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## CULTURAL RESOURCES

### Introduction

Cultural resources (also known as heritage resources) include structures, sites, roads, trails, areas, and objects of scientific, historic or social value. They are irreplaceable, nonrenewable features documenting the past human use of our nation. Within the National Forests, these sites document the prehistoric and historic lifeways of the American Indian, the routes and actions of the early explorers, trappers, and settlers, the industrial activities of logging, mining, and stock grazing, community resource use, the history of forest recreation, and National Forest administration. The proposed action or its alternatives has the potential to damage the significant data, features, historic qualities, and natural settings of these sites unless adequate protections or mitigations are undertaken.

### Regulatory Framework

The National Historic Preservation Act (NHPA) of 1966 (amended in 1976, 1980, and 1992) is the primary legislation governing modern heritage resource management on the National Forests, as well as on activities of all other federal agencies. Section 106 of the Act states, “The head of any Federal agency having direct or indirect jurisdiction over a proposed federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take in to account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. The head of such Federal agency shall afford the advisory Council on Historic Preservation established under Title II of this Act a reasonable opportunity to comment with regard to such undertaking.” Section 110 of the act states, “The heads of all Federal agencies shall assume responsibility of the preservation of historic properties which are owned or controlled by such agency.” And that “Each Federal agency shall establish...a preservation program for the identification, evaluation and nomination to the National Register of Historic Places, and protection of historic properties.” It also states that actions will be carried out “in consultation with other Federal, State, and local agencies, Indian tribes, native Hawaiian organizations carrying out historic preservation planning activities and with the private sector.” All other heritage resource management laws and regulations support, clarify, or expand on the National Historic Preservation Act.

Federal Regulations 36 CFR 800 (Protection of Historic Properties), 36CFR 63 (Determination of Eligibility to the National Register of Historic Places), 36 CFR 296 (Protection of Archaeological Resources), and Forest Service Manual 2360 (FSM2360) provide the basis of specific Forest Service heritage resource management practices. These laws and regulations guide the Forest Service in identifying, evaluating, and protecting heritage resources on National Forest System lands. Federal agencies are also mandated to manage heritage resources under the guidelines of and in cooperation with the State Historic Preservation Offices (SHPO), and the Advisory Council on Historic Preservation (ACHP).

The National Environmental Policy Act of 1969 (NEPA) mandates that federal agencies consider the effects of activities on the natural and cultural landscapes. In NEPA, Agencies are directed to perform project planning such that the Nation will “preserve important historic, cultural, and natural aspects of our national heritage, and maintain wherever possible, an environment which supports diversity and variety of individual choice;” (Section 101(b) (4) of National Environmental Policy Act of 1969).

The National Park Service of the Interior Department is the lead agency in historic preservation matters. The Secretary of Interior’s Standards and Guidelines for Archaeology and Historic Preservation are an important element of management of cultural resources on all public lands. Under these guidelines, the Forest Service is required to consider the effects of agency actions on heritage resources that are determined eligible for the National Register of Historic Places (NRHP) or on heritage resources not yet evaluated for eligibility.

Several other laws address various aspects of heritage resource management on the National Forests, including the National Forest Management Act of 1976 (NFMA), the Antiquities Act of 1906, the Historic Sites Act of 1935, and the Archaeological Resource Protection Act of 1979, as amended in 1988 (ARPA). In addition, several laws describe the role of Tribes in the federal decision-making process, including heritage management. ARPA requires Tribal notification and consultation regarding permitted removal of artifacts from federal lands. The Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) recognizes Tribal control of human remains and certain cultural objects on public lands and requires consultation prior to their removal. The American Indian Religious Freedom Act of 1978 (AIRFA)

requires federal agencies to consider the impact of their actions on traditional Tribal cultural sites. The National Historic Preservation Act (NHPA) also specifically calls for Tribal participation in the NHPA Section 106 consultation process.

