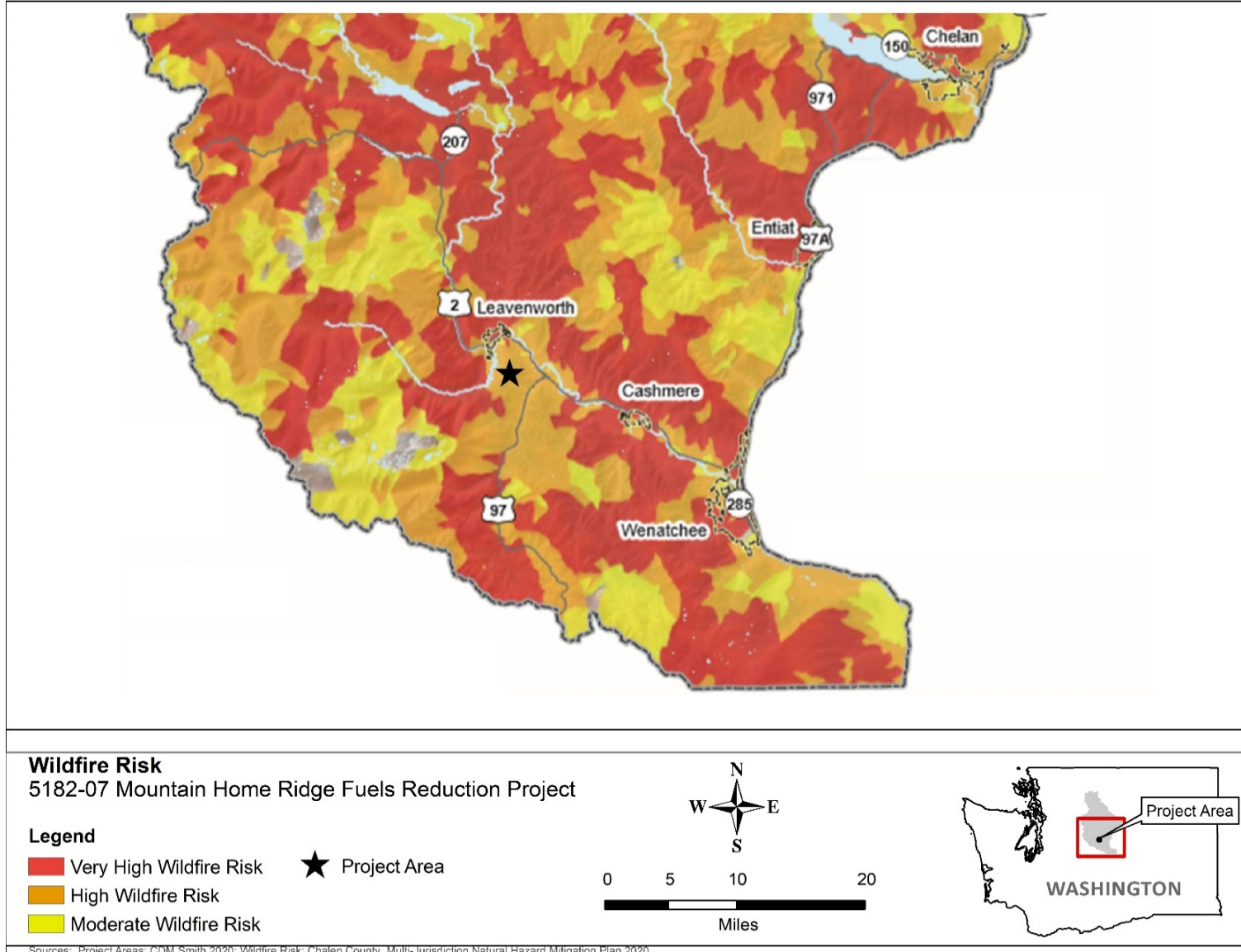


Figure 2-1. Wildfire Risk in Southern Chelan County

SECTION 3. Alternatives

This section describes the no action alternative, the proposed action, and alternatives that were considered but dismissed.

3.1. No Action Alternative

The no action alternative is included to describe potential future conditions if no action is taken to reduce wildfire hazards. Under this alternative, no FEMA-funded fuels reduction work would be conducted on the Mountain Home Ridge parcel. Although CDLT may still implement hazardous fuels reduction work within the project area, the work would likely be conducted over a longer period of time and in a less comprehensive way than the proposed action. Existing conditions, including wildfire hazards, would largely remain the same, threatening residents and businesses in the project area vicinity (including the City of Leavenworth and unincorporated community of Peshastin, Washington,) with the associated potential for loss of life and property.

Because current wildfire hazards would not be reduced in the forested area south of Leavenworth and Peshastin under the no action alternative, the probability of loss of life and property in the event of a wildfire would continue to be high.

3.2. Alternative 2 – Proposed Action

The proposed action would reduce hazardous fuels on up to 14 acres within the project area in the Mountain Home Ridge property (**Figure 1-2**). The proposed action would achieve the project purpose by reducing ladder fuels and providing some breaks in the canopy to limit the spread of crown fires and allow fire crews to more safely and easily manage fires. While some untreated forests would remain between the project area and structures, hazardous fuels reduction in the treatment parcel may contribute to containment, reducing the intensity and extent of wildfires, which ultimately reduces risks to people living near the project area.

There are five principles of creating and maintaining fire-resistant forests (Fitzgerald and Bennett 2013):

- Reduce surface fuels
- Increase the height to the base of tree crowns
- Increase spacing between tree crowns
- Keep larger trees of more fire-resistant species
- Promote fire-resistant forests at the landscape level

Crown fires are much less likely to occur if trees are widely spaced, generally, with crowns spaced more than one dominant tree crown width apart. Factors that tend to increase the required crown spacing include steep slopes, locations with high winds, and the presence of species like grand fir with dense, compact foliage. Tree spacing does not have to be even. Small patches of trees can be left at tighter spacing, benefiting some wildlife (Fitzgerald and Bennett 2013). The key is to reduce surface and ladder fuels and create openings.

The proposed action would include limbing, spacing, or removing trees and shrubs in several dense pine and fir stands. Most of these areas are doghair thickets of young, equally aged trees where the majority of the trees would be removed (**Figure 3-1**). Specifically, Douglas fir trees less than 6 inches in diameter at breast height (DBH) located in root-rot openings on steep slopes would be removed. Limbing would be to no more than 8 feet from the ground, or up to one-third of the tree height. Widely scattered large trees and foraging or cavity nesting snags would be retained where they exist. Clumps and strips of brush would be retained in strategic areas to maintain wildlife habitat. These should be 30 to 50 feet across, 100 to 300 feet in length, and comprise 10 to 20 percent of the landscape. Vegetation to be retained would include scattered ponderosa pine and understory species such as serviceberry (*Amelanchier alnifolia*) and arrowleaf balsam root (*Balsamorhiza sagittate*).



Figure 3-1. Previously Treated Area (left side) and Proposed Treatment Area (right side)

Contractors would use hand-held tools and chainsaws to fell or trim trees. No heavy tracked equipment would be used. Cut material would be distributed in a thin layer on the site (less than 4 inches deep) to deter bark beetle (*Scolytinae*) infestation. Vehicles would access the site from existing access roads, namely, Mountain Home Road and existing logging roads within the parcel. The use of hand tools and limiting vehicles to existing access roads would minimize potential ground disturbance.

Additionally, the following measures would be incorporated into the treatment approach to avoid and minimize potential harm to threatened and endangered species and their habitat.

- No treatment actions would occur during the critical breeding period for Northern Spotted Owls (NSO) (March 1 through July 31).
- Potential noise effects on NSO behavior would be mitigated by implementing project actions during the day.

- Approximately 50 percent canopy coverage would be maintained for NSO dispersal habitat.
- Vehicles would remain on pre-existing roads.
- Access routes into the work areas that are free of Wenatchee Mountains checker-mallow, *Sidalcea oregana* var. *calva* (SIORCA) would be flagged for ingress/egress.
- Pre-project surveys would be conducted in late June to early July to document any previously unknown SIORCA occurring within the project area. Any locations found to contain SIORCA would be flagged so that work crews could be made aware of their presence, and impacts could be avoided.
- Any needed refueling and tool maintenance will occur at least 50 feet away from any stream within the project area.
- Although only intermittent streams (type Ns – seasonal, non-fish bearing waters) are present within the project area, a 30-foot wide no-work buffer would be implemented along each stream channel.
- One to three slash piles per acre should remain to provide some habitat, using heavy slash as the base layer and with piles no more than 20 feet in diameter and 6 feet high.

The proposed action would take approximately 1 month to implement. CDLT staff would make annual visits to the property for at least 20 years to monitor whether regrowth has triggered the need for additional fuel reduction treatment to be completed. A 20-year fuel reduction cycle is anticipated because of the natural growth cycle of the forest in the project area.

3.3. Additional Action Alternatives Considered and Dismissed

An alternative to reduce wildfire risk in the area would be the creation of defensible space and application of ignition-resistant construction on private properties near the project area. Actions would likely include installing metal roofing, removing all vegetation within approximately 30 feet of each home, and thinning or pruning vegetation in a broader zone farther away from structures. Some residents have or are in the process of implementing some of these strategies, but maintenance of defensible space is not required or guaranteed. Washington adopted the 2015 International Wildland-Urban Interface (WUI) Code (International Code Council, 2014) that requires property owners of new construction to meet building construction and defensible space requirements (Washington Administrative Code chapter 51-54A). However, neither Chelan County nor the City of Leavenworth mandates these requirements for homes built prior to 2015.

This alternative would help to reduce the severity and consequences of wildfire spread in the WUI in the long term. Fuels reduction on residential parcels is a piece of the risk-reduction puzzle but decentralized defensible space actions alone implemented by neighboring residents may be less effective to reducing the overall wildfire hazard risk in the target area. Therefore, an alternative of just creating defensible space around existing structures would not meet the purpose and need for the project.

The alternative fuels reduction method of controlled burning was considered; however, because of the proximity of small, isolated blocks of national forest and private property, this alternative was expected to be too controversial to implement. In addition, the diversity of forested lands

surrounding the CDLT parcel, the rugged terrain, and the intermix of residences combine to make prescribed burning a risky alternative with the potential to result in more harm than benefit. Therefore, the controlled burning alternative was dismissed because it would not be feasible.

SECTION 4. Affected Environment, Potential Impacts, and Mitigation

This section describes the environment potentially affected by the alternatives, evaluates potential environmental impacts, and recommends measures to avoid or reduce those impacts. When possible, quantitative information is provided to establish potential impacts, and the potential impacts are evaluated qualitatively based on the criteria listed in **Table 4.1**. The study area generally includes the project area and access and staging areas needed for the proposed action. If the study area for a particular resource category is different from the project area, the differences will be described in the appropriate subsection.

Table 4.1. Evaluation Criteria for Potential Impacts

Impact Scale	Criteria
None/Negligible	The resource area would not be affected, or changes or benefits would be either nondetectable or have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, although the changes would be small and localized. Impacts or benefits would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Changes to the resource would be measurable and have either localized or regional-scale impacts/benefits. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse effects.
Major	Changes would be readily measurable and would have substantial consequences on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resource would be expected.

4.1. Resources Not Affected and Not Considered Further

The following resources would not be affected by either the no action alternative or the proposed action because they do not exist in the project area or the alternatives would have no effect on the resource. These resources have been removed from further consideration in this EA.

Table 4.2. Resources Eliminated from Further Consideration

Resource Topic	Reason for Elimination
Geology	Hazardous fuels reduction work is a surface-level activity that would have no effect on geology.
Farmland Soils	The Farmland Protection Policy Act requires federal agencies to minimize the unnecessary conversion of farmland into nonagricultural uses. Hazardous fuels reduction activities would not convert farmland soils to another use, nor would they prevent the future use of the soils for farmland purposes. In addition, over 93

Affected Environment, Potential Impacts, and Mitigation

Resource Topic	Reason for Elimination
	percent of the project area does not include farmland soils. Therefore, the alternatives would have no effect on farmland soils.
Visual Quality and Aesthetics	This project area is located along a rural roadway with few road users. The project area is not in proximity to any buildings or structures. Both no action and the proposed activities are consistent with forest management practices observable on surrounding lands and would not result in a change in visual character.
Wild and Scenic Rivers	According to the National and Wild and Scenic Rivers website (National Wild and Scenic Rivers 2020), the closest Wild and Scenic River, the Middle Fork Snoqualmie River, is approximately 40 miles west of the project area. The alternatives would have no effect on Wild and Scenic Rivers.
Sole Source Aquifers	According to the U.S. Environmental Protection Agency's (EPA) sole source aquifer map (EPA 2020d), there are no sole source aquifers designated in Chelan County; therefore, the alternatives would have no effect on sole source aquifers.
Coastal Zone/Resources	This project area is not located in the Coastal Zone Boundary designated by the State of Washington (Washington Department of Ecology 2020) or within a Coastal Barrier Resources Unit (U.S. Fish and Wildlife Service [USFWS] 2019).
Land Use and Zoning	This proposed action would not change existing land use and is consistent with the current zoning. The alternatives would have no effect on land use and zoning.
Transportation	This project is located in a rural area along Mountain Home Road. Mountain Home Road is a rural unpaved road serving few daily users and would provide access for the proposed action. Lands to the south of the CDLT parcel are primarily in U.S. Forest Service ownership and there are no private residences requiring access to the south past the project area. The alternatives would not impact transportation.
Public Services and Utilities	This project area is rural and does not contain any structures or utilities. The alternatives would have no effect on public services and utilities.

4.2. Soils and Topography

The proposed project area is within the East Cascades ecoregion of central Washington, which averages between 3,000 and 7,000 feet in elevation, with the highest peak (Mount Adams) rising above 12,000 feet (Landscape 2020). The elevation within the project area ranges from approximately 2,150 to 2,500 feet above sea level.

There are three soil map units in the proposed project area (U.S. Department of Agriculture 2020). Most of the project area is characterized by steep slopes with loamy soil. Steeper slopes tend to have thinner soil layers that are primarily composed of rock fragments because organic matter erodes down the slope (Williams 2018). The soil composition and average slope of the project area is shown in **Table 4.3**.

Table 4.3. Average Slopes and Soil Types in Project Area

Soil Type	Average Slope	Acres in Project Area	Percent of Project Area
Dinkelman gravelly sandy loam	30 to 60 percent slopes	13.3	93.1
Dinkelman-Rock outcrop complex	0 to 60 percent slopes	0.1	0.4
Peshastin stony loam	0 to 25 percent slopes	0.9	6.5

Source: NRCS 2020

No Action Alternative

Under the no action alternative, some hazardous fuels reduction work might still occur in the project area, resulting in negligible soil disturbance from vegetation removal activities. There would be no effect on topography. However, in the event of a major wildfire, there would be a significant loss of vegetation. Vegetation loss would lead to an increase in erosion, especially on steep slopes, such as those in the project area. Loss of vegetation may result in higher soil temperatures, increased evaporation, and reduced soil moisture. High-intensity wildfires can alter the physical and chemical properties and the moisture, temperature, and biotic characteristics of soils (USFS 2005).

