



United States Department of Agriculture  
Forest Service

# **Zigzag Integrated Resource Project Cultural Resource Inventory**

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for:  
Zigzag Ranger District  
Mt. Hood National Forest

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## Abstract

The following report provides a detailed summary of the heritage resources survey completed for the Zigzag Integrated Resource Project. The Zigzag Ranger District of the Mt. Hood National Forest is proposing to treat two distinctive project areas on the district, Mud Creek and Horseshoe. Both are located in Clackamas County, Oregon. Several opportunities have been identified in order to manage vegetation and improve forest conditions: these include providing wood products, enhancing aquatic/riparian habitats, and enhancing wildlife habitats. There are also associated opportunities to manage recreation and make changes to the transportation system.

Several sites are situated within the project boundary, but are situated in areas where there are no proposed actions, or they are located outside of proposed treatment areas. These sites include temporary gathering camps (669EA076, 669EA055, and 669EA053), peeled cedar trees (669NA091, 669NA065, 669NA101), historic camps (669EA091, 669EA067, 669EA130), FS guard station or historic lookout remains (669EA059, 669EA058, 669EA038), Early archaic lithic scatter (669EA072), animal corral (665EA064), and a historic airstrip (669EA104). No Protective measures are required or recommended for resources outside of treatment areas.

As a result of the survey and site revisits, one archaeological site (669EA073) and the Pacific Crest Trail (PCT) which was designated a National Scenic Trails in 1968 was determined to be within a proposed treatment unit. Site 669EA073 is a rock feature in Unit 120 of the Mud Creek planning area, which was determined to be ineligible to the National Register of Historic Places (NRHP). No Protective measures are required or recommended for ineligible sites. The Pacific Crest Trail is within unit 96 in the Horseshoe planning area. The PCT is potentially eligible for inclusion on the NRHP. Following the Project Design Criteria (PDCs) a 100-foot no-harvest protection buffer would be maintained as a vegetative screen for this trail system. The general area along the length of Sherar Burn road FS2613 is a traditional use area for local Native American groups.

Survey and monitoring results suggest that as proposed, the Zigzag Integrated Resource Project will have No Effect on cultural resources. Under the proposed project design, the undertaking meets the criteria under the terms of the 2004 Programmatic Agreement (PA) with the State of Oregon for a No Historic Properties Affected determination (Stipulation III (B) 5).

If during project activities cultural material is encountered, all work will cease immediately and the Zone Archaeologist will be contacted to evaluate the inadvertent discovery. A mitigation plan, if needed, will be developed in consultation with the Oregon State Historic Preservation Office (SHPO).

Heritage resource survey documents and site documentation records containing site location information are exempt from public disclosure under provisions set forth in the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470aa). This report contains no confidential or

sensitive information; site documentation and maps have been included as a separate appendices which are unavailable to the general public.

## Introduction

The Forest Service proposes to improve forest health and manage vegetation in the Horseshoe and Mud Creek planning areas on the Zigzag Ranger District in order to meet direction in the Mt Hood National Forest Land and Resource Management Plan (USDA 1990). The proposed action includes thinning, regeneration harvest, and group selection to improve forest health, diversity and production, enhancement of aquatic and riparian habitat.

The treatment units for this area is composed of three stand conditions; young plantations, plantations, and fire originated stands. Plantation stands were created following a regeneration harvest. Approximately 270 acres of young stands range in age from 28 to 31 years. The plantation stands range from 29 to 74 years and comprise of 1,104 acres within the project area. The 1,127 acres of fire originated stands range from 51 to 117 years of age. These densely stocked tree stands limit available resources like soil rich nutrients, water, and sunlight. This has also lead to a lack of diversity.

## Description of Proposed Project

### Purpose and Need for Action

The purpose of the Zigzag Integrated Resource Project is to provide improve forest conditions, provide wood products, manage recreation, enhance aquatic/riparian habitat, manage wildlife habitats, reduce fire hazards, and make changes to the transportation system within the project area. This [web link](#)<sup>1</sup> has a detailed description of the project's purpose and need.