Cultural resource management on the Fremont-Winema National Forests is also guided by agreements made between Region 6 of the Forest Service, and the Oregon State Historic Preservation Office (SHPO). Section 110 of NHPA outlines the requirements for consultation and agreements with other State local and Federal agencies. In 1994, a new agreement with the Oregon SHPO was signed, implementing requirements covering public and tribal participation, project review, and Forest heritage preservation programs. The Oregon SHPO provides the guidelines for adequate survey and reporting standards. Other agreements with the Oregon SHPO cover the management of specific site types such as lithic scatters, railroad grades, historic mining ditches, culturally modified trees, and depression-era Forest Service administrative buildings.

The Fremont Forest Plan tiers to the laws discussed above. Forest-wide Standards for Cultural Resource Management include:

### General

1. Significant cultural resources will be managed using a combination of Inventory, Evaluation, Protection, and Enhancement Activities.

### Inventory

1. A cultural Resource Inventory will be conducted on all Forest lands, in addition to specific ground-disturbing areas, prior to the commencement of the project. These inventories will follow the guidelines set forth in the Forest Inventory Plan and will be supervised by a professional archaeologist.

### Protection

1. Known cultural resources will be protected from adverse effects until they have been evaluated to determine whether they are eligible for inclusion in the National Register of Historic Places.
2. Ground-disturbing activities will be designed to ensure that there should be no effect on inventoried cultural properties that have been determined eligible to the National Register of Historic Places (36CFR60.4). When protection is not possible, treatment of the site will be conducted in order to negate or mitigate adverse effects.
3. Results of project-level cultural resource inventories, evaluations and mitigations will be documented in project environmental assessments.

### Native American Religious Freedom Act

1. The Klamath Tribal Executive Council will be requested to identify tribal issues for proposed projects on former reservation land.
2. ... sites within former reservation lands on the Bly and Silver Lake Ranger Districts that provide members of the Klamath Tribe opportunities to practice their native religion will be protected as they are identified. This will be done in the spirit of good land stewardship and in consultation with the tribe.
3. Proposed activities will be analyzed for effects on traditional food-gathering sites.  
(Fremont National Forest 1989)

The Klamath Tribes (Klamath, Modoc, and Yahooskin Band of the Paiutes) consider this area to be part of their homeland territory (Spier 1930, Ray 1942). Spier 1930, Coville 1897, Barnett 1910, Stern 1966 and Gatschet 1890 provide ethnographic information of the culture of the Klamath Tribes. Ray 1938, Wheeler-Voegelin 1955 provide some information of the Yahooskin Band of the Northern Paiute. The Klamath and Paiute followed the seasonal abundances of wild plants and animals. The Klamath had larger village sites near stable food sources such as Klamath Lake, Klamath Marsh, and the Williamson, Sprague, and Klamath Rivers. They would venture out to collect from adjacent areas on collection trips from the main village (Spier 1930, Coville 1897). The Yahooskin Paiute are thought to have ranged much

farther on seasonal food collection rounds, but maintained village sites at Silver Lake, Summer Lake and adjacent areas. The Toolbox Project area lies within lands that these tribes relinquished under an 1864 Treaty. Disagreement between the Tribes, the US Government and the local non-tribal populous resulted in several reservation boundary surveys and lawsuits. In the early 1900s, the cases were decided, and the reservation boundary finalized. In 1954, Congress proclaimed the Klamath Tribes as no longer a separate entity from the rest of the American population, and terminated the tribal status. A settlement of money was offered to the tribal members, and the reservation was no longer considered the property of the Tribes. In 1961, these lands were divided between the newly created Winema National Forest, the Fremont National Forest, the Klamath Wildlife Refuge, and portions sold to private corporations. This action transferred 14,232 acres of land from the former reservation to the Silver Lake Ranger District, two thousand of which are within the project area. The Klamath Tribes were restored to formal tribal status by Congress in 1986.

The Klamath Tribes are included in the scoping process concerning all projects within the Fremont-Winema National Forests. Informal and formal consultation is undertaken with the Culture and Heritage Office of the Klamath Tribes. Upcoming projects and potential conflicts between projects and cultural resources are presented to the Office Director. At this time, site avoidance methods and proposed site protection mitigations are discussed. Concerns and ideas from the Culture and Heritage Office are considered and addressed in project planning. Guidelines for Tribal consultation and cultural resource management are outlined in Memorandum of Agreement Between the Klamath Tribes and the Forest Service, signed by the Regional Forester and the Klamath Tribal Chairman in 1999.