Heat from wildfires can cause soils to form hydrophobic layers that repel water, resulting in decreased stormwater infiltration. Hydrophobicity occurs when plants burn in wildfires, releasing a gas into the soil that cools and solidifies into a waxy, water-repelling substance that coats soil particles. Large-pored soils, such as sandy or coarse-textured soils like those common in the proposed project area, are more vulnerable to becoming hydrophobic because they transmit heat more easily than heavily textured soils such as clays (USFS 2005).

Under the no action alternative, there would be no effect on topography. In the absence of a wildfire, the no action alternative would have negligible effects on soils. In the event of a wildfire, there could be minor to moderate adverse impacts on soils depending on the intensity and scale of the wildfire.

Proposed Action

Under the proposed action, there would be no effect on topography. Hazardous fuels reduction activities would be conducted by ground crews with hand tools and no heavy tracked equipment would be used; thus, the potential for soil disturbance would be negligible.

Under the proposed action, debris would be distributed in a thin layer on the site to retain soil moisture while not resulting in bark beetle infestations. In the event of a wildfire, the project area would reduce the risk of wildfire spread, allowing fire crews to more easily control or contain the fire. This could reduce the chance for a catastrophic fire to range out of control and could reduce the potential for soil damage. The proposed action would likely have minor long-term beneficial effects by reducing the risk of soil damage from wildfires and the consequences of that damage as described under the no action alternative.

4.3. Air Quality and Climate

The Clean Air Act, amended in 1990, requires EPA to set National Ambient Air Quality Standards for six pollutants harmful to human and environmental health, including ozone, particulate matter, nitrogen dioxide, carbon monoxide, sulfur dioxide, and lead (EPA et al. 2019). Chelan County is considered in attainment for all pollutants by EPA (EPA 2020a).

Air quality is negatively affected by everyday activities, such as vehicle use, and major events, such as wildfires. Wildfire smoke is composed of carbon dioxide, water vapor, particulate matter, carbon monoxide, nitrogen oxides, organic chemicals such as hydrocarbons, and trace minerals, which affect air quality (EPA et al. 2019). Air quality can also be affected by fugitive dust, which is considered a component of particulate matter. Fugitive dust is released into the air by wind or human activities and can have human and environmental health impacts (California EPA Air Resources Board 2007). Mountain Home Road is a dirt road, which could produce dust from wind and during roadway use. However, the project area and Mountain Home Road are in a rural area with few daily users.

The climate in the East Cascades Ecoregion becomes drier and milder eastward of the Cascade ridgeline (Landscape 2020). The temperature in the City of Leavenworth, which is near the project area, ranges from an average low of 20 degrees Fahrenheit in December and January to an average high of 87 degrees Fahrenheit in July and August (U.S. Climate Data 2020). Leavenworth receives an average of 25 inches of rainfall and 79 inches of snowfall each year (U.S. Climate Data 2020).

Global and regional climate conditions are changing. Climate change refers to changes in the Earth's climate caused by a general warming of the atmosphere. Its primary cause is emissions of greenhouse gases, including carbon dioxide (CO₂) and methane (CH₄). Climate change is capable of affecting species distribution, temperature fluctuations, and weather patterns. CEQ's *Final NEPA Guidance on Consideration of Greenhouse Gas Emissions and the Effects on Climate Change* (CEQ 2016) suggested that quantitative analysis should be done if an action would release more than 25,000 metric tons of greenhouse gases per year.

Estimates indicate that average annual temperatures in the Pacific Northwest region will increase by 2.0 degrees Fahrenheit by the 2020s, 3.2 degrees Fahrenheit by the 2040s, and 5.3 degrees Fahrenheit by the 2080s. Warmer temperatures would decrease mountain snowpack, resulting in higher winter and lower summer stream flows. Earlier spring snowmelt and higher temperatures would also increase the risk of wildfires in the region; North American wildfires have already increased in intensity and frequency over the past 50 years (USFWS 2011).

No Action Alternative

Some hazardous fuels reduction work may occur in the project area under the no action alternative. This could potentially result in negligible short-term impacts on air quality from vehicle and equipment use, primarily from hand tools such as chainsaws and handsaws. However, under this alternative, the risk of wildfire spread would remain high. Wildfire smoke can deteriorate air quality and expose vulnerable populations, such as youth and the elderly, to harmful pollutants (EPA et al. 2019). Particulate matter, specifically, can have many harmful

effects, including eye and respiratory tract irritation, reduced lung function, asthma, and heart failure (EPA et al. 2019). An ongoing study in Montana is finding that prolonged exposure to wildfire smoke can result in long-term health effects even several years after exposure (Houghton 2020).

Smoke from large wildfires can affect air quality over large areas, impacting people far from the fire, even several states away. Based on prevailing winds, smoke from a wildfire in the Mountain Home project area could adversely affect populations in Leavenworth, Peshastin, Cashmere, and Wenatchee. Additionally, major wildfires can emit high levels of greenhouse gases into the atmosphere, thus contributing to climate change and exacerbating the risk of wildfires. In the event of a wildfire, the no action alternative could have a minor to major impact on air quality and regional climate depending on the intensity and scale of the wildfire.

Proposed Action

The proposed action would also have negligible localized impacts on air quality from equipment and vehicle use. Vehicle and equipment emissions would be temporary and localized; vehicles would be used to bring crews to the project area and only hand-held tools and chainsaws would be used to manage vegetation. Vehicle run times would be kept to a minimum. The use of rubber-wheeled vehicles would minimize ground disturbance and thus the release of fugitive dust. No burning would be required to implement the proposed action. The short duration and limited extent of this activity would minimize potential impacts on air quality, including the release of fugitive dust.

By reducing the risk of wildfire spread, hazardous fuels reduction activities would have minor, long-term, beneficial impacts on air quality and climate change.

4.4. Surface Waters and Water Quality

The Clean Water Act of 1977, as amended, establishes requirements for states and tribes to identify and prioritize water bodies that do not meet water quality standards.

According to EPA's My Waterway database (2020b), there are no perennial waters within the project area. The closest fish-bearing water body is Icicle Creek, which is approximately 0.5 miles west of the project area and is considered impaired for aquatic life because of low oxygen. There may be a Type Ns stream in the northern portion project area. Type Ns streams are defined by Washington Administrative Code 222-16-030 as seasonal streams without fish habitat.

No Action Alternative

Although some hazardous fuels reduction work could still occur in the project area, a wildfire would still be likely to spread easily through the project area to and from adjacent forested parcels. If a wildfire occurs, vegetation in riparian zones would be at a high risk for burning. This loss of vegetation would impact surface water quality through increased soil erosion and sedimentation and increased temperatures from loss of shade. Additionally, intense, lasting heat from major wildfires can cause soils to form hydrophobic layers, as described in **Section 4.2**, which would decrease infiltration of stormwater and aquifer recharge while increasing runoff, erosion, sedimentation, and stream discharges. Increased stream discharges in the short- and

long-term could cause damage to downstream infrastructure such as bridges and culverts. The no action alternative could have a minor to moderate impact on surface waters and water quality.

Proposed Action

The proposed action would not directly impact water resources or water quality. No vegetation would be removed from riparian zones and no herbicides would be used. If Type Ns streams are encountered in the project area, a 30-foot wide no-work buffer would be implemented around the stream. Thus, there would be no impacts on water resources from implementation of the proposed action.

The proposed action would reduce the risk of wildfire spread and subsequently reduce the risk of impacts associated with wildfires on water resources near the project area, as described in the no action alternative. Therefore, the proposed action would have minor, long-term beneficial effects on water bodies near the project area.

4.5. Wetlands

Executive Order (EO) 11990, Protection of Wetlands, requires federal agencies to consider alternatives to work in wetlands and limits potential impacts on wetlands if there are no alternatives. FEMA regulation 44 CFR Part 9, Floodplain Management and Protection of Wetlands, sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990 and prohibits FEMA from funding activities in a wetland unless no practicable alternatives are available.

The USFWS's National Wetlands Inventory Mapper (USFWS 2020b), indicates that the project area overlaps with three narrow, seasonal, ephemeral stream channels. The NWI maps show a small (approximately 0.3 acres) freshwater emergent wetland to the north of the project area approximately 600 feet. Based on a review of aerial imagery and contour data, the project area is characterized by steep slopes that are generally not conducive to conditions that support wetlands. A field reconnaissance conducted on July 16, 2020 confirmed the absence of wetlands within the project area.

No Action Alternative

In the absence of a major wildfire, the no action alternative would have no effect on wetlands because there are no wetlands located in the project area. However, this alternative would not substantially reduce the risk of a major wildfire, which could destroy or deteriorate vegetation in wetlands beyond the project area. Vegetation destruction in surrounding wetlands would damage habitat for wildlife and lessen the effectiveness of wetlands to filter pollutants and maintain water quality in areas located downslope. However, because the landscape surrounding the project area tends to lack topography conducive to wetland development and any wetlands present are likely to be small, the potential for wetland impacts would be minor.

Proposed Action

Because there are no wetlands present in the project area, there would be no effect on wetlands from activities associated with implementation of the proposed action. However, the proposed action would reduce the risk that a major wildfire would spread and damage wetland vegetation

in nearby areas; therefore, there would be minor, long-term beneficial effects on wetlands in surrounding areas.

4.6. Floodplains

EO 11988, Floodplain Management, requires federal agencies to avoid, to the extent possible, short- and long-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practical alternative. FEMA regulations (44 CFR Part 9.7) use the 1 percent floodplain as the minimal area for floodplain impact evaluation. Based on FEMA Flood Insurance Rate Map panel 5300150800D, effective September 30, 2004, the project area is not located within or near the 1 percent floodplain. The project area is on a ridge, approximately 0.5 miles from the floodplain along Icicle Creek in the valley bottom.

No Action Alternative

In the absence of a major wildfire, the no action alternative would not affect floodplains as the project area is not located within floodplains. Although some hazardous fuels treatments may still occur, this alternative does not substantially reduce the risk of wildfire spread, which could damage or eliminate existing vegetation beyond the proposed project area. If a wildfire were to occur, substantial vegetation would be destroyed, which could lead to increased stormwater runoff following precipitation events. Loss of vegetation would adversely affect natural floodplain functions outside of the project area by contributing to increased stormwater runoff and sedimentation within the watershed. If severe enough, additional sedimentation in the long term could lead to an increase in the base flood elevation of the downstream floodplain and thus greater flood hazard risks to improved property in that floodplain. Therefore, the no action alternative could have minor to moderate adverse effects on floodplains in surrounding areas, depending on the intensity and scale of a wildfire.

Proposed Action

There are no floodplains within the proposed project area, so the proposed action would have no direct impact on floodplains. However, the proposed action would reduce the risk of wildfire spread and any subsequent damage to vegetation that could lead to increased stormwater runoff and sedimentation in the watershed. Therefore, there would be minor, long-term beneficial effects on floodplains in surrounding areas.

4.7. Vegetation

The project area is in the Modoc Plateau of the East Cascades Ecoregion. Predominant vegetation consists of ponderosa pine with an understory community including Douglas fir, arrowleaf balsamroot, and serviceberry (Washington Native Plant Society 2018). In 2018, thinning activities independent of this project were conducted within the project area. However, many dense doghair stands of smaller ponderosa pine and Douglas fir were left in place as conditions in these areas precluded thinning efforts. These tightly packed thickets of young trees occur throughout the project area and connect to dense, stressed forests on adjacent properties (see **Figure 3-1**). Conditions throughout the project area can be generally characterized as young

forests composed of even-aged conifers. Federally listed plant species that may occur near the proposed project area are discussed in **Section 4.9**.

Invasive Species

EO 13112 requires federal agencies to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health impacts that invasive species cause. Invasive species currently constitute a small percentage (less than 10 percent) of the plant species present in the project area (Washington Native Plant Society 2018). The bark beetle is present in the watershed and is a concern throughout the forested areas.

No Action Alternative

Under the no action alternative, some hazardous fuels reduction work may still occur over time, resulting in negligible to minor impacts on vegetation. However, the risk of wildfire spread would likely remain high. While fire is a natural component of the ecosystems near the project area, years of fire suppression and historic timber management practices have increased fuel density, which could exacerbate the extent and intensity of future wildfires in the area. Depending on the intensity and scale of a wildfire, there could be minor to major adverse impacts on vegetation if a wildfire were to occur including partial or complete loss of vegetation in and around the project area. In the event of vegetation loss from a wildfire, non-native and/or invasive species could become established over large areas.

Proposed Action

Fuel reduction measures would include limbing, spacing, or removing trees and shrubs in several dense pine and fir stands (i.e., doghair thickets). Specifically, Douglas fir trees less than 6 inches DBH located in root-rot openings on steep slopes would be removed. The vertical extent of limbing would be no more than 8 feet above ground, or one-third of the target tree's height. Widely scattered large trees would be preserved, and several snags providing foraging substrate and/or habitat for cavity-nesting species would be retained per acre. Additionally, clumps and strips of brush would be retained in strategic areas to maintain wildlife habitat availability. These habitat features would compose 10 to 20 percent of the landscape within the project area. Woody material not utilized for wildlife habitat would be lopped and scattered in a thin layer to promote desiccation, as shown in **Figure 4-1**, thereby discouraging potential colonization by bark beetles, which feed on the moist layer of phloem within trees (DeGomez et al. 2008). Vegetation to be retained would include understory species consistent with those previously described.

The proposed action would have a minor effect on existing vegetation communities as the project would reduce overcrowded dense thickets of conifers and shrubs, creating more open stand conditions conducive to regeneration of conifer species. Individual trees and shrubs would be affected. In the long term, the proposed action would have minor beneficial effects because the risk of wildfire spread, and associated vegetation damage and invasive species spread would be reduced.



Figure 4-1. Slash Treated Using the Lop and Scatter Method

4.8. Fish and Wildlife

The project area is in the East Cascades ecoregion. Mammal species typically associated with forested habitats in the region include Rocky Mountain elk (*Cervus canadensis*), black bear (*Ursus americanus*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), Douglas squirrel (*Tamiasciurus douglasii*), striped skunk (*Mephitis mephitis*), and voles (*Microtus* spp.) (Landscape 2020, Chelan County and Washington State Department of Ecology 2019). Additionally, reptile species such as northern alligator lizard (*Elgaria coerulea*), western fence lizard (*Sceloporus occidentalis*), and common garter snake (*Thamnophis sirtalis*) are likely to occur in upland habitats where suitable cover (e.g., rocks and woody debris) is available (Chelan County and Washington State Department of Ecology 2019).

The Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. §§ 703–711), provides protection for migratory birds and their nests, eggs, and body parts from harm, sale, or other injurious actions except under the terms of a valid permit issued pursuant to federal regulations. All native birds are protected by the MBTA and existing habitat in the project area has the potential to support a variety of native bird species. Species associated with woodland habitats that could occur in the project area include hairy woodpecker (*Dryobates villosus*), red-breasted nuthatch (*Sitta canadensis*), northern flicker (*Colaptes auratus*), and dark-eyed junco (*Junco hyemalis*) (Cornell Lab of Ornithology 2020). The nesting season for migratory birds is generally March through August, depending on the species and the location.

The Bald and Golden Eagle Protection Act of 1940 prohibits the take, possession, sale, or other harmful action, of any gold or bald eagle, alive or dead, including any part, nest, or egg (16 U.S.C. §§ 668(a)). Although large predatory birds such as bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are known to occur regionally, these species are unlikely to occur within the project area because of the distance to any substantial bodies of water. Federally listed bird species that may occur within or near the proposed project area are discussed in **Section 4.9**.

Aquatic habitats in the general vicinity of the project area, including Icicle Creek approximately 0.5 miles away, are known to support a number of fish species including federally listed salmonids such as Upper Columbia spring-run Chinook salmon (*Oncorhynchus tshawytscha*), Upper Columbia summer steelhead (*Oncorhynchus mykiss*), and bull trout (*Salvelinus confluentus*). Additionally, wetland and riparian areas associated with regional aquatic habitats are occupied by various amphibian species including Pacific tree frog (*Pseudacris regilla*), Columbia spotted frog (*Rana luteiventris*), and long-toed salamander (*Ambystoma macrodactylum*). Given the lack of any perennial surface water features, wetlands, or riparian vegetation communities, none of these species have the potential to occur within the project area.

No Action Alternative

In the absence of a major wildfire, the no action alternative would have no effect on common wildlife species in or near the project area. Some hazardous fuels reduction work would still be expected to be conducted within the project area, and some vegetation and habitat would be removed. However, any treatment work under the no action alternative is expected to be limited in area and would result in negligible potential impacts on wildlife. Similarly, impacts on migratory birds would be negligible if work is not performed during nesting seasons. There would be no effect on fish because there are no streams that support fish in or near the project area. A major wildfire would be more likely to spread under the no action alternative, which would result in the destruction of terrestrial and aquatic habitat. Additionally, under the no action alternative, there is a higher potential for widespread postfire conditions that could lead to increased erosion and sedimentation, which would further degrade fish and wildlife habitat in the watershed. Therefore, the no action alternative would result in minor to moderate adverse effects on wildlife and their habitats.

Proposed Action

The proposed action has the potential to impact wildlife species and associated habitats occurring within the project area because of the removal of understory vegetation and dense stands of young trees. Implementation of the project would generate noise and activity that could affect wildlife using the project area; however, because these effects would be short-term and localized, they would be temporary and minor. The retention of widely scattered large trees, as well as snags where they exist, would provide foraging and nesting opportunities within the project area. Additionally, clumps and strips of brush would be retained in strategic areas to maintain wildlife habitat availability. These habitat features would be 30 to 50 feet across, 100 to 300 feet in length, and would compose 10 to 20 percent of the landscape within the project area.

The proposed action would have no effect on aquatic habitats or associated fish and amphibian species because no aquatic resources (i.e., fish bearing streams and riparian areas) occur within the project area.

The proposed action could affect migratory birds if work were to occur during the breeding season. The disturbances in the project area could result in inadvertent nest destruction, birds abandoning nesting activities, and displacement of birds from preferred foraging areas. Ground-nesting and shrub-nesting birds would be impacted to a greater extent than birds that nest in the upper canopy of trees. Thus, these small-scale vegetation management activities would have minor localized and temporary impacts on migratory birds. Under these circumstances, the project would be subject to the prohibitions of the MBTA and the subrecipient would be responsible for obtaining and complying with any necessary permits from USFWS and for documenting this on the associated project parcel assessment/treatment plan. To avoid impacts on ESA listed species (see **Section 4.9**), vegetation clearing would not occur during the breeding season for NSOs from March 1st through July 31st. Therefore, the proposed action would have a negligible effect on migratory birds as well and no permit pursuant to the MBTA would be required. The proposed action would have a negligible effect on bald and golden eagles or their habitat because treatments would take place in areas where eagles are unlikely to occur.

In the long term, there would be minor beneficial effects on fish, wildlife, migratory birds, and eagles because the risk of wildfire spread and associated widespread vegetation loss (including ecologically sensitive vegetation) would be reduced.

4.9. Threatened and Endangered Species and Critical Habitat

The Endangered Species Act of 1973 gives USFWS and National Marine Fisheries Service (NMFS) authority for the protection of threatened and endangered species. This protection includes a prohibition of direct take (e.g., killing, harassing) and indirect take (e.g., destruction of habitat).

The action area for potential effects on listed species is defined as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action” (50 CFR § 402.02). Of the disturbances that would occur in association with the proposed action, noise generated by hand-tools (e.g., chainsaws) is expected to have the farthest reaching effects. To account for potential noise impacts, the action area would include a buffer zone of 0.25 miles around the project area. This distance is derived from existing impact analysis documents, which indicate that no impacts to NSO are expected when habitat occurs more than 0.25 miles away from heavy equipment operation (including chainsaws).

The USFWS Information for Planning and Consultation was used to identify proposed, threatened, and endangered species that may occur in the action area (USFWS 2020a). In addition, information available from NMFS was consulted to identify the federally listed fish species that may occur in the action area. All ESA-listed species that may be near the action area are listed in **Table 4.4** and are briefly discussed below. A biological assessment of effects on listed species was completed and is available upon request.

Table 4.4. Federally Listed Species near the Project Area

Common Name	Scientific Name	Status
Fish		
Upper Columbia River steelhead	<i>Oncorhynchus mykiss</i>	Threatened
Upper Columbia spring-run Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Endangered
Bull trout	<i>Salvelinus confluentus</i>	Threatened
Birds		
Marbled murrelet	<i>Brachyramphus marmoratus</i>	Threatened
Northern spotted owl	<i>Strix occidentalis caurina</i>	Threatened
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Threatened
Mammals		
Canada lynx	<i>Lynx canadensis</i>	Threatened
Gray wolf	<i>Canis lupis</i>	Endangered
Grizzly bear	<i>Ursus arctos horribilis</i>	Threatened
North American wolverine	<i>Gulo gulo luscus</i>	Proposed Threatened
Plants		
Showy stickseed	<i>Hackelia venusta</i>	Endangered
Wenatchee Mountains checker-mallow	<i>Sidalcea oregana</i> var. <i>calva</i>	Endangered

Source: USFWS 2020a

Steelhead: Steelhead generally prefer cold, well-oxygenated waters for spawning and rearing. Spawning habitat consists of gravel substrates free of excessive silt (USFWS 2017c). The Upper Columbia River (UCR) steelhead Distinct Population Segment occurs in the region. UCR steelhead are present in Icicle Creek, which is designated as critical habitat for the species. Icicle Creek is a tributary to the Wenatchee River and is located approximately 0.5 miles outside of the project area. There is currently 0.25 miles of forested slope followed by another 0.25 miles of forested floodplain between the project area and the banks of Icicle Creek.

Chinook salmon: The Chinook salmon spawning in the UCR travel hundreds of miles, beginning their migration in the spring or summer; thus, they are known as spring Chinook or summer Chinook, respectively. The UCR spring-run Chinook salmon Evolutionary Significant Unit occurs in the region. The nearest designated critical habitat for UCR spring-run Chinook salmon is the Wenatchee River. UCR spring-run Chinook salmon are present in Icicle Creek.

Bull trout: Bull trout have stringent requirements for cold water and clean gravel to rear young and reproduce. Bull trout spawning generally occurs in mountain streams fed by snowmelt or springs fed by snow fields (Goetz et al. 2004). Bull trout are present in Icicle Creek, which is designated as critical habitat for the species.

Marbled murrelet: The marbled murrelet spends much of its life in marine waters but nests inland in large conifer trees. In Washington, the species may travel 40 to 70 miles from coastal waters to nest in mature, older growth forests (175- to 600-year-old trees) with mossy branches or other vegetative features that create platform-like areas where nests are constructed

(Washington Department of Natural Resources 2017, USFWS 2017e). The nearest designated critical habitat for the species occurs on the western slopes of the Cascade Mountains (USFWS 2017d). Given the lack of suitable nesting habitat within or near the project area, the species is not expected to occur within the action area and is not considered further in this EA.

Northern spotted owl: NSO generally inhabits forests containing dense, closed canopies of mature and old-growth trees, abundant logs, standing snags, and live trees with broken tops. NSO nesting and roosting habitat typically consist of contiguous forest (greater than 5 acres) with moderate to high canopy closure (60 to 90 percent), several tree species of varying sizes and age (multilayer canopy), greater than 20-inch DBH for nesting trees, large overstory trees, and sufficient open spaces among the lower branches to fly under the canopy (Buchanan 1993, Washington Department of Fish and Wildlife 2005, USFWS 2019b). NSO dispersal habitat is broadly characterized as stands of timber with a mean DBH of 11 inches or greater, with at least 40 percent canopy closure (Thomas et al. 1990). Within the project area, there are approximately 4 acres of mature ponderosa pine and Douglas fir near the top of the ridge along the northeastern project boundary that could function as dispersal habitat. The project area is within 2 miles of two NSO activity centers. One is on the east side of the ridge, with the core approximately 1.5 miles to the southeast of the action area. The second core area is just under 1.8 miles to the south of the action area. There is potential that NSO individuals originating from one of these activity centers could briefly occupy the dispersal habitat along the northeastern extent of the project area. While critical habitat for the NSO does overlap with the southern edge of the action area, this area corresponds to a grassland habitat that does not represent suitable NSO habitat.

Yellow-billed cuckoo: Yellow-billed cuckoos are a migratory species that historically traveled to Washington to breed in the spring. However, no documented nesting of this species has been noted since about 1940, and it is assumed to be declining or extirpated from the state. Habitat preferred by the species for nesting and breeding consists of riparian vegetation typically composed of continuous stands of willows and cottonwood. The nearest designated critical habitat for the yellow-billed cuckoo is in southeast Idaho. Given the lack of suitable riparian habitat, the species is not expected to occur within the project area and is not considered further in this EA.

Canada lynx: Habitat for Canada lynx in Washington State typically consists of boreal or conifer forests that receive a large quantity of snow sufficient to support their main food source, snowshoe hares (USFWS 2005, USFWS 2017b, Lewis 2016). The State of Washington issued a Lynx Recovery Plan in 2001, which indicates that Lynx in Washington are primarily found in high-elevation forests across northern Washington, including northern Chelan County. The nearest designated critical habitat for Canadian lynx is north of Lake Chelan. Based on project area elevation and work timing, the Canadian lynx is not expected to occur in the action area and is not considered further in this EA.

Gray wolf: Gray wolves typically inhabit areas that support large ungulates (e.g., deer, elk), and show some tolerance to occasional human presence (Wiles et al. 2011). The nearest designated critical habitat for the species occurs in northeastern Minnesota (USFWS 2020d). Although the action area contains suitable habitat, it is unlikely that the gray wolf would occur because of the close proximity to residential areas. Therefore, the species is not considered further in this EA.

Grizzly bear: Grizzly bear habitat requirements may change seasonally or with reproductive status. Grizzly bears have a naturally wary temperament and tend to shy away from human development. Although the species is present in the Okanogan-Wenatchee National Forest to the north of the project area, it is unlikely that the grizzly bear would occur in the action area because of nearby human developments. Therefore, the species is not considered further in this EA.

North American wolverine: North American wolverine inhabit remote areas in boreal forest, taiga, or tundra where snow is deep and remains well into the warm season. There is no designated critical habitat for the species. Wolverines tend to avoid areas of human activity and development, and in Washington, are known to prefer higher elevation areas associated with alpine vegetation and climate (alpine and subalpine forests) (Washington Department of Fish and Wildlife 2015, USFWS 2017a). Therefore, the species is not expected to occur in the action area and is not considered further in this EA.

Showy stickseed: The showy stickseed is a perennial in the forget-me-not family that occurs in open areas of steeply sloping granite sands and cliffs (USFWS 2020c). Only one known population remains; it is located primarily within the Wenatchee National Forest with a small overlap on private lands (USFWS 2007). There is no critical habitat currently designated for this species. While the range of the showy stickseed shows that it could occur in the action area, its preferred habitat is open talus and rock ledges and not densely packed and undersized conifer thickets. Therefore, the species is not expected to occur within the action area and is not considered further in this EA.

SIORCA: SIORCA is found in wetlands and moist meadows in the Wenatchee Mountains (USFWS 2004), between 1,600 and 3,300 feet above sea level. The nearest designated critical habitat for SIORCA is several miles to the east, in the Peshastin Drainage. SIORCA is present in the action area but not known to occur in the project area. The species was reintroduced by CDLT in 2014 to two locations near the project area. CDLT is aware of the two SIORCA-inhabited areas, and the project area was established to achieve fuels reduction goals while avoiding known SIORCA locations.

Essential Fish Habitat (EFH): The Magnuson-Stevens Fisheries Conservation and Management Act (16 U.S.C. § 1801 et seq.) designates EFH for certain commercially managed marine and anadromous fish species, and is intended to protect habitat of commercially managed fish species (including anadromous fish species) from being lost because of disturbance and degradation. The project area occurs within the Wenatchee River subbasin, which is identified as EFH. Pacific salmon species of interest related to EFH near the action area are Chinook and Coho salmon.

No Action Alternative

In the absence of a major wildfire, the no action alternative would have no effect on ESA-listed species or their habitats. Some hazardous fuels reduction treatments may still occur in the project area. These treatments may not be as prescriptive as the proposed action, nor include conservation measures to avoid or minimize impacts on ESA-listed species that may be present. Under the no action alternative, NSO may be affected if fuels reduction activities reduce the canopy cover to less than 40 percent within suitable dispersal habitat. If SIORCA colonize new

sites within the CDLT property that are undiscovered, there could be adverse effects on SIORCA from use of vehicles, foot traffic, or dragging of cut material. However, under the no action alternative, a major wildfire would be more likely to spread, which could have minor to major impacts on ESA-listed species and their habitats both within the project area and in the surrounding watershed depending on the intensity and scale of the wildfire.

Proposed Action

The proposed action would not involve any in-water work, and a 30-foot wide vegetated buffer would be maintained around all Type Ns streams occurring within the project area as described in **Section 3.2**. These buffers would minimize the potential for fine sediment conveyed by surface runoff to enter existing stream channels. As a result, the proposed action would have negligible impacts on aquatic habitats occurring within or downstream of the action area. Therefore, because Icicle Creek (nearest fish bearing stream) occurs more than 0.5 miles from the action area the project would have no effect on ESA-listed fish species. Additionally, the proposed action would have no effect on EFH.