## Environmental Description

The Mt Hood National Forest straddles the northernmost area of the Cascade Range and dominated by the Northwest Maritime Forest (Butchard and Keeler 1991). The Forest is characterized by rugged, mountainous terrain with broad ridges and deeply incised drainages (Orr and Orr 2012). The Forest straddles the north-south trending Cascade Range, extending down to both the eastern and western foothills. This has created two distinct climatic zones. This project lies within the western extent.

The western zone is characterized by a higher degree of precipitation and generally cooler temperatures than the eastern zone. The westernslope of the Cascade Range within Mt Hood are characterized by a gradual transition from subalpine forests at higher elevations to western hemlock forests at lower elevations (Butchard and Keeler 1991).

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<sup>1</sup> [https://www.fs.usda.gov/nfs/11558/www/nepa/112557\\_FSPLT3\\_5326056.pdf](https://www.fs.usda.gov/nfs/11558/www/nepa/112557_FSPLT3_5326056.pdf)

## Horseshoe Project Area

This project boundary comprises of 46 harvest units within the Upper Sandy subwatershed with approximately X acres of treatments on the western flank of Mt Hood. Elevation in the project area ranges from 3000 feet to approximately 4,500 feet along the Cascade Range. The plant association for this project area is within the Pacific Silver Fir Zone. The over story is predominantly Douglas-fir, Pacific silver-fir, noble fir, and western hemlock. The understory consists of blue huckleberry, salal, and rhododendron.

The soils in the project area have formed in medium-textures glacial till. The till consists of silt to boulder sized material of mixed geological origin. Rock fragments are primarily andesite but some tuffs and breccia may also be present. Precipitation ranges from 85 inches to 115 inches annually.

The area of potential effect (APE) for the Horseshoe project area is within the 6,820 acres of the Upper Sandy River sub-watershed. The APE takes into account all project activities, including yarding systems, harvesting activities, landings, decking, vehicle staging areas, or other activities. The APE falls within the Bull Run Lake and Hickman Butte Quadrangles. The project's legal location (Willamette Meridian) is:

T2S, R8E, Sections; 8, 9, 10, 11, 15, 16, 17, 20, 21, 22, 27, 28, 29, 38, 39, 40, 44, 45, and 48.

## Mud Creek Project Area

This project area is encompasses 56 harvest units within the Salmon River subwatershed with approximately X acres of treatments on the southern foothills of Mt Hood. Elevation in the project area ranges from 2300 feet to approximately 4,600 feet along the Cascade Range. The plant association for this project area is within the Pacific Silver Fir Zone. The over story is predominantly Douglas-fir, Pacific silver-fir, noble fir, mountain hemlock, and western hemlock. The understory consists of blue huckleberry, bear grass, prince's pine, service berry, and rhododendron.

The soils in the project area have formed in unconsolidated, medium textured glacial till. Materials are of mixed geologic origin. Precipitation ranges from 70 inches to 130 inches annually.

The area of potential effect (APE) for the Mud Creek project area is located within the 9,222 acres of the Salmon River sub-watershed. The APE for the Mud project area is roughly located on the southwest flank of Veda Butte and Eureka Peak west of the Cascade crest and south of Mt Hood. The eastern and southern portion of the project is bounded by the Salmon River. The APE takes into account all project activities, including yarding systems, harvesting activities, landings, decking, vehicle staging areas, or other activities. The APE falls within the Government Camp and Wolf Peak Quadrangles. The project's legal location (Willamette Meridian) is:

T3S, R8E, Section 36

T3S, R9E, Section 25, 30, 31, 35

T4S, R8E, Section 1, 2, 3, 10, 11, 12, 13, 14, 15, 23, and 24

T4S, R9E, Section 1, 2, 6, 7, 11, 12, 13, 14, 18, and 23

## Culture and History

The abundant natural resources on the Mt Hood have been important to the cultural history of the area. Aikens (1986) maintains that human presence, and most likely, human use of resources in the Mt Hood area can be dated as far back as 14,000 to 10,000 years before the present (BP). Population density at this time would have been very low. Uplands were used for game hunting and roots and berries were gathered at appropriate times of the year. Seasonal salmon runs along the Columbia River and its tributaries became a major focus. Although fishing and hunting occur year round. Roots are normally dug from early spring through late summer. Fruit and berry are harvested summer and fall. Areas also provided additional sources of food and were of spiritual importance.

In the early 1800s the lifeways of the local tribes and bands drastically changed when the expansion of the west brought the arrival of Euro-American settlers. In the mid-1800s U.S. Government began to forcefully remove these tribes and bands to reservations in the Oregon coastal range as well as other inland areas.

At the turn of the century, sheep grazing was frequent on forest lands. Many of the huckleberry fields that were maintained by Native Americans to enhance their production also contained plants and shrubs that also supported sheep grazing. Shepherders continued vegetative manipulation to increase forage opportunities for their livestock.

## Pacific Crest Trail

The Pacific Crest National Scenic Trail was authorized by Congress in 1968 with the passage of the National Trails Act. An advisory committee was appointed to develop the route and a management plan. A route was finalized in 1972 and completed in 1993. The trail is managed and operated cooperatively by the U.S. Forest Service and other federal agencies and the Pacific Crest Trail Association, a nonprofit trail advocacy organization.

The 2,650 mile (4,265 km) trail traverses land from the border of Canada near Castle Peak, northern Washington, to the border of Mexico near Campo, California. The trail follows the crests of the Cascade and Sierra Nevada ranges through Washington, Oregon, and California and passes through seven national parks and dozens of wilderness areas and national forests.

## Methodology

### Survey Design

The heritage resource survey strategy on the Mount Hood National Forest is designed to locate and document historic and prehistoric resources on these federal lands. Varying levels of reconnaissance coverage are applied to different parts of the landscape based on the likelihood for locating these resources. The stratified inventory design developed for the Mt. Hood National Forest by Marvin (1983) and later modified by Burtchard and Keeler (1994) has been applied for the Zigzag Integrated Planning Project.

A reevaluation of the Mt. Hood inventory methods (Burtchard and Keeler 1994) determined that reconnaissance survey intensity should be dependent on slope, distance to water, and the presence of specific resources or physiographic landforms. The information gained from documenting these resources can be used to determine land use patterns and strategies. It has been demonstrated from past heritage resource surveys of plantations that additional surveys of these intensively-treated areas would not contribute significantly to our understanding of late historic period logging methods.

It has also been shown that the intensive treatment of these areas has likely obliterated any earlier historic artifacts or features. Just as Burtchard refined the reconnaissance survey strategy for cultural resources on the Mt. Hood, the strategy should be further refined as additional information is gathered. Continued surveys of most of the stands highly disturbed by logging or fire would not be useful from a cultural resource perspective.

However, the potential for noteworthy cultural remains within these stands does exist. Archival sources such as historic maps, ethnographic reports, aerial photographs, and site records may reveal the presence of significant archaeological resources. Ridges and saddles with slopes less than 20% offer a very high likelihood for cultural materials. Rock outcrops, talus slopes, and rubble fields were likely avoided during previous logging activities and continue to present outstanding opportunities for the presence of cultural remains. Elevated areas above or adjacent to streams, stream terraces, and alluvial banks also contain environmental features optimal for the presence of archaeological properties. However, stands situated on gently-rolling terrain with slopes between 3 and 20% and are situated a significant distance from water offer little opportunity for locating and documenting important cultural materials.