The Klamath Tribes were notified of the Toolbox Fire Recovery Project in the Fall 2002 and Spring 2003 SOPA (Schedule of Proposed Action) meetings at the Chiloquin Ranger Station, Chiloquin, Oregon. In June, 2003, prior to the release of the DEIS, the Fremont-Winema North Zone Archaeologist will present information regarding the 2002 fire and proposed rehabilitation projects to the Tribal Cultural Resource Officials. The Klamath Tribes will also be afforded the opportunity to comment on the DEIS prior to release to the general public. Additional meetings may be set up with the Tribal Chairman, Tribal Council, or other departments, based on their wishes following their initial review. Concerns of the Tribe will be taken into account during the refinement of the alternatives and proposed activity units following this internal review.

Yamsay Mountain is located nine miles west of the project area. The summit of Yamsay Mountain, including the surrounding slopes and Jackson Creek, have been designated a Traditional Cultural Property (TCP) for the Klamath Indians. "Yamsay Mountain and its environs are regarded by contemporary members of the Klamath Tribes (Klamath, Modoc, Yahooskin Paiutes) as a place of extraordinary spiritual significance essential to maintaining their cultural history and traditions." (Eligibility Notification, Keeper of the National Register of Historic Places, 12/23/1998). The western edge of the project area is located 9 miles east of the summit of Yamsay Mountain, and eight miles east of Buck Ridge, the eastern boundary of the Yamsay Mountain TCP. It is unlikely that the implementation of the project will cause auditory or visual disturbances at the summit of Yamsay Mountain that are beyond the impacts caused by the fire itself. To date, there are no other known religious sites requiring protection under AIRFA that will be temporarily or permanently impacted by the project.

### **Analysis Area**

The area analyzed for heritage resources for the Toolbox Fire Recovery Project EIS includes all National Forest System lands that may be affected by project activities associated with any of the alternatives under consideration, as well as any private lands that may be directly or indirectly impacted by project implementation, (such as constructed roads on private lands to access Federal lands). The geographic area (inclusive of National Forest System Lands only) embraces approximately 48,000 acres. Treatment units are located on National Forest System lands within the Silver Fire, the Toolbox Fire, and portions of the Winter Fire, all on the Fremont-Winema National Forests. The area of potential effect (APE) includes all areas where direct impacts will occur, such as those resulting from timber harvest, slash burning, temporary road construction, or erosion due to vegetative cover lost in the fires of 2002. It also includes areas where project activities may have an indirect (visual, auditory, or atmospheric) effect on cultural resources or their setting (e.g., timber harvest within the viewshed of the Yamsay Mountain Traditional Cultural Property). This APE was established because, even where direct effects to heritage sites are avoided, indirect effects can adversely impact cultural resources.

### **Analysis Methods**

When a project is proposed on the Fremont-Winema National Forests, heritage program specialists participate in its planning and in the analysis of potential project effects. This participation consists of: 1) review of historical materials,

archival documents, and overviews relevant to the project area; 2) analysis of the nature of the project and its potential to affect cultural resources; 3) review of public concerns regarding the project and its potential effect; and 4) consultation with interested Tribes, heritage interest groups, and the Oregon State Historic Preservation Office. In the process, the heritage specialist determines the project's APE based on the geographic area in which a project may alter the character or use of any existing historic properties.

Based on this information, heritage specialists determine whether existing cultural resource data is adequate to complete the environmental analysis and disclose potential effects on cultural resources. If the information is insufficient, additional research and/or inventory will be undertaken. Where additional inventory is needed, heritage personnel design a survey strategy to locate all historic properties within the area of potential effect. This strategy is designed in accordance with the criteria defined in Fremont National Forest, A Cultural Resource Inventory Plan, (Kaiser, 1984). If a survey discovers previously unknown cultural resources, those resources are recorded and their National Register eligibility status determined in consultation with the Oregon State Historic Preservation Office (Oregon SHPO). Both background research and fieldwork are documented in a report submitted to the Oregon SHPO. The heritage program manager consults with Oregon SHPO to determine the nature of the project's effects on significant properties. If needed, the heritage program manager and Oregon SHPO work together to determine appropriate project redesign, restrictions, designation of sensitive areas, or mitigation measures. The heritage program manager coordinates recommendations, actions, and monitoring with the project leader, Oregon SHPO, and interested Tribal preservation officials.