There is the potential that the proposed action could affect NSO behavior resulting from noise impacts if NSO are present in the action area during project implementation. The majority of the project area represents habitat not suitable for NSO; however, there are 3 acres of suitable NSO dispersal habitat occurring along the eastern project boundary. Additionally, the forest stands to the north may also function as NSO dispersal habitat. While the proposed thinning actions may affect existing dispersal habitat within the project area, the proposed action would not reduce any of the dispersal habitat to less than 40 percent canopy coverage. Therefore, the total amount of dispersal habitat in the action area would not change as a result of the proposed action. With the exception of temporary impacts from noise, the proposed project would have no effect on nearby critical habitat. With implementation of the NSO-related measures listed in **Section 3.2**, the project may affect but would be not likely to adversely affect NSO. Because the portion of the project area within designated critical habitat is not currently suitable NSO habitat, there would be no adverse effect on critical habitat.

If SIORCA is present within the project area, there would be the potential for direct disturbance from foot traffic and dragged brush. The potential for direct effects to SIORCA is based on the possibility that plants may have colonized new sites within the project area that have not yet been discovered. The opportunity for SIORCA to become established within the project area is limited because of dry soil conditions, but it is theoretically possible for a few undetected plants to exist. The proposed action would have no effect on critical habitat for the species as the nearest designated critical habitat is located several miles east of the project area. With implementation of the SIORCA measure listed in **Section 3.2**, the project may affect but would likely not adversely affect SIORCA. Informal consultation with USFWS was completed on September 2, 2020; USFWS concurred with the “may affect but not likely to adversely affect” determinations for both NSO and SIORCA (see Appendix A).

4.10. Cultural Resources

Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. § 470f), requires that activities using federal funds undergo a review process to consider potential effects

on historic properties that are listed in or may be eligible for listing in the National Register of Historic Places. Cultural resources include prehistoric or historic archeology sites; historic standing structures; historic districts, objects, or artifacts; cultural properties of historic or traditional significance (referred to as Traditional Cultural Properties that may have religious or cultural significance to federally recognized Indian Tribes); or other physical evidence of human activity considered to be important to culture, subculture, or community for scientific, traditional, religious, or other reasons.

The project area is in the traditional homeland of the Wenatchi Tribe, which extends from Methow, Washington in the north, to the Kittitas valleys in the south (Arksey 2010). There are descendants of the Wenatchi enrolled with the Yakama Nation and the Confederated Tribes of the Colville Reservation (Miller 1998, Scheuerman 1982). The traditional economy of the Wenatchi is based on a seasonal cycle of root digging, fishing, hunting, trapping, and berry picking. Icicle Creek was and continues to be an important fishery for the Wenatchi people and other regional tribes (Miller 1998).

The first non-natives to settle in Chelan County were gold prospectors, including a large population of Chinese miners. The Chinese community contributed greatly to the early economy of the Wenatchee area and were responsible for mining, the development of area businesses, and establishment of early irrigation technology in the valley (Brown 2007). The anti-Chinese movement accelerated during the 1870s and resulted in the intentional destruction of Chinese communities by European Americans (Schwantes 1997).

Land acts, such as the Homestead Act of 1862, spurred the settlement of European American families in Chelan County and resulted in increased displacement of Native Peoples. The permanent town of Leavenworth developed close to the Great Northern railroad in the late 1800s. Opportunities for mining, logging, fruit growing, and the railroad attracted settlers to the Leavenworth area, which boomed in the early 1900s. In the 1920s, the sawmill in Leavenworth closed, and the Great Northern railroad moved its yards and rerouted its tracks through Wenatchee. In the 1960s, the town of Leavenworth was reinvented as a successful tourist town (Arksey 2010).

Pursuant to 36 CFR 800.4(a)(1), an area of potential effects (APE) was defined to include the areas within which the undertaking may directly or indirectly affect cultural resources. A review of the Washington Department of Archeology and Historic Preservation's (DAHP's) WISAARD system found that there are no documented historic properties within the APE. However, one archeological site (FS01582) on USFS land runs parallel to Mountain Home Road on the west side of and immediately outside of the APE. Site FS01582, Sam Beecher's Flume Line, is approximately 3 miles long and was designed as an irrigation line to take water from Snow Lakes to the Mountain Home area. A portion of the CDLT property was surveyed in 2104 and no historic properties were found during that survey. Much of the project area has been previously disturbed by commercial logging work. Because of the steep slopes within the APE, prehistoric and historic archaeological resources are not expected to occur.

On March 18, 2020, consultation was initiated with the Confederated Tribes of the Colville Reservation and the Confederated Tribes and Bands of the Yakama Nation about the proposed

action to solicit their comments and request any additional information about cultural resources that may be impacted. On May 12, 2020, the Colville Reservation concurred with FEMA's findings that the project would result in No Historic Properties Affected. The Yakama Nation has not responded to date. Consultation was also completed with DAHP, which also concurred with the finding of no historic properties affected on March 23, 2020. Appendix A contains all agency and tribal correspondence.

No Action Alternative

In the absence of a wildfire, the no action alternative would have no effect on cultural resources, as no archaeological or historic structures exist or are expected to exist within the APE. Although some hazardous fuels reduction treatments may still occur in the project area, they would not be expected to have an adverse effect on cultural resources. However, the risk of wildfire spread would remain high despite the potential for some hazardous fuels reduction activities to occur. A wildfire could have minor to moderate adverse impacts on archeological resources and/or historic structures in the project area vicinity, including the Sam Beecher's Flume Line, depending on the strength and intensity of the fire.

Proposed Action

The proposed action would result in No Historic Properties Affected because the APE does not contain documented historic properties and also does not contain landforms that would be likely to contain historic properties. Site FS01582 is outside the APE, so there would be no effects on that resource. The proposed action would have limited ground disturbance because vehicles would stay on existing roads and material would be cut by ground crews walking through the project area. In the event that any archeological or historic resources are discovered during project implementation, work would immediately cease, the area would be secured, and Chelan County NRD would notify DAHP and FEMA for further evaluation.

4.11. Environmental Justice

Environmental justice is defined by EO 12898 (59 Federal Register 7629) and CEQ guidance (1997). Under EO 12898, demographic information is used to determine whether minority or low-income populations are present in the areas potentially affected by the range of project alternatives. If so, a determination must be made whether implementation of the program alternatives may cause disproportionately high and adverse human health or environmental impacts on those populations.

This environmental justice analysis is focused at the local (i.e., census-tract) level. The local area included in this analysis is where project-related impacts would occur, potentially causing an adverse and disproportionately high effect on neighboring minority and low-income populations. Minority or low-income census tracts are defined as meeting either or both of the following criteria:

- The census tract contains 50 percent or more minority persons or 25 percent or more low-income persons.
- The percentage of minority or low-income persons in any census tract is more than 10 percent greater than the average of the surrounding county.

The Mountain Home Ridge project area exists within a single rural census tract in Chelan County. The project area is in an undeveloped portion of the census tract. **Table 4.5** provides the percent minority population and percent of the population below poverty level for the project area and Chelan County for comparison (EPA 2019).

Table 4.5. Environmental Justice Demographics

Area	Percent Minority Population	Percent of Population below Poverty Level
Tract 53007960500, WASHINGTON, EPA Region 10	27%	41%
Chelan County	32%	34%

Source: EPA 2019

Minority Populations

CEQ (1997) defines the term “minority” as persons from any of the following groups: Black, Asian or Pacific Islander, American Indian or Alaskan Native, or Hispanic. According to EPA's Environmental Justice Screening tool (EPA 2019), the minority population in the census tract encompassing the proposed project area is 27 percent. The minority population in Chelan County for comparison is 32 percent. The minority population in the study area (census tract) around the project area would not be considered to contain an environmental justice minority population because it does not meet the criteria listed above.

Low-Income Populations

Residents of areas with a high percentage of people living below the federal poverty level may be considered low-income populations. As shown in **Table 4.5**, the low-income population in the census tract around the proposed treatment parcel is 41 percent (EPA 2019). Chelan County, for comparison, is 34 percent (EPA 2019). Therefore, the census tract would be considered to contain an environmental justice low-income population because the low-income population is greater than 25 percent.

No Action Alternative

Under the no action alternative, the risk of wildfire spread would remain high despite some anticipated hazardous fuels reduction work that would be completed by CDLT. In the event of a wildfire, the population, including low-income populations, may experience adverse health impacts, such as those mentioned in **Section 2**, and/or damage or loss of property and assets. Because of their low income, this population could be disproportionately and adversely affected by a wildfire because of their limited resources to recover. Therefore, minor to moderate adverse impacts may occur on low-income populations depending on the intensity and scale of a wildfire.

Proposed Action

Under the proposed action, hazardous fuels reduction work would take place on undeveloped land in a rural census tract. Minor temporary impacts from the proposed action, such as noise, would not impact residents in the census tract, including low-income populations, because no residences are close to the proposed work. The benefits of reduced risk of wildfire spread would be applicable to the entire population near the project area, including low-income populations.

Therefore, no disproportionately high and adverse impacts on low-income populations would result from the proposed action.

4.12. Hazardous Materials

Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, and the Toxic Substances Control Act. The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, which was further amended by the Hazardous and Solid Waste Amendments, defines hazardous wastes. In general, both hazardous materials and wastes include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or to the environment when released or otherwise improperly managed.

Hazardous materials may be encountered in the course of a project or they may be generated by project activities. To determine whether any hazardous waste facilities exist near or upgradient of the proposed project area, or whether there is a known and documented environmental issue or concern that could affect the proposed project area, a search for Superfund sites, toxic release inventory sites, industrial water dischargers, hazardous facilities or sites, and multiactivity sites was conducted using EPA's NEPA Assist website (EPA 2020c). According to the database, no hazardous materials sites are present within 1 mile of the proposed project area.

No Action Alternative

Under the no action alternative, existing conditions would remain largely the same. Some hazardous fuels treatment might still occur and there would be a limited potential for release of hazardous materials from equipment, and thus, very localized and minor site contamination from leaks or spills. Under this alternative, the risk for wildfire spread would not be effectively reduced. In the event of a wildfire, fire-retardant materials might be applied to the forest in and near the project area. Fire retardants are generally considered to be nontoxic, but there may be risks to small mammals and other wildlife from concentrated exposures (Modovsky 2007). However, exposures would likely be short term as the application "footprint" of these chemicals is quite limited in terms of foraging areas and species habitat for any individual animal, and the ingredients generally degrade in the environment (Modovsky 2007). A major wildfire could also burn residences in the project vicinity that may contain small amounts of hazardous materials, thus resulting in releases to the environment. Therefore, the no action alternative would have a minor to moderate impact related to hazardous materials.

Proposed Action

Under the proposed action, no hazardous waste sites would be affected from project implementation. In the event that site contamination or evidence of contamination is discovered during implementation of the proposed action, Chelan County NRD would manage the contamination in accordance with the requirements of the governing local, state, and federal regulations and guidelines.

The proposed action would involve the use of mechanical equipment such as chainsaws and trucks. There is always a minor threat of leaks of oils, fuels, and lubricants from the use of such

equipment. The short-term duration and the use of equipment in good condition would reduce any potential effect to a negligible level. All equipment, actions, and operations would adhere to best management practices (BMPs) and local regulations to reduce the risk of hazardous leaks and spills. Any spills during project implementation would be contained and cleaned right away.

4.13. Noise

Sounds that disrupt normal activities or otherwise diminish the quality of the environment are considered noise. Noise events that occur during the night (10 p.m. to 7 a.m.) are more annoying than those that occur during normal waking hours (7 a.m. to 10 p.m.). Assessment of noise impacts includes the proximity of the proposed action to sensitive receptors. A sensitive receptor is defined as an area of frequent human use that would benefit from a lowered noise level. Typical sensitive receptors include residences, schools, churches, hospitals, nursing homes, and libraries. There are no sensitive receptors within the project area; however, there are homes and lodges within the vicinity of the project area. The closest residence is approximately 0.4 miles to the closest point of the project area; most of the proposed project area is farther away. Chelan County restricts unreasonable noise that disturbs the public (Chelan County Code 7.35.030), but there are exemptions for construction noise between 7 a.m. and 10 p.m.

Typical noise events in the project area and vicinity are presently associated with climatic conditions (wind, rain), motorized vehicles, and occasionally with timber harvest activities.

No Action Alternative

Under the no action alternative, some limited hazardous fuels reduction work may occur over time; thus, there would be very little change in existing noise levels. The project area is approximately 0.4 miles from the nearest residence; therefore, there would be no effect on sensitive receptors.

Proposed Action

Under the proposed action, noise would be generated by operation of equipment such as chainsaws and trucks. Most of the work would be conducted by ground crews using hand tools. The loudest equipment likely to be used would be chainsaws, which can produce noise levels up to 85 decibels (Federal Highway Administration 2017). The implementation of the proposed action would increase noise levels within the immediate vicinity of the work. The nearest receptor is approximately 0.4 miles away, and there is a forested buffer between the proposed work and residences. The distance from the activity and the intervening forest would attenuate the noise levels at the nearest receptor to levels consistent with ambient levels. In addition, noises generated by the fuels reduction work would not be inconsistent with noises created by other forest management activities that commonly occur in the vicinity. Increases in noise levels would be temporary at any one location within the project area and would occur during normal waking hours. Therefore, impacts from noise on receptors near the project area would be negligible. All project activities would meet all applicable noise-control regulations, including Chelan County Code Chapter 7.35. No long-term noise impacts would occur.

4.14. Public Health and Safety

As described in **Section 2**, Chelan County has a long history of reoccurring wildfires, which burn nearly every year in the Leavenworth area. A USFS study ranked the top 50 communities in Washington State with the greatest average burn probability (Gilbertson-Day et al. 2018); Leavenworth, Washington, was ranked as the number one community most threatened by wildfire.

CDLT engages communities in conserving, caring for, and accessing natural lands and waters. The CDLT property provides a variety of public recreational opportunities, including eight trails for biking, hiking, running, and riding horses. Trail maintenance requires occasional closures for repairs and after heavy rain or snow to avoid damage (CDLT 2020).

Chelan Fire and Rescue (Chelan County Fire Protection District 6) serves the proposed project area and surrounding communities to provide emergency medical services and fire response among other services. The Chelan County Sheriff's Department and Patrol Division provides policing and public safety services to the City of Leavenworth.

No Action Alternative

Under the no action alternative, some hazardous fuels reduction work would likely occur over time; however, the risk of wildfire spread would be expected to remain high. In the event of a wildfire, there would be an increased risk to public health and safety and to emergency responders such as firefighters. Wildfires can generate substantial amounts of particulate matter, which can affect the health of people breathing smoke-laden air. There is a particular concern for vulnerable populations, such as the young and the elderly, as discussed in **Section 4.3**. Wildfires can also generate substantial amounts of carbon monoxide, which can pose a health concern for frontline firefighters. Forest areas with heavy fuel loads and ladder fuels may be more likely to result in crown fires that are more dangerous for firefighters to combat.