### Modified Survey Design

A modified survey strategy was employed for this project. Units situated on gently-rolling terrain with slopes between 3 and 20% and are not located near streams were not surveyed. All other high-probability areas were surveyed with pedestrian transects spaced 20 to 25 meters apart. Slopes over 20% are considered to have a low potential for the presence of cultural materials and were not surveyed. Areas identified as Limited Entry due to dense vegetation were not surveyed. The previously documented site within treatment areas was revisited. Areas where archival sources indicate a high likelihood for site potential were intensively

surveyed with transects spaced 10 to 15 meters apart. Temporary roads proposed for construction outside of treatment units were surveyed according to slope.

#### High Probability Model:

- Ridges and Saddles with slopes less than 20%
- Rock outcroppings, talus slopes and rubble fields within or adjacent to sapling plantations
- Steam terraces, alluvial banks, areas adjacent to streams, and the base of slopes within sapling plantations
- Areas where archival information reveals the potential for cultural resources
- Previously documented or known cultural resources
- Areas characterized as High Probability in previous inventories, but not surveyed because of limiting factors of visibility or access

#### Medium Probability areas include:

- All terrain with slopes less than 20% but further than 300

#### Low Probability areas include:

- All terrain with slopes greater than 20%
- Areas identified as Limited Entry due to dense vegetation
- Plantations situated on gently-rolling terrain with slopes between 3-20% that are not located adjacent to streams
- Areas previously surveyed twice to currently accepted Oregon SHPO standards
- Intensively-treated plantations occupying hillslopes of 3 to 20%

## Inventory Design

### Prefield Background Research

The District Site Atlas and Heritage files of the Zigzag Ranger Districts were reviewed for this project, along with the following historical maps and references:

Burtchard, Greg C. and Keeler, Robert W.

1994 Mt. Hood Cultural Resource Reevaluation Project. Laboratory of Archaeology and Anthropology, Portland State University.

French, Kathrine, Yvonne Hajda, and John L. Fagan

1995 An Ethnographic Study of the Mt. Hood National Forest, Oregon. Report No. 86, Archaeological Investigation Northwest, Inc., Gresham, Oregon

Howes, Steve

1979 Soil Resource Inventory of the Mt. Hood National Forest. U. S. Department of Agriculture, Forest Service, Pacific Northwest Region

General Land Office (GLO)

- 1873 T. 3S, R. 08E, Original Survey Plat
- 1883 T. 3S, R. 09E, Original Survey Plat
- 1902 T. 4S, R. 08E, Original Survey Plat
- 1939 T. 4S, R. 09E, Original Survey Plat

United States Forest Service (USFS)

- 1913 Oregon National Forest Map
- 1916 Oregon National Forest Map (1/2" to 1 mile)
- 1923 Mt. Hood National Forest
- 1927 Mt. Hood National Forest Map (1/2" to 1 mile)
- 1934 Oregon National Forest (1/2" to 1 mile)
- 1958 Mt. Hood National Forest Map (1/2" to 1 mile)

United States Geologic Survey (USGS)

- 1924 Mt. Hood, OR 1:125,000
- 1927 Mt. Hood, OR 1:125,000
- 1979 Bull Run Lake, OR 1:24,000
- 1996 Flag Point, OR 1:24,000
- 1962 S Hickman Butte, OR 1:24,000
- 1962 Mt Hood South, OR 1:24,000
- 1985 Wapinitia Pass, OR 1:24,000
- 1985 Wolf Peak, OR 1:24,000
- 1962 Government Camp, OR 1:24,000

Prior Survey within the project area:

<b>Report #</b>	<b>Title</b>	<b>Author</b>	<b>Results</b>	<b>Valid</b>
93-09-01	Sherar Burn Timber Sale	J. Jaqua	Positive	Yes
94-09-65	Sherar Burn T.S. Expansion	J. Jaqua	Positive	Yes
96-09-06	SalmonBerry Timber Sale	J. Jaqua	Negative	Yes
97-09-47	Salmonberry T.S. S Ridge	K. Martin	Positive	Yes

## Previously Documented Sites

These sites are within the project boundary but are not located within units or any ground disturbing areas.