A project is determined to affect an historic property when project activities alter the characteristics that qualify the property for inclusion in the National Register of Historic Places (NRHP) (see 36CFR800.9). Alteration to features of the property's location, setting, or use may be relevant, depending on the property's significant characteristics. An adverse effect results when the project may diminish the integrity of an historic property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects include (but are not limited to): physical destruction, damage, or alteration of all or part of the property; isolation of the property from its setting; alteration of the setting's character when that character contributes to the property's National Register eligibility; introduction of visual, audible, or atmospheric elements out of character with the property or its setting; and neglect of a property resulting in its deterioration or destruction, (National Park Service, 1995).

The Forest Service Heritage Resource Program is responsible for managing cultural resources to prevent loss or damage before they can be evaluated for scientific study, interpretive efforts, or other appropriate uses. This requires projects to be implemented in a manner that avoids adverse effects on historic properties. Where a proposed project would result in impacts to historic properties, project design should anticipate that treatment of the property would conform to sound preservation practice and be consistent with all applicable preservation standards. Project design should ensure that the essential form and integrity of historic properties is not impaired. If the potential for adverse effects cannot be avoided, appropriate mitigation treatments are determined in accordance with 36 CFR 800.5. As an example, mitigation of impacts for timber harvest may include establishment of buffer zones, directional falling, alteration of harvest unit boundaries, changes in road locations, location of skid trails away from historic properties, limiting the harvest methods in certain areas, seasonal limitations, and restrictions on slash disposal or tree planting activities. Where a project has the potential to impact a property of Tribal concern, the Forest Service will consult with Tribal representatives to develop appropriate mitigation measures.

Where cultural resources or human remains are encountered during project implementation, the Forest has the authority to modify or halt project activities. The standard heritage resource protection provision, C(T)6.24, would be included in all timber sale contracts. Other contracts will have appropriate cultural resource protection provisions. These provisions require contractors and Forest Service representatives work together to protect historic properties. Failure of the contractor to identify historic properties encountered during project activities may constitute a breach of contract. The provision specifically requires the contractor to notify the Forest of such discoveries.

In evaluating alternatives, the heritage specialist provides the project leader with information on all of the historic properties within the area of potential effect, their location, character, the nature of potential effects, and the mitigation possibilities for those effects.

Nearly one half of the proposed project area is considered as high-probability for cultural resource occurrence as per the Fremont National Forest Cultural Resource Inventory Plan. This was due to the relatively gentle slope of much of the area, and numerous water sources, meadows, scab-rock flats, and occurrence of natural obsidian sources in portions of the

project area. A total of 75@@ sites had been previously recorded within the boundaries of the Toolbox Project Area boundary. Extensive surveys were undertaken in late September through mid December of 2002 of over 11,000 acres of land within the fire perimeter. Surveys concentrated on stands identified for treatment at that time, which were identified in the project scoping letter of January, 2003. An additional 150 @@@sites were recorded in these three months of survey.

December snows halted survey of the proposed salvage units. Nearly 2,000 acres of units will be surveyed in the Spring/Summer of 2003. Also, prescribed burn locations, aspen planting locations, road decommissioning, planting and fuels treatment outside previously selected stands were not identified prior to the onset of December snows. An additional 2,000 acres are anticipated to be in need of inventory in these areas. Attempts will be made to locate several historic features as yet unrecorded. These include the Yreka Trail (1861-1865) from Yreka, California to Canyon City, Oregon), the locale of Fremont's 1843 discovery of Winter Ridge and Summer Lake, and his trail, and several historic roads of local historical importance where they may be in jeopardy from this project's ground disturbing activities. Areas not already surveyed within the high-probability category for site occurrence, (as described in the Forest's Cultural Resource Inventory Plan) will be surveyed in the spring and summer of 2003, prior to project implementation. All previously located significant cultural resources and significant sites located in the 2002 and 2003 surveys will be protected through avoidance or other project design methods.