Heavy rain conditions following wildfires can contribute to sediment and debris in nearby waterways, which can affect downstream water quality and damage structures, roads, trails and utilities critical to the safety and well-being of citizens. During a major wildfire, emergency personnel would not be available to respond to other emergencies in their service area, potentially resulting in indirect impacts on health and property. Therefore, there could be minor to major impacts from the no action alternative if a wildfire occurs depending on the intensity and scale of the wildfire.

Proposed Action

Under the proposed action, the hazardous fuels reduction and removal of ladder fuels would help to reduce the spread of wildfire in the project area vicinity. This would create a safer environment for firefighters and allow them to more easily control the spread of a wildfire. During project implementation, CDLT would close portion of trails and roads and provide detours as necessary to keep the public safe while recreating.

Hazardous fuel reduction would not prevent wildfires but could contribute to containment, reducing the intensity and frequency of wildfires, which would ultimately reduce the risks for

people living near the project area. In addition, when wildfires are controlled more quickly, a smaller area is burned, and less sediment and debris may be transported downstream during future precipitation events that could potentially affect water quality. The proposed action could reduce the probability that emergency services would be focused on firefighting and would allow emergency responders to remain available to respond to other emergencies throughout the county. Therefore, the proposed action would have a minor, long-term beneficial effect on public health and safety.

4.15. Summary of Effects and Mitigation

Table 4.6 provides a summary of the potential environmental effects from implementation of the proposed action, any required agency coordination efforts or permits, and any applicable proposed mitigation or BMPs.

Table 4.6. Summary of Impacts

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Soils and Topography	Negligible short-term impact from vehicle use; minor long term benefit on soils by reducing the risk of wildfire spread. No effect on topography.	NA	Hazardous fuels reduction activities would be conducted by ground crews with hand tools and no heavy-tracked equipment would be used.
Air Quality and Climate	Negligible short-term impacts; minor long-term beneficial effects by reducing the risk of wildfire spread.	NA	<ul style="list-style-type: none"> • Vehicle run times would be kept to a minimum. • The use of rubber-wheeled vehicles would minimize ground disturbance, and thus the release of fugitive dust. • No burning would occur.
Surface Waters and Water Quality	No short-term effects related to project implementation activities. Minor long-term benefit on surrounding water bodies from the reduced risk of wildfire spread.	NA	If Type Ns streams are encountered in the project area, a 30-foot wide no-work buffer would be implemented.
Wetlands	No effects related to project implementation activities as there are no wetlands within the project area. However, there would be minor long-term beneficial effects on wetlands in surrounding areas from the reduced risk of wildfire spread.	NA	NA

Affected Environment, Potential Impacts, and Mitigation

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Floodplains	No effects related to project implementation activities as there are no floodplains within the project area. However, there would be minor long-term beneficial effects on floodplains in surrounding areas from the reduced risk of wildfire spread.	N/A	N/A
Vegetation	Minor impact on existing vegetation communities; minor long-term beneficial effects by reducing the risk of wildfire spread, vegetation damage, and invasive species spread.	N/A	<ul style="list-style-type: none"> • Widely scattered large trees would be preserved, and several snags would be retained per acre. • Clumps and strips of brush would be retained in strategic areas to provide wildlife habitat. • Woody material not utilized for wildlife habitat would be lopped and scattered in a thin layer to promote desiccation, thereby discouraging potential colonization by bark beetles.
Fish and Wildlife	Minor short-term impact on wildlife and migratory birds from vegetation-clearing activities; negligible short-term impact on eagles; minor long-term beneficial effects by reducing the risk of wildfire spread and vegetation loss; no effect on fish species.	N/A	<ul style="list-style-type: none"> • Preservation of widely scattered large trees and several snags per acre to ensure suitable levels of foraging and nesting resources within the project area. • Clumps and strips of brush would be retained in strategic areas to supplement wildlife habitat. • To avoid impacts on migratory birds, vegetation clearing would not occur during the peak breeding season from March 1 through July 31.
Threatened and Endangered Species	<p>The project would have no effect on the following species: Upper Columbia steelhead, Upper Columbia spring-run Chinook salmon, bull trout, marbled murrelet, yellow-billed cuckoo, Canada lynx, gray wolf, grizzly bear, North American wolverine, and showy stickseed.</p> <p>The project may affect but would not likely adversely affect NSO and SIORCA.</p>	USFWS Informal Consultation	Implementation of the ESA measures listed in Section 3.2 would avoid or minimize harm to ESA-listed species and habitat.

Affected Environment, Potential Impacts, and Mitigation

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
	There would be no adverse modification or destruction of designated critical habitat for NSO or SIORCA.		
Cultural Resources	No historic properties or archaeological resources affected.	N/A	If any potential archeological resources are discovered during project implementation, work would immediately cease and the subrecipient would notify DAHP and FEMA.
Environmental Justice	No disproportionately high and adverse impacts on low-income populations.	N/A	N/A
Hazardous Materials	Negligible contamination threat from equipment use.	N/A	Any spills during construction would be contained and cleaned immediately.
Noise	Negligible temporary impacts from increased noise levels within the project area and the immediate vicinity of the work.	N/A	<ul style="list-style-type: none"> • All machinery used would meet applicable noise control regulations, including Chelan County Code Chapter 7.35. • Noise-producing equipment would occur during approved construction hours (7 a.m. to 10 p.m.) and would be temporary.
Public Health and Safety	Minor long-term beneficial effects by reducing the risk of wildfire spread.	N/A	N/A

SECTION 5. Cumulative Impacts

This section addresses the potential cumulative impacts associated with the implementation of the proposed action. Cumulative impacts can be defined as the impacts of a proposed action combined with impacts of past, present, or reasonably foreseeable future actions undertaken by any agency or person. CEQ's regulations for implementing NEPA require an assessment of cumulative effects during the decision-making process for federal projects. Cumulative impacts can result from *individually minor* but *collectively significant* actions.

CDLT acquired the 177-acre Mountain Home Ridge property in 2008. Land to the north and west of the property is privately owned and land to the south and east is primarily owned by USFS. Thousands of acres of land surrounding the project area burned in the 1994 Rat Creek Fire. Logging has been conducted several times in the project area vicinity beginning in 1920. Following the 1994 fire, the majority of the area was salvage logged (CDLT 2013).

In 2019, 30 acres of the Mountain Home Ridge property were selectively logged, and in 2020, 6 acres were thinned near the north property boundary to help reduce the spread of wildfire. These treated areas are near the proposed project area. Properties near the project area have undergone similar treatment in recent years, especially the Copper Notch area along the east boundary and several smaller private parcels a few miles to the north. Most of this work has focused on the removal of closely spaced small trees using hand tools and small machinery. The proposed action would take place south of the other treatments described above in an area where lands have not been managed since the 1994 fire.

The Chelan County Hazard Mitigation Plan (2019), developed by Chelan County in partnership with local governments within the County, aims to reduce risk from disasters, such as wildfires, and recommends areawide mitigation actions. The plan encourages local government planners, residents, and business owners within Chelan County to implement fire safety measures such as maintaining defensible space and fuel-free areas around structures, using fire-resistant roofing materials, and maintaining adequate water supplies and ingress and egress routes for emergency responders. A number of private property owners along Mountain Home Road to the north of the project area have implemented some of these wildfire risk-reduction strategies associated with structures.

New development in Chelan County must meet Chelan County Code Title 15 Chapter 15.40, which defines requirements for development and maintenance of wildfire risk reduction measures in moderate, high, and extreme wildfire-risk areas. The Fire Marshal imposes standards when reviewing development permit applications for subdivisions, planned developments, binding site plans, or other similar development permits. Requirements include using Class A or noncombustible roofing as defined in the Uniform Building Code, and other measures required by the Fire Marshal.

There is a possibility for forest management activities and wildfire mitigation efforts to compound with potential impacts of the proposed action with respect to soils, air quality and climate, vegetation, fish and wildlife, hazardous materials, and noise. However, it is unlikely that there would be significant cumulative impacts because in most cases there would be temporal

and spatial separation between activities. The wildfire mitigation activities described above would result in long-term net beneficial effects and would complement the proposed action by reducing the spread of wildfire in and near the project area. Therefore, there would be long-term beneficial cumulative effects from the combination of the initiatives described above and the proposed action.

SECTION 6. Agency Coordination, Public Involvement, and Permits

This section provides a summary of the agency coordination efforts and public involvement process for the proposed Chelan County, Mountain Home Ridge Hazardous Fuels Reduction Draft EA. In addition, an overview of the permits that would be required under the proposed action is included.

6.1. Agency and Tribal Coordination

Consultation with the Confederated Tribes of the Colville Reservation and the Yakama Nation was initiated on March 18, 2020. The Confederated Tribes of the Colville Reservation concurred with the finding of No Historic Properties Affected on May 12, 2020. There has been no response from the Yakama Nation to date. Consultation with DAHP was completed on March 23, 2020.

On September 2, 2020, informal consultation with USFWS was completed for NSO and SIORCA. The biological assessment of effects is available upon request. Appendix A provides a copy of all agency and tribal correspondence.

6.2. Public Participation

In accordance with NEPA, this draft EA will be released to the public and resource agencies for a 30-day public review and comment period. Comments on this draft EA will be incorporated into the final EA, as appropriate. This draft EA reflects the evaluation and assessment of the federal government, the decision-maker for the federal action; however, FEMA will take into consideration any substantive comments received during the public review period to inform the final decision regarding grant approval and project implementation. If no substantive comments are received from the public and/or agency reviewers, this draft EA will be assumed to be final and a FONSI will be issued by FEMA.

Chelan County NRD will make the draft EA available on their website at: <https://www.co.chelan.wa.us/natural-resources/pages/public-noticing>. The draft EA will also be available on FEMA's website. Hard copies of the draft EA will be made available at Chelan County Natural Resource Department, 411 Washington St., Suite 201, Wenatchee, WA 98801. The comment period for the draft EA will start when the public notice of EA availability is published and will extend for 30 days. Comments on the draft EA may be submitted to FEMA-R10-EHP-Comments@fema.dhs.gov. Please include "Mountain Home Ridge" in the subject line. Comments may also be submitted via mail to:

Science Kilner
Regional Environmental Officer
FEMA Region 10
130 228th Street SW
Bothell, WA 98021

6.3. Permits

Chelan County will be responsible for obtaining any necessary local, state, or federal permits needed to conduct the proposed action. A Washington State Forest Practices Act permit may be required for implementation of the proposed action.

SECTION 7. List of Preparers

The following is a list of preparers who contributed to the development of the Chelan County Mountain Home Ridge Fuels Reduction Draft EA for FEMA. The individuals listed below had principal roles in the preparation of this document. Many others, including senior managers, administrative support personnel, and technical staff, had significant roles and contributions, and their efforts were no less important to the development of this EA.

CDM Smith

Preparers	Experience and Expertise	Role in Preparation
Argiroff, Emma	Environmental Planner	NEPA Documentation
Bankston, Sam	Biologist	NEPA Documentation
Shepard, Brian	GIS Specialist	GIS
Stenberg, Kate PhD	Senior Biologist, Senior Planner	Project Manager, Technical Review
Weddle, Annamarie	Environmental Planner	NEPA Documentation

Federal Emergency Management Agency

Reviewers	Role in Preparation
Fisher, Philip	NHPA/consultations
Kilner, Science	Technical Review and Approval
Parr, Jeffrey	ESA/BA

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Appendix A

Agency and Tribal Coordination

Appendix A

Agency and Tribal Coordination



FEMA

March 20, 2020

Allyson Brooks, Ph.D.
Washington State Historic Preservation Officer
Department of Archaeology and Historic Preservation
P.O. Box 48343
Olympia, Washington 98504-8343
Via 106@dahp.wa.gov

Re: FEMA HMGP 5182-07 Mountain Home Fuels Reduction Project, Chelan County

Dear Dr. Brooks:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to fund the Chelan County Natural Resources Department (County), through the Washington Emergency Management Division (EMD), for a fuels reduction project (Undertaking). This funding is available from FEMA's Hazard Mitigation Grant Program (HMGP). The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act and the Programmatic Agreement in effect between your office and EMD.

Proposed Undertaking

The proposed Undertaking will reduce vegetative fuels on about 14 acres of a 30-acre parcel owned by the Chelan Douglas Land Trust. The parcel is located between Leavenworth and Peshastin along Mountain Home Ridge and Mountain Home Road (County Highway 189) (see Figure 1 and 2). The Mountain Home parcel is in Township 24 North, Range 17 East in Section 25; and approximate boundaries are:

- southwest corner latitude 47.54876, longitude -120.66120
- northwest corner latitude 47.55339, longitude -120.65490
- northeast corner latitude 47.55301, longitude -120.65069
- southeast corner latitude 47.54842, longitude -120.65806

This area burned in 1994 and was salvage logged in 1995-96. In 2018, the 30 acre parcel was commercially thinned to reduce fuels along Mountain Home Ridge, however, many dense non-commercial stands of smaller ponderosa pine and Douglas-fir could not be thinned (see enclosed photos). These stands are located within and around the previously treated area and are next to dense, stressed forests on adjacent properties. Left untreated these stands could carry wildfire to other properties along the ridge and toward homes and businesses along Icicle Creek and Peshastin Creek, including the towns of Leavenworth and Peshastin.

Vegetative fuels will be reduced by ground crews using chainsaws to limb, space, and remove trees. After cutting, vegetative debris will be chipped using a small chipper towed behind a pickup and broadcast on site. Access to the site will be from existing dirt roads.

Area of Potential Effects

FEMA has determined the Area of Potential Effects (APE) for the proposed undertaking is the 14-acre area as illustrated in Figures 1 and 2.

Historic Property Identification and Evaluation

A review of the Washington Department of Archeology and Historic Preservation's WISAARD system found that there are no documented historic properties within the APE. However, one archaeological site (FS01582) on US Forest Service land runs parallel to Mountain Home Road (County Highway 189) on the west side of the road immediately outside the APE. A single cultural resource survey (NADB1688427) from 2014 is located in the south-central portion of the Mountain Home unit. No cultural resources were identified during the survey. Site FS01582, Sam Beecher's Flume Line, is approximately three miles long and was designed as an irrigation line to take water from Snow Lakes to the Mountain Home area. Sam Beecher started construction of the flume line around 1911 but eventually abandoned it when water rights to Snow Lakes could not be secured. The site parallels Mountain Home Road (County Highway 189) approximately 125 feet to the west. The western boundary of the APE lies across the road on the site's east side.

Based on disturbances from prior commercial logging work and the limited and low impact nature of the proposed fuels reduction work methodology, no additional identification and evaluation efforts are planned. We have initiated consultation with the Confederated Tribes of the Colville Reservation and the Yakama Nation regarding this Undertaking.