<u>Site No.</u>	<u>Theme/Type</u>	<u>Name</u>
669EA059	FS Admin	Clear Fork Guard station
669EA076	Camp	Lost Creek mine cabin
669EA091	CMT	Bark peeled cedars
669EA038	FS Admin	Wolf camp butte
669EA055	Camp	Lower Sherar springs
669EA053	Camp	Eureka Saddle springs
669NA101	CMT	Mud Creek cedars
669EA072	Lithics	Lost Man Site
669EA064		Eureka Ridge corral

Site 669EA073 is a rock feature which was determined not to be eligible to the National Register of Historic Places (NRHP). The site is located within unit 120 in the Mud Creek Planning area. The site consists of 13 basalt boulders on the edge of a small butte. All the boulders are smaller than 30cm in circumference. They did not appear to be placed in a certain design or fashion, just placed in a pile. I was unable to relocate this rock formation during the current survey. The site was deemed ineligible at the time of documentation in 1997.

## Critical Analysis of Previous Surveys

93-09-01 Sherar Burn Timber Sale – the report covered the 935 acre timber sale due to an insect infestation. The purpose was to thin and salvage dead and dying timber. 124 acres had been previously surveyed with an additional 137 acres completed for the timber harvest. A pedestrian inventory was conducted with 20 meter transects by certified resource technicians. Site 669EA064 Eureka Ridge Corral was documented. The site contained a highly deteriorated sheep corral. Surface material consisted of split cedar posts, segment of wire, and spikes. The site was deteriorated with little evidence remaining. This survey meets the current standards established by SHPO under the 2004 Programmatic Agreement and is adequate for the current undertaking.

94-09-65 Sherar Burn Timber Sale Expansion – this report was to survey an additional two units to the 93-09-01 report. The planning area was 110 acres and 100% of the area was surveyed by a certified resource technician. A pedestrian inventory was conducted with 20 meter transects. This survey meets the current standards established by SHPO under the 2004 Programmatic Agreement and is adequate for the current undertaking.

96-09-06 Salmonberry Timber Sale – This report covers the selective timber harvest in the 182 acre planning area to create openings in the forest canopy in order to promote growth of huckleberry plants. 87 acres of the planning area were previously surveyed with the addition of 75 new surveyed acres. No new sites were documented. A pedestrian inventory was conducted

with 20 meter transects. This survey meets the current standards established by SHPO under the 2004 Programmatic Agreement and is adequate for the current undertaking.

97-09-47 Salmonberry Timber Sale South Ridge – This report covers the timber harvest on 186 acres of which 225 acres were surveyed. No new sites were documented. A pedestrian inventory was conducted with 20 meter transects. This survey meets the current standards established by SHPO under the 2004 Programmatic Agreement and is adequate for the current undertaking.

### Field Survey

Coverage: 1,021 acres

Visibility: 10 – 60% surface

10% Subsurface

### Field Personnel

### Experience

Deborah A. Ortiz

Archaeologist, West Zone, Mt Hood National Forest

M.A. Anthropology (NMSU)

10 years' experience planning and conducting archaeological surveys; 3 months excavation experience

Trent M. Skinner

Heritage Program Manager, Mount Hood National Forest

M.A. Anthropology (UNLV)

5 years' experience planning and conducting archaeological survey; 5 months excavation experience

Bobby Saunters

Archaeologist, East Zone, Mount Hood National Forest

B.S. Anthropology (PSU)

2.5 years' experience planning and conducting archaeological survey; 4 months excavation experience

Mathew Mawhirter Archaeologist

### Survey Results

A total of 1,021 acres of the APE modeled as High Probability were surveyed. Survey transects were no more than 20 meters apart. Survey transects generally followed the contours of the terrain. 376 acres were previously surveyed to current SHPO standards, 79 acres were resurveyed under this project. No newly documented sites were located. Many survey areas showed signs of previous logging activity.