### **Existing Condition**

The Fremont-Winema National Forests has conducted cultural resource inventories of Forest lands since 1978. The project area is stratified into areas of greater or lesser likelihood for the existence of historic or prehistoric activity areas and associated artifacts or sites. These probability zones are stratified based on topography, occurrence of basic resources such as water, food, or locations of raw materials, areas of activity known from histories, maps, records, or oral traditions, areas of known or suspected travel routes, and areas with known or suspected spiritual significance. This strategy was developed on the Fremont National Forest and approved by the Oregon State Historic Preservation Office (Kaiser, 1984). The landscape is broken into areas of High, Moderate and Low probability for cultural resources. Nearly 60% of the Silver Fire and 40% of the Toolbox Fire were in High Probability areas.

Historic properties found in the Silver Lake area reflect the wide variety of human activity occurring here over the past 13,000 years. Prehistoric period properties include seasonal occupation sites (i.e., camps associated with hunting or plant gathering), tool stone quarries, small single event lithic reduction sites, game kill and butcher sites, and spiritual sites. Properties related to the Historic Period include those associated with homesteading, irrigation or other agricultural development, logging, transportation, recreation, and Forest Service administrative history.

The history of human occupation in the Great Basin of South-Central Oregon has been traditionally broken down into six major periods: (1) The Paleo-Indian Period from 13,000 (or earlier) to about 8,000 years ago, (2) Early Archaic Period from 8,000 to 6,000 years ago, (3) Middle Archaic from 6,000 to 2,000 years ago, (4) Late Archaic from 2,000 to 200 years ago, (5) Proto-Historic from 250 to 150 years ago and (6) the Historic Period covering the last 150 to 200 years. The first five periods concern the history of the Native American (American Indian) people. The Paleo-Indian period occurs in the late Pleistocene and early Holocene at the end of the last ice age. It includes the earliest settlement in the Americas by a people that hunted mega-fauna (giant bison, mammoth, ground sloth), horse, camel. In the Great Basin, these people were adapted to a lake-side life style, around the massive lakes of the late glacial and early post-glacial period. The prehistoric Fort Rock Lake reached its highest lake level 17,500 years ago, and was about three quarters full 13,000 years ago, (Freidel, 1994). Large thrusting spears typify the Paleo-Indian hunting toolkit, although atl-atl darts were also used. Occupation at Fort Rock Cave (aka. Cow Cave) date to 13,200 years ago (Bedwell 1973). This is one of the earliest dated occupation sites in the Western Hemisphere. At the end of the Pleistocene, the mega-fauna, the horse, and camel became extinct in the Americas forcing change of the people who hunted on them.

The Archaic periods cover the post-Pleistocene (post-glacial or Holocene) period in which we now live. The Archaic traditions were centered on hunting, fishing, shellfish gathering, plant gathering, and other collection of food and goods from the "natural" world. Later post-archaic traditions are based on plant and animal domestication, farming, irrigation, and related activities. The grand societies of the Andes, Central America, the Mississippi Basin, and the Southwest were dependent on these farming activities. The cultures in the arid and seasonally cold Great Basin and resource rich Pacific Coast and Colombia Basin, never depended, in any great sense, on domesticated animals and plants or a farming lifestyle. The Archaic is split into the Early, Middle and Late periods. The Early Archaic is an adaptation to an arid landscape following the drying of the Great Basin lakes. The extinctions of favored prey forced the people to adapt to hunting smaller