Determination of Effects


Barring additional information from the Tribes or DAHP, and based on the aforementioned identification and evaluation efforts, FEMA finds that the Undertaking will result in No Historic Properties Affected. Since Site FS01582 is outside the APE, no effects are anticipated. Additionally, project approval will be conditioned to protect any unexpected discoveries of historic or archaeological remains during fuels reduction work.

We respectfully request your concurrence or comment to these findings. To assist your review please find enclosed project maps and photographs. Should you have any questions, please contact Science Kilner (425) 487-4713. Thank you.

Sincerely,

**MARK G
EBERLEIN**

Mark G. Eberlein
Regional Environmental Officer

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Date: 2020.03.20 09:01:57 -07'00'

Enclosures

Cc: Tim Cook, EMD

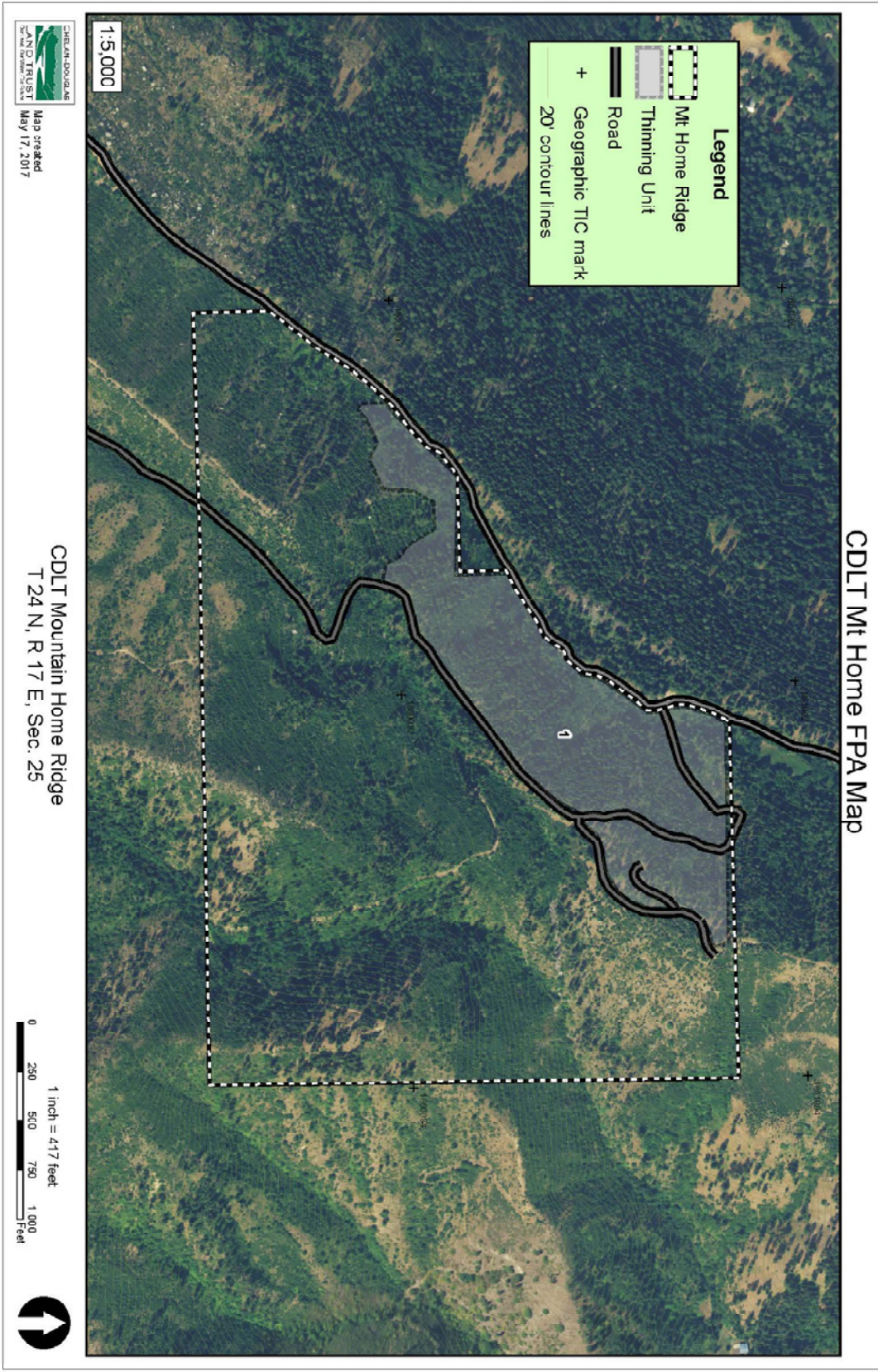


Figure 1: Mountain Home fuels reduction APE (Thinning Unit) in Chelan County.

Figure 2 - FEMA HMGP 5182 - Chelan County
Mountain Home APE



Photos – Current conditions at the Mountain Home property





Allyson Brooks Ph.D., Director
State Historic Preservation Officer

March 23, 2020

Mr. Mark Eberlein
FEMA – Region X
130 – 228th Street SW
Bothell, Washington 98021-9796

Re: Mountain Home Fuels Reduction Project
FEMA # HMGP 5182-07
Log No: 2020-03-02324-FEMA

Dear Mr. Eberlein:

Thank you for contacting our Department. We have reviewed the information you provided for the proposed Mountain Home Fuels Reduction Project, Chelan County, Washington.

We concur with your proposed Area of Potential Effect (APE). We concur with your determination of No Historic Properties Affected with the stipulation for an unanticipated discovery plan.

We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity must stop, the area secured, and the concerned tribes and this department notified.

These comments are based on the information available at the time of this review and on the behalf of the State Historic Preservation Officer in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800. Should additional information become available, our assessment may be revised. Thank you for the opportunity to comment and a copy of these comments should be included in subsequent environmental documents.

Sincerely,

Robert G. Whitlam, Ph.D.
State Archaeologist
(360) 586-3080
email: rob.whitlam@dahp.wa.gov





FEMA

March 18, 2020

Rodney Cawston, Chairman
Confederated Tribes of the Colville Reservation
P.O. Box 150
Nespelem, Washington 99155

Re: FEMA HMGP 5182-07, Mountain Home Fuels Reduction Project, Chelan County

Dear Chairman Cawston:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to fund the Chelan County Natural Resources Department (County), through the Washington Emergency Management Division (WEMD), for a fuels reduction project (Undertaking). This funding is available from FEMA's Hazard Mitigation Grant Program (HMGP). The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act.

Proposed Undertaking

The proposed Undertaking will reduce vegetative fuels on about 14 acres of a 30-acre parcel owned by the Chelan Douglas Land Trust. The parcel is located between Leavenworth and Peshastin along Mountain Home Ridge and Mountain Home Road (County Highway 189) (see Figure 1 and 2). The Mountain Home parcel is in Township 24 North, Range 17 East in Section 25; and approximate boundaries are:

- southwest corner latitude 47.54876, longitude -120.66120
- northwest corner latitude 47.55339, longitude -120.65490
- northeast corner latitude 47.55301, longitude -120.65069
- southeast corner latitude 47.54842, longitude -120.65806

This area burned in 1994 and was salvage logged in 1995-96. In 2018, the 30 acre parcel was commercially thinned to reduce fuels along Mountain Home Ridge, however, many dense non-commercial stands of smaller ponderosa pine and Douglas-fir could not be thinned (see enclosed photos). These stands are located within and around the previously treated area and are next to dense, stressed forests on adjacent properties. Left untreated these stands could carry wildfire to other properties along the ridge and toward homes and businesses along Icicle Creek and Peshastin Creek, including the towns of Leavenworth and Peshastin.

Vegetative fuels will be reduced by ground crews using chainsaws to limb, space, and remove trees. After cutting, vegetative debris will be chipped using a small chipper towed behind a pickup and broadcast on site. Access to the site will be from existing dirt roads.

Area of Potential Effects

FEMA has determined the Area of Potential Effects (APE) for the proposed undertaking is the 14-acre area as illustrated in Figures 1 and 2.

Historic Property Identification and Evaluation

A review of the Washington Department of Archeology and Historic Preservation's WISAARD system found that there are no documented historic properties within the APE. However, one archaeological site (FS01582) on US Forest Service land runs parallel to Mountain Home Road (County Highway 189) on the west side of the road immediately outside the APE. A single cultural resource survey (NADB1688427) from 2014 is located in the south-central portion of the Mountain Home unit. No cultural resources were identified during the survey. Site FS01582, Sam Beecher's Flume Line, is approximately three miles long and was designed as an irrigation line to take water from Snow Lakes to the Mountain Home area. Sam Beecher started construction of the flume line around 1911 but eventually abandoned it when water rights to Snow Lakes could not be secured. The site parallels Mountain Home Road (County Highway 189) approximately 125 feet to the west. The western boundary of the APE lies across the road on the site's east side.

Based on disturbances from prior commercial logging work and the limited and low impact nature of the proposed fuels reduction work methodology, no additional identification and evaluation efforts are planned. We have initiated consultation with DAHP regarding this Undertaking.

Determination of Effects

Barring additional information from the Tribe or DAHP, and based on the aforementioned identification and evaluation efforts, FEMA finds that the Undertaking will result in No Historic Properties Affected. Since Site FS01582 is outside the APE, no effects are anticipated. Additionally, project approval will be conditioned to protect any unexpected discoveries of historic or archaeological remains during fuels reduction work.

We respectfully request the Tribe's comment to these findings or further information you may wish to share regarding historic properties of religious and or cultural significance to the Tribe that could be impacted by the Undertaking. This information would be used to inform further identification and evaluation efforts and to determine potential Undertaking impacts. Any information provided would be subject to Tribe-requested dissemination restrictions. To assist your review please find enclosed project maps and photographs. Should you have any questions, please contact Science Kilner (425) 487-4713. Thank you.

Sincerely,

MARK G EBERLEIN

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Date: 2020.03.20 08:58:45 -07'00'

Mark G. Eberlein
Regional Environmental Officer

Enclosures

cc: Guy Moura, THPO (via email)
Robert Sloma, Cultural Resources (via email)

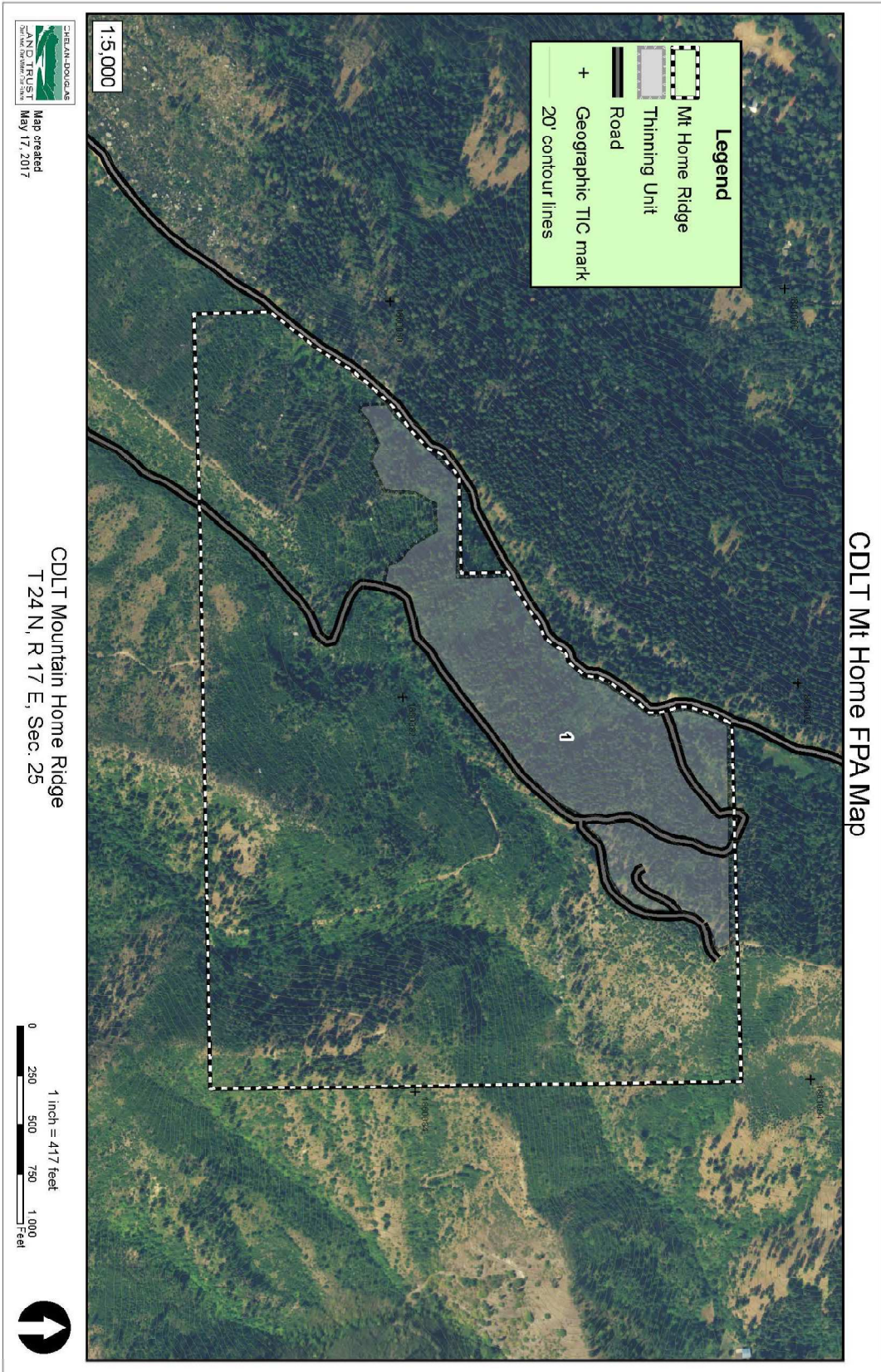
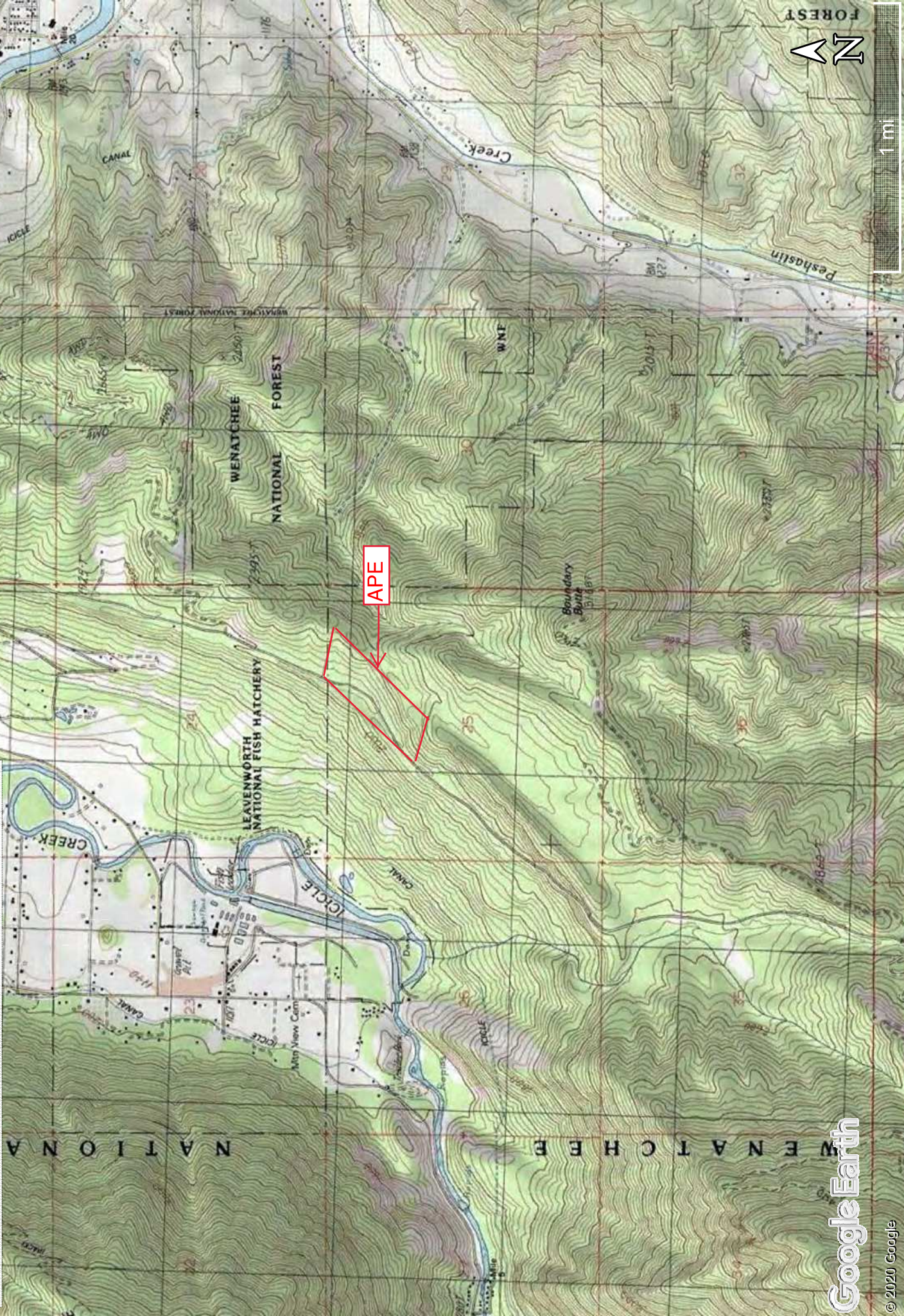