The rock feature site 669EA073 could not be relocated during the survey for this project. A segment of the Pacific Crest Trail (PCT) ran through the northeast section of unit 96. The PDC's

that are in place for this project will protect the trail with a 100-foot no-harvest protection buffer that will be maintained as a vegetative screen for this trail system.

### Cumulative Effects

For heritage resources, any effects are limited to site-specific locations. Any cumulative effects would also be limited to heritage resources situated within proposed areas of ground disturbance. There are no foreseeable projects inside proposed treatment areas to include in a cumulative effects analysis. Because this project would have no effect on heritage resources eligible for the NRHP, there would be no cumulative effects to heritage resources as a result of implementing any of the Proposed Actions.

### Effects Determination

The only heritage resources within the proposed project area is a rock feature (669EA073). This site was previously deemed to be ineligible for inclusion on the National Register of Historic Places (NRHP). The site was not able to be relocated for this survey. No protective measures are required or recommended for ineligible sites. Although the new ground disturbance would occur, no known cultural resources would be impacted by this project. In compliance with Section 106 of the National Historic Preservation Act, the agency has conducted an assessment of adverse effects (36CFR 800.5) and determined that the proposed project meets the criteria for a "No Historic Properties Affected" determination and is subject to stipulation III.B.2 of the 2004 Cultural Resource Programmatic Agreement.

### Forest Plan Standards and Guidelines

The Mount Hood National Forest Land and Resource Plan (LRMP), historic preservation laws and regulations were used for this project and applicable standards were met. The primary goal of the Cultural Resource program is to preserve significant cultural resources for scientific study, public use, and enjoyment.

### FW-609 & FW-610

*All proposed projects which could affect a cultural resource shall be assessed for their effect on National Register, eligible, or unevaluated properties. Assessments shall use the criteria of "effect and adverse effect" (36CFR 800.9). Projects that include all Federally funded undertakings, and undertakings requiring federal permits (36 CFR 800.9 (a)(b)).*

### Other Guidance

Environmental Effects Direction for surveying for, protecting, documenting effects and consulting on heritage resources comes from various laws, regulations and policy.

The most important of which are:

The National Historic Preservation Act (NHPA) of 1966, as amended. This Act requires Federal agencies to consult with American Indian Tribes, state and local groups before nonrenewable cultural resources, such as archaeological and historic structures, are damaged or destroyed. Section 106 of this act requires federal agencies to review the effects project proposals may have on the cultural resources in the analysis area.

### 36 CFR Part 800 – Protection of Historic Properties

800.1 Purposes. (a) Purposes of the section 106 process. Section 106 of the National

Historic Preservation Act requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Council a reasonable opportunity to comment on such undertakings. The procedures in this part define how Federal agencies meet these statutory responsibilities. The section 106 process seeks to accommodate historic preservation through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.

800.5 Assessment of Adverse Effects. (1) Criteria of adverse effect. An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

When applying the criteria of effect and adverse effect, there are three possible findings:

- No Effect - There is no effect of any kind, neither harmful nor beneficial, on the historic property.
- No Adverse Effect - There could be an effect, but the effect would not be harmful to those characteristics that qualify the property for inclusion in the National Register.
- Adverse Effect - There could be an effect, and that effect could harm characteristics that qualify the property for inclusion in the National Register.

If any archaeological properties are discovered as a result of project implementation, all activities in the vicinity of the property would cease until a qualified archaeologist can inspect and document the discovery and determine an appropriate course of action. If the resource cannot be avoided, the resource shall be evaluated for NRHP eligibility and the appropriate mitigation measures would be determined in consultation with the Oregon State Historic

Preservation Office (SHPO). Following the design guidelines, the project may proceed with a determination of no historic properties affected.

*/S/ Debbie Ortiz*

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