game. Spears or javelins thrown with an atlatl, (spear thrower) are the typical hunting tool of the Early and Middle Archaic. The dependence on plant foods increased during the Early Archaic, as does the increased use of small game such as jack rabbit, fish, and smaller herd animals. The Middle Archaic was a time of fluctuating water regimes. It starts in the driest period or Altithermal, drier than today's average. In Central Oregon, Altithermal aridity was aggravated by the pumice ash deposits from the Mount Mazama collapse of 6,800 years ago. The later part of this period was wetter than today, and the Great Basin was a more lush habitat, with a reappearance of standing water in the Fort Rock Valley, to a depth of at least 11 feet. Fishing became much more prominent, and there are the beginnings of sedentary life styles at some areas. The Late Archaic covers the last 2,000 years, and is earmarked with the development and dissemination of bow and arrow technology. Arrow points typify the hunting tools of this period, and plant foods dependence reached its zenith. In this period, regional variations in culture are more pronounced, and the ancestral roots of ethnographic tribes can be seen.

The Proto-Historic period concerns the Native American cultures as their life-ways, and material culture was influenced by trade, exchange of ideas, acquisition of the horse, and disease epidemics that pre-dated Euro-American arrival. During this time, many tribes across the west abandoned sedentary lifestyles to realize the potential of the horse in hunting bison. Horses became an important item of trade as well. The diseases that swept through the west drastically reduced numbers in the heavily populated areas. By the time Lewis and Clark had reached the Northwest (1805), many of the villages had been ravaged by disease. The Proto-Historic period ended at different times for the various tribes in the Great Basin, but generally, in this area, the date those tribes were removed to reservations (1865) can be seen as the end of this period. The historic period includes the exploits of the early trappers, explorers, and hunters of the early 1800s, early settlement by Euro-Americans and other foreigners, activities of Native Americans on reservations, industrial resource extraction (logging, mining, stock), National Forest Administration, to the activities of the present.

The Toolbox Project lies within a part of the Yahooskin Paiute and Klamath traditional use area. The Yahooskin Paiutes occupied and used areas around Silver, Summer, Goose, and Abert Lakes, the Chewaucan River Valley, and the uplands tributary to these lakes (Stewart, 1939). Some archaeological evidence indicates that people with Klamath cultural traits occupied Lake Abert, Silver Lake and the Chewaucan River area in the Middle Archaic Period (Oetting 1989, Wingard 2001). The Klamath and Yahooskin Band of Paiute relinquished most the project area under an 1864 Treaty, which created the Klamath Indian Reservation. A small portion of the Toolbox Project was a part of this reservation until 1961.

The exploits of the Hudson Bay Company trappers, and the American trappers and explorers are the first historic period activities in the Silver Lake area. Lewis and Clark passed far to the north of this area in their 1804-06 exploration. It was not until Peter Skeen Ogden passed through the Malheur River area in 1825-26, and Klamath area in 1826-27 that exploration of Eastern and South Central Oregon was well documented. He followed the Crooked River and Malheur Rivers into the Malheur-Harney Lake basin. In 1826, He and his troop crossed from Malheur Lake to the Deschutes River near Newberry Crater. They then followed the Deschutes and Little Deschutes Rivers, south, following an earlier reconnaissance route of the McDonald-McKay group of 1825. Ogden crossed into the Klamath River Drainage near Chemult, Oregon and continued south along the Klamath Marsh, Klamath Lake, and Klamath River into California, then back into southwestern Oregon in the Rogue River area. Later, they headed east, followed up the east side of Goose Lake, crossed the Warner Mountains, and headed northeast to the Snake River. They did not venture into the Silver Lake country on either expedition (Ogden 1926-27). Several other explorers passed through portions of Klamath and Lake Counties, but not through the Silver Lake District area (Reading 1843, Nielsen, Newman, McCart 1985).

John C. Fremont explored Central Oregon, and crossed into the Silver Lake R.D. near Sycan Marsh in December of 1843. He was in search of the mythic Buena Ventura River that was supposed to drain the interior west into the Pacific Ocean. A Klamath Indian pointed him and his group to the east-northeast from the Williamson River, toward "the land of no snows." Trudging through three feet of snow, the group arrived at Fremont Point from which Fremont could see a snow free lake from the frozen, snowy summit. He named the two features Summer Lake and Winter Ridge, (Fremont 1845, Smucker 1856). They passed down the face of the ridge and camped at the edge of Summer Lake. Fremont's route across the Silver Lake Ranger District lies south of the area burned in 2002. From Fremont Point, the troop headed north along the rim of Winter Ridge several miles, before traversing down the steep slope to Summer Lake. This segment of their route is in the Toolbox Project Area. The steep portion down to Summer Lake was burned over in the 2002 fires, but is not a part of this EIS.

In 1861-1862, gold strikes in the John Day country excited the miners in Yreka, California to head north. Their trail crossed north-south through the east side of the Silver Lake Ranger District. The route was reported to have had very little

improvement, with very few rocks moved out of the path, (Nielsen, Newman, McCart 1985). The actual on-the-ground location of the wagon road is not now known, but will be searched for in 2003 and protected where found. Trails were developed in the 1870s to 1890s from ranches on Summer Lake to rangelands in the heart of Silver Lake Ranger District. In addition, the Winter Rim trail was built in the late 1890s. Parts of these trails can be seen with trail blazes still existing. More formal forest roads had to wait the creation and management of the National Forests. The Forest Wagon Road connected Lakeview to Silver Lake, and approximately follows Road 28 through much of the District (Bach 1979). A road from Silver Lake to Foster Flat Ranger Station also passes through the project area as do a few minor roads near Duncan Creek, West Fork Silver Creek and Hagar Mountain.

Concerns about watershed protection, prevention and containment of wildfire, and long term lumber availability lead to the creation of Forest Reserves in the 1890s and early 1900s. The Fremont Forest Reserve was created in 1906 from public lands that now include the north half of the Fremont National Forest, (including the lands within the Toolbox Project area), the Deschutes National Forest east of the Deschutes River, and the Winema National Forest north of the Klamath Indian Reservation. The Goose Lake Forest Reserve was created the same year and covered the south half of the modern Fremont National Forest. The two forests covered 1, 865,750 acres, (Pinchot, 1907).

In 1907, all Forest Reserves were renamed as National Forests. In 1908 the Fremont and Goose Lake Forests were combined under the Fremont name, and the northwestern portion was transferred to the Deschutes and Umpqua National Forests, (Bach, 1979). In 1911, the Paulina National Forest was created out of portions of the Deschutes, Fremont, Crater, and Umpqua National Forests, including some of the project area, with its headquarters at Crescent, Oregon. The Paulina National Forest did not last long. By 1912, a portion of the new forest had been returned to the Fremont National Forest, including the project area. By 1914, the Paulina National Forest existed only in name, with portions administered by the Crater, Deschutes and Fremont National Forests. In 1915, the forest was formally eliminated, and split between the other three, (Bach 1979, Baker 1949). In 1961, the Winema National Forest was created out of portions of the Fremont, Deschutes, Rouge River (originally called Crater), and portions of the former Klamath Indian Reservation. In addition, lands from the reservation were added to the Fremont National Forest, including some of the project area.

The Forest Service quickly began improvements on the Fremont National Forest. Trails, phone lines, roads, bridges, and guard stations were built to improve access, and fire fighting effectiveness. In addition, some timber was sold prior to 1910, but not in great quantity. Within the project area, a ranger station was planned at Silver Creek Marsh by 1907, and was later the site and a CCC camp, and now a campground. At Foster Flat, an additional ranger station was built in 1909. Lookout sites in the project area included Dead Indian Mountain (1934), Fremont Point (1930), Deerhead (1932), and Foster Butte (1934), (Kressek, 1985). All but Fremont Point lookout had been abandoned, and removed prior to the fire. The Fremont cabin (used as a recreation rental) was burned by the fire, as was all the wood stair treads, and floor of the metal tower. In 1933 the Civilian Conservation Corps (CCC) occupied Silver Creek Marsh Campground area as a tent city. In 1935, buildings were constructed after a year of no use. In 1936, the Grazing Service occupied the camp with a CCC crew. It was not reoccupied after that. The CCCs brought about many improvements such as guard stations, office buildings, lookouts, roads, bridges, phone lines, in addition to fighting forest fires and forest diseases.

Raising stock was, and still is, a significant economic activity in the Silver Lake area. Prior to the creation of the Fremont National Forest in 1906, cattlemen and sheep herders ran stock over the public domain with no concerns for paying for use or ensuing damage by overgrazing. In the late 1800s and early 1900s, conflicts between sheep and cattle owners resulted in range wars. In the Silver Lake area, nearly 5,000 sheep were killed by cattlemen, and one local merchant was killed for giving out information of the activity. Following the creation of the Fremont National Forest, the range wars died out. Early efforts of the Forest Service range program limited the number of sheep on the range (Bach, 1979). In the 1920s, local farming benefited from the creation of Thompson Reservoir. This reservoir helped in timing the release of Silver Creek water downstream, so that more was available during the drier growing season. The water diversions from Silver Creek were located outside of the National Forest. Logging was not undertaken on a large scale in the project area until the 1940s.

Markets were far from Silver Lake, and until the 1930s, timber access roads and rail systems were not well developed. "The present annual cut on the Fremont is undoubtedly less than it should be. The cause for this is as follows. 1. Lack of market for timber products. 2. Rough Country makes logging very expensive. 3. Our present stand is very thin and scattered... 3. The timber is of a very poor grade." (Fremont NF 1910). No large sawmills were built in the Silver Lake area, although two mills were located northwest of Silver Lake. The Embury Mill operated from about 1910 to late 1920s and was located near Bald Mountain. The Auger Valley Mill operated on private land in Auger Valley, just outside the fire

perimeter, from about 1910s to mid-1930s, (Fremont NF, 1910). The Williams Mill was located at the north end of Oatman Flat and operated from the mid 1930s to the late 1950s. A logging railroad was constructed into the southwest corner of the project area in the early 1950s. This was a truck to rail system where the logs were moved to the railhead (reload stations) by truck, then hauled to the mill in Bly, Oregon by railroad. Most of these grades are now automobile roads. The only railroad grades in the project area are near Indian Creek and Strawberry Creek.

### **Toolbox Geographic Area**

The Toolbox Fire area includes portions of Duncan Creek, East Fork Duncan Creek, Willow Creek, Graham Creek, Benny Creek, Hawk Creek, McCall Creek, Welker Creek, as well as Foster Lake, Foster Flat Meadow, La Brie Lake, New England Flat, Buckaroo Lake, and The Frog Ponds, all likely areas for site locations. The fire area stretches from the toe of Hager Mountain, east to the rim of Winter Ridge. The south central portion of the fire is dominated by Foster Butte and Deer Head Butte. The north end and southwest corner are dominated by open scab flats crossed by incised creek beds and timber stringers. Dead Indian Mountain and the rim of Winter Ridge are prominent features on the east edge of the project area. Meadows, aspen groves, and rocky treeless openings are scattered throughout the project area. These rocky openings are often associated with root crops favored by Native American tribes of the Great Basin. In addition, a source of obsidian is located near the fire area at the lower slopes of Hager Mountain. Graham, Benny, Hawk, and Welker flow into Silver Creek, which empties into Paulina Marsh near the town of Silver Lake, and eventually drains into Silver Lake. McCall, Duncan, East Fork of Duncan, and Willow Creek flow directly into Silver Lake. Large village sites have been recorded on the shores of Silver Lake and Paulina Marsh. The fire burned the upland areas above these village sites. This fire area is considered, overall, to have a moderate probability for the occurrence of cultural resource sites, though some areas have very low probability, and some very high probability based on local conditions.

Previous surveys within the Toolbox fire have recorded 48 cultural sites within or near proposed activity areas. As of June 1, 2003, cultural resource inventories have covered 70 percent of the high probability areas within proposed harvest units, fuel reduction units, and other proposed activity areas. Adequate moderate and low probability areas had been covered under previous surveys, though some moderate and low areas were incidentally covered while surveying areas of higher likelihood. These new surveys have documented an additional 16 sites and expanded several previously recorded sites within or near proposed activity areas. The majority of these sites are lithic scatters associated with camps, quarries, travel routes, and single activity events