Figure 1: Mountain Home fuels reduction APE (Thinning Unit) in Chelan County.

Figure 2 - FEMA HMGP 5182 - Chelan County
Mountain Home APE



Photos – Current conditions at the Mountain Home property





FEMA

March 18, 2020

JoDe L. Goudy, Chairman
Confederated Tribes and Bands of the Yakama Nation
PO Box 151
Toppenish, Washington 98948

Re: FEMA HMGP 5182-07, Mountain Home Fuels Reduction Project, Chelan County

Dear Chairman Goudy:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to fund the Chelan County Natural Resources Department (County), through the Washington Emergency Management Division (WEMD), for a fuels reduction project (Undertaking). This funding is available from FEMA's Hazard Mitigation Grant Program (HMGP). The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act.

Proposed Undertaking

The proposed Undertaking will reduce vegetative fuels on about 14 acres of a 30-acre parcel owned by the Chelan Douglas Land Trust. The parcel is located between Leavenworth and Peshastin along Mountain Home Ridge and Mountain Home Road (County Highway 189) (see Figure 1 and 2). The Mountain Home parcel is in Township 24 North, Range 17 East in Section 25; and approximate boundaries are:

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- southeast corner latitude 47.54842, longitude -120.65806

This area burned in 1994 and was salvage logged in 1995-96. In 2018, the 30 acre parcel was commercially thinned to reduce fuels along Mountain Home Ridge, however, many dense non-commercial stands of smaller ponderosa pine and Douglas-fir could not be thinned (see enclosed photos). These stands are located within and around the previously treated area and are next to dense, stressed forests on adjacent properties. Left untreated these stands could carry wildfire to other properties along the ridge and toward homes and businesses along Icicle Creek and Peshastin Creek, including the towns of Leavenworth and Peshastin.

Vegetative fuels will be reduced by ground crews using chainsaws to limb, space, and remove trees. After cutting, vegetative debris will be chipped using a small chipper towed behind a pickup and broadcast on site. Access to the site will be from existing dirt roads.

Area of Potential Effects

FEMA has determined the Area of Potential Effects (APE) for the proposed undertaking is the 14-acre area as illustrated in Figure 1.

Historic Property Identification and Evaluation

A review of the Washington Department of Archeology and Historic Preservation's WISAARD system found that there are no documented historic properties within the APE. However, one archaeological site (FS01582) on US Forest Service land runs parallel to Mountain Home Road (County Highway 189) on the west side of the road immediately outside the APE. A single cultural resource survey (NADB1688427) from 2014 is located in the south-central portion of the Mountain Home unit. No cultural resources were identified during the survey. Site FS01582, Sam Beecher's Flume Line, is approximately three miles long and was designed as an irrigation line to take water from Snow Lakes to the Mountain Home area. Sam Beecher started construction of the flume line around 1911 but eventually abandoned it when water rights to Snow Lakes could not be secured. The site parallels Mountain Home Road (County Highway 189) approximately 125 feet to the west. The western boundary of the APE lies across the road on the site's east side.

Based on disturbances from prior commercial logging work and the limited and low impact nature of the proposed fuels reduction work methodology, no additional identification and evaluation efforts are planned. We have initiated consultation with DAHP regarding this Undertaking.

Determination of Effects

Barring additional information from the Tribe or DAHP, and based on the aforementioned identification and evaluation efforts, FEMA finds that the Undertaking will result in No Historic Properties Affected. Since Site FS01582 is outside the APE, no effects are anticipated. Additionally, project approval will be conditioned to protect any unexpected discoveries of historic or archaeological remains during fuels reduction work.

We respectfully request the Tribe's comment to these findings or further information you may wish to share regarding historic properties of religious and or cultural significance to the Tribe that could be impacted by the Undertaking. This information would be used to inform further identification and evaluation efforts and to determine potential Undertaking impacts. Any information provided would be subject to Tribe-requested dissemination restrictions. To assist your review please find enclosed project maps and photographs. Should you have any questions, please contact Science Kilner (425) 487-4713. Thank you.

Sincerely,

MARK G EBERLEIN

Mark G. Eberlein
Regional Environmental Officer

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Date: 2020.03.20 09:00:33 -07'00'

Enclosures

Cc: Johnson Meninick, Cultural Resources Program (via email)
Jon Shellenberger, Tribal Archeologist (via email)

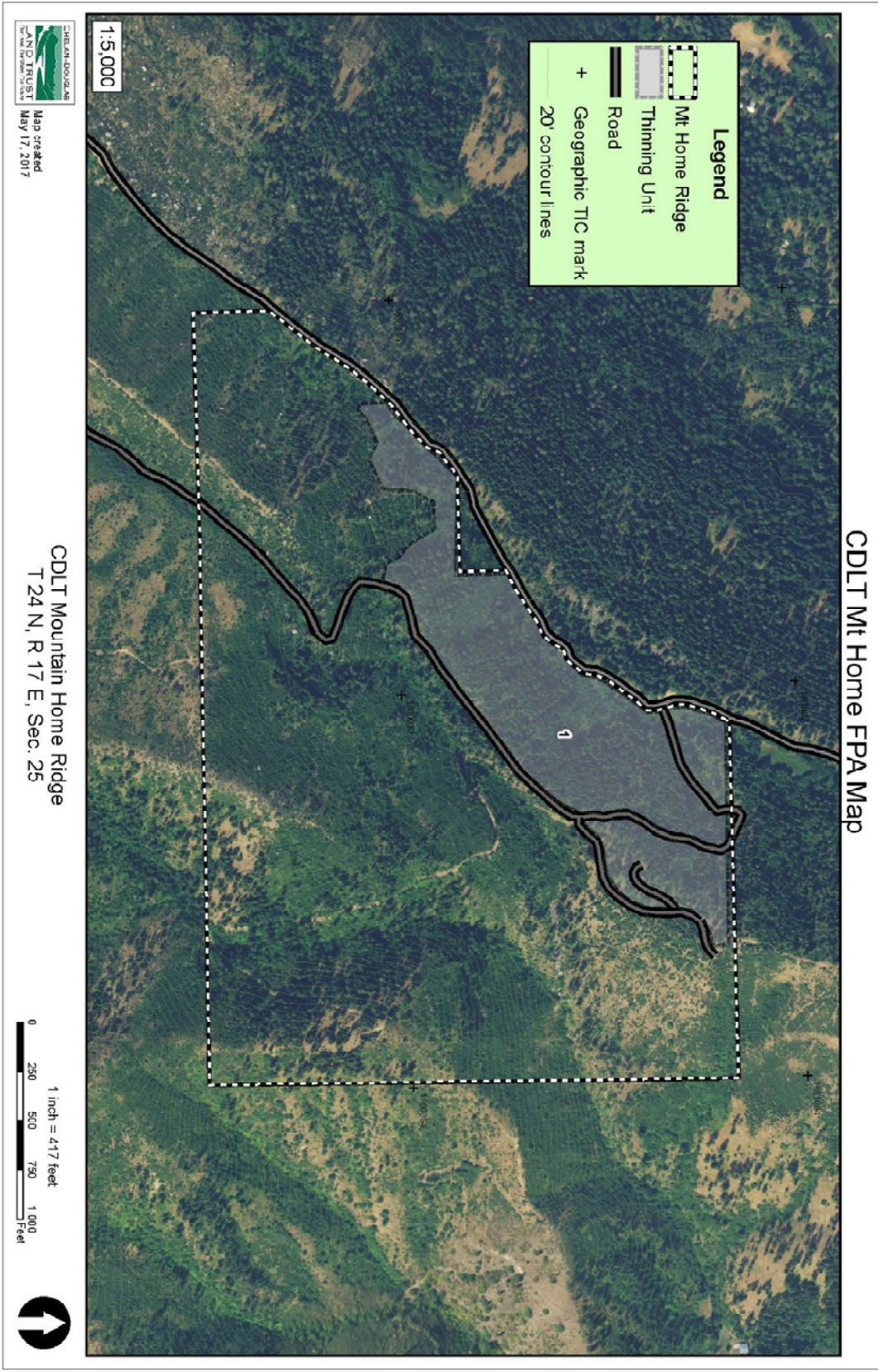


Figure 1: Mountain Home fuels reduction APE (Thinning Unit) in Chelan County.

Figure 2 - FEMA HMGP 5182 - Chelan County
Mountain Home APE



Photos – Current conditions at the Mountain Home property



From: [Guy Moura \(HSY\)](#)
To: [Kilner, Science](#); [Robert Sloma \(HSY\)](#); [Whitlam, Rob \(DAHP\)](#)
Cc: [Guy Moura \(HSY\)](#)
Subject: RE: FEMA - HMGP 5182 - Chelan County - Mtn Home - Consultation
Date: Tuesday, May 12, 2020 8:03:28 AM
Attachments: [image001.png](#)

Science,

Seeing no other response, we have no comments or concerns. However, if Rob did reply, I defer to his response as it is, no doubt, more studied. We concur the Chelan County Mountain Home Thinning Project is an undertaking. We concur with the APE. We accept the level of effort employed to identify historic properties, based on the limited impact the project will have on the ground. We concur there will be no effect to historic properties.

lim læmt, qe?ciéwyew', thank you

Guy Moura
Manager, History/Archaeology Program
Tribal Historic Preservation Officer
Confederated Tribes of the Colville Reservation
(509) 634-2695

From: Kilner, Science [mailto:Science.Kilner@fema.dhs.gov]
Sent: Thursday, April 23, 2020 4:38 PM
To: Robert Sloma (HSY); Guy Moura (HSY)
Subject: RE: FEMA - HMGP 5182 - Chelan County - Mtn Home - Consultation

Hello Guy and Rob – Hope you are staying safe and well. I wanted to see if you had any comments on this project, if you need more time not problem this isn't a rush. As an update, DAHP has responded with a concurrence. Thank you.

Science

From: Robert Sloma (HSY) <Robert.Sloma@colvilletribes.com>
Sent: Saturday, March 21, 2020 6:38 PM
To: Guy Moura (HSY) <Guy.Moura@colvilletribes.com>
Cc: Kilner, Science <Science.Kilner@fema.dhs.gov>
Subject: Re: FEMA - HMGP 5182 - Chelan County - Mtn Home - Consultation

Yes, will do.

Rob

Sent from my iPhone

On Mar 21, 2020, at 6:13 PM, Guy Moura (HSY) <Guy.Moura@colvilletribes.com> wrote:

Thanks Science. Can' you take this one Rob.

From: Kilner, Science [Science.Kilner@fema.dhs.gov]

Sent: Friday, March 20, 2020 9:19 AM

To: Guy Moura (HSY)

Cc: Robert Sloma (HSY)

Subject: FEMA - HMGP 5182 - Chelan County - Mtn Home - Consultation

Hello Guy and Robert – Please find attached a consultation. Let me know if you have any questions, thanks.

Science Kilner

Deputy Regional Environmental Officer | Mitigation Division | Region 10

Office: (425) 487-4713 | Mobile: (425) 686-5794 | science.kilner@fema.dhs.gov

Federal Emergency Management Agency

fema.gov





FEMA

July 28, 2020

Mr. Brad Thompson
U.S. Fish and Wildlife Service
510 Desmond Dr. Southeast Suite 102
Lacey, Washington 98503

Re: FEMA Hazard Mitigation Grant Program WA-5182-07 Mountain Home Ridge Fuels Reduction Project, Chelan County Natural Resources Department.

Dear Mr. Thompson:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) requests informal consultation under Section 7 of the Endangered Species Act (ESA) of 1973 regarding the Chelan County Department of Natural Resources (County) proposed Mountain Home Ridge Fuels Reduction Project (Project). This site is located on the Chelan Douglas Land Trust (CDLT) Property south of Leavenworth, Washington. The grant funding comes from FEMA's Hazard Mitigation Grant Program (HMGP), which is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, with funds provided following wildfires in 2018. The enclosed Biological Assessment (BA) was prepared to evaluate proposed action effects to ESA-listed species. The two ESA-listed species that may occur within the action area are the Northern spotted owl (NSO) and the Wenatchee Mountains checker-mallow (SIORCA).

The purpose of the HMGP is to help communities implement hazard mitigation measures following a Presidential major disaster declaration. To this end, the County is proposing to conduct fuels reduction operations on 14 acres of CDLT property which is within the Leavenworth wildfire urban interface (WUI). The Project area is located in Township 24 North, Range 17 East, Section 25 and the approximate latitude/longitude coordinates are 47.55241 -120.65261. The Leavenworth Area Wildfire Prevention Plan assessed the Mountain Home Road area as one of the top three locations with the highest wildfire risk. Many existing forest stands in Chelan County, having been logged in the past, are mostly young forests with individual regeneration stands of over-crowded young conifer trees or slightly less dense young forest stands which have taller medium sized trees.

The CDLT property underwent a pre-commercial thin in 2018, which removed most of the canopy from the property, however left young trees behind. This resulted in overcrowding of small sized young conifers in the openings and along the edges of retained mature stands. The Project will thin these densely crowded small sized Douglas firs (<6-inch diameter at breast height (DBH)), to reduce the intensity of future wildfire. There are two known Northern Spotted Owl (*Strix occidentalis caurina*) (NSO) activity circles in the area, with one of the 1.8-mile home range buffer completely encompassing the Project area. Most of the Project area is currently unsuitable NSO habitat, but there is Dispersal habitat at the edge of the Project area. The thinning of undersized conifers will not result any loss of Dispersal habitat.

Mr. Thompson
July 28, 2020
Page 2 of 2

FEMA has determined, as described in the enclosed BA, that the proposed actions may affect the Northern Spotted Owl and the Wenatchee Mountain Checker-mallow (*Sidalcea oregana calva*). FEMA has made the following determinations:

ESA Effects Determinations:

-Northern Spotted Owl	May Affect, Not Likely to Adversely Affect
-Wenatchee Mountain Checker-mallow	May Affect, Not Likely to Adversely Affect

Critical Habitat Determinations:

-Northern Spotted Owl	No Critical Habitat is present
-Wenatchee Mountain Checker-mallow	No Critical Habitat is present

Additionally, avoidance and minimization measures for potential effects on listed species will be part of the action's implementation and are detailed in the BA. We have been working with Ms. Riggs and Ms. Munzing regarding a review of the draft BA and consultation coordination. We request your concurrence with our effects determination or additional comment. If you have any questions, please contact me or Jeffrey Parr (jeffrey.parr@fema.dhs.gov; 425-471-9164).

Sincerely,

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by SCIENCE A
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Date: 2020.07.28
10:29:23 -07'00'

A KILNER

Science Kilner

Acting Regional Environmental Officer

Enclosure



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Central Washington Field Office
215 Melody Lane, Suite 103
Wenatchee, Washington 98801



September 2, 2020

In Reply Refer To:
01EWF00-2020-I-1440

Science Kilner
Acting Regional Environmental Officer
U.S. Department of Homeland Security
FEMA Region 10
130 – 228th Street, SW
Bothell, Washington 98021-8627

Dear Ms. Kilner:

This responds to your request for informal consultation on the proposed Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program WA-5182-07 Mountain Home Ridge Fuels Reduction Project located in, Chelan County, Washington. Your cover letter and biological assessment (BA) were received in the U.S. Fish and Wildlife Service (Service) Central Washington Field Office on July 28, 2020.

The U.S. Department of Homeland Security, FEMA Region 10, has requested Service concurrence with the determination of “may affect, not likely to adversely affect” Wenatchee Mountains checker-mallow (*Sidalcea oregana calva*) and northern spotted owl (*Strix occidentalis caurina*) (NSO), in accordance with section 7(a)(2) of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1532 *et seq.*).

Action Area

The Project is located on Mountain Home Road, three miles southeast of Leavenworth, Washington, in Chelan County. The Project will treat up to 14 acres (Project area) on the Mountain Home property. Figure 1 shows the location of the Project area and the action area. The action area is the greatest identified extent of potential impacts outside of the Project area. The primary expected Project impact outside of the Project area will be short term noise generated by chainsaws and tow behind chippers. To account for potential noise impacts, the expected action area is a buffer zone of 0.25 mile extended from the project area. The action area incorporates eight county parcels totaling 170 acres to the west and east of Mountain Home Road.

INTERIOR REGION 9
COLUMBIA-PACIFIC NORTHWEST

IDAHO, MONTANA*, OREGON*, WASHINGTON

*PARTIAL

Project Description

The proposed action will reduce hazardous fuels in the Mountain Home property (up to 14 acres). The work will occur in the summer and fall after July 31, 2021, with the possibility of extending into the same period in 2022. The proposed action will achieve the project purpose by reducing ladder fuels and providing some breaks in the canopy to reduce the spread of crown fires.

There are five principles in creating and maintaining fire-resistant forests (Fitzgerald and Bennett 2013):

- Reduce surface fuels
- Increase the height to the base of tree crowns
- Increase spacing between tree crowns
- Keep larger trees of more fire-resistant species
- Promote fire-resilient forests at the landscape level

Crown fires are much less likely to occur if trees are widely spaced, generally, with crowns spaced more than one dominant tree crown width apart. Factors that tend to increase the required crown spacing include steep slopes, locations with high winds, and the presence of species like grand fir with dense, compact foliage. Tree spacing will not consistently be even. Small patches of trees can be left at tighter spacing, benefiting some wildlife (Fitzgerald and Bennett 2013). The key is to reduce surface and ladder fuels and create openings.

The proposed action will include limbing, spacing, or removing trees and shrubs in several dense pine and fir stands. These areas are thickets of young, equally aged trees, where the majority of the trees will be removed. Specifically, Douglas fir trees less than six inches in diameter at breast height (DBH), located in root-rot openings on steep slopes, will be removed. Limbing will occur no more than eight feet from the ground, or up to one-third of the tree height. Widely scattered large trees will be retained, such as old growths and several foraging or cavity nesting snags per acre. Clumps and strips of brush will be retained in strategic areas to maintain wildlife habitat. These should be 30 to 50 feet across, 100 to 300 feet in length, and comprise 10 to 20 percent of the landscape. Vegetation to be retained includes scattered ponderosa pine and understory species such as willow (*Salix*), elk sedge (*Carex geyeri*), and bracken fern (*Pteridium*).

Contractors will use hand-held tools and chainsaws to fell or trim trees. No heavy tracked equipment will be used. The trimmings will be distributed in a thin layer on site (less than four inches deep) to deter bark beetle (*Scolytinae*) infestation. Vehicles will access the site from existing access roads, namely, Mountain Home Road and existing logging roads within the parcel. The use of hand tools and limiting vehicles to existing access roads will minimize potential ground disturbance.

Effects to Wenatchee Mountains Checker-mallow

There are two known locations of *S. oregana* var. *calva* (SIORCA) within the action area, however both are outside the Project area (Figure 2). There is no designated critical habitat (DCH) for the species within the action area. Therefore, no effects to DCH are expected for SIORCA and it will not be discussed further in this document. The known locations are re-introduction sites and any recolonization is expected to occur near those sites because they are more likely to contain the primary biological features that describe the species’ habitat. The physical and biological habitat features essential to the conservation of SIORCA include the persistence of surface water or saturated soils well into early summer, a wetland plant community dominated by native grasses and forbs, an environment generally free of woody shrubs and conifers that produce shade and competition, and the preservation of the natural hydrologic functions on which these areas depend (USFWS 2004).

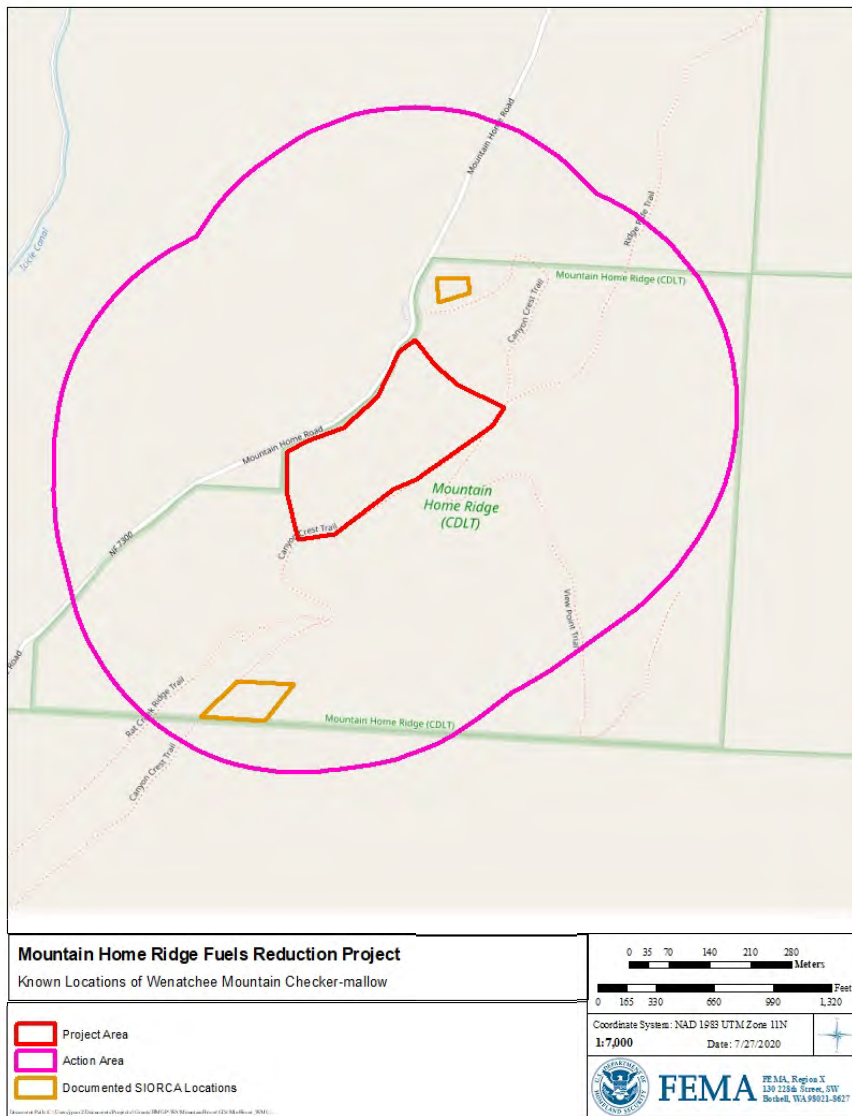


Figure 2. Locations of known reintroduced SIORCA outside the project area.

According to the Services' recovery plan (2004) SIORCA may also be found in open conifer forests dominated by *Pinus ponderosa* (ponderosa pine) and *Pseudotsuga menziesii* (Douglas-fir), on the perimeter of shrub and hardwood thickets dominated by quaking aspen (*Populus tremuloides*), along permanent or intermittent streams in sparsely forested draws, and near seeps, springs, or small drainages. For this reason, pre-project surveys will be conducted in late June – early July (the flowering period for SIORCA) to document and flag avoidance areas by work crews. With implementation of this conservation measure, and with no known plants in the Project area, potential effects to SIORCA are not expected to occur and therefore are considered discountable.

Effects to Northern Spotted Owl

The Washington Department of Fish and Wildlife NSO data shows overlap of the project area with one, 1.8-mile radius NSO home range. The territory was last occupied in 1993 and the overlap is outside the 0.7 mile breeding season timing restriction which will significantly reduce noise impacts to nesting owls. There is no nesting, roosting or foraging habitat within the action area.

Potential effects to NSO and their prey include:

- Noise disturbance through use of chainsaw and chippers
- Removal of trees and understory vegetation

Activities described in the proposal will occur outside of the early breeding season timing restriction for NSOs (March 1 – July 31), even though applying the timing restriction is not required. This will significantly reduce the likelihood of noise disturbance to nesting or dispersing NSO.

Project analysis revealed three acres of dispersal habitat in the Project area. Treatments occurring in the identified dispersal habitat are focused on thinning densely packed small diameter (up to six inches DBH) trees. The result will be a more open understory while retaining the overstory. Dispersal habitat will be degraded, but not removed. The term habitat degrade is used to describe the effect of actions that cause measurable change to the habitat without changing the capability of the habitat to provide the same habitat function for NSO that it did prior to treatment. These types of treatments are typically considered beneficial to NSO habitat because they result in increased resiliency to fire and may accelerate the development of late successional characteristics. The removal of some understory vegetation may result in short-term displacement of NSO prey species, however due to the small scale of understory vegetation removal, the effects are expected to be insignificant.

Summary of Avoidance and Minimization Measures for Listed Species

- No Project actions will occur during the critical early breeding period for NSO (March 1 through July 31).
- Retain 50 percent canopy cover (where present), for NSO dispersal habitat.
- Vehicles will stay on pre-existing roads.

- Pre-project surveys will be conducted in late June/early July (during flowering season) for Wenatchee Mountains Checker-mallow in the project area. Any detected plants will be flagged for avoidance by work crews.
- Riparian buffers will maintain vegetation buffers around waterways to maintain stream shading and filtration of surface water runoff.
- Intermittent streams will maintain a 30-foot buffer. Ladder fuels may be removed at 15 feet from the stream.
- One to three slash piles per acre will remain to provide some habitat, heavy slash (larger diameter) as the base layer, with piles about 20 feet in diameter and six feet high.

Conclusion

The Service agrees that implementation of the Project will result in insignificant and discountable effects to the Wenatchee Mountains checker-mallow and northern spotted owl. Therefore, the Service concurs with the determination of "may affect, not likely to adversely affect" for these species based on the information provided in the BA. Our concurrence is based on the project being implemented as described in the BA.

This concludes informal consultation pursuant to the regulations implementing the Act, 50 C.F.R. § 402.13. This project should be reanalyzed if new information reveals effects of the action may affect listed or proposed species or designated or proposed critical habitat in a manner or to an extent not considered in this consultation; if the action is subsequently modified in a manner that causes an effect to a listed or proposed species or designated or proposed critical habitat that was not considered in this consultation; and/or, if a new species is listed or critical habitat is designated that may be affected by this project.

Section 7(a)(1) of the Act requires Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

Thank you for your assistance in the conservation of listed species. If you have any questions regarding this letter or our joint responsibilities under the Act, please contact Danielle Munzing at the Central Washington Field Office in Wenatchee at (509) 665-3508 (ext. 7765), or via e-mail at danielle_munzing@fws.gov.

Sincerely,

SIERRA
FRANKS

Digitally signed by
SIERRA FRANKS
Date: 2020.09.02
13:24:24 -07'00'

for Brad Thompson, State Supervisor
Washington Fish and Wildlife Office

cc:

FEMA, Bothell, WA (J. Parr)

LITERATURE CITED

Fitzgerald, S. and M. Bennet. 2013. A Land Manager's Guide for Creating Fire-Resistant Forests. 14 pp.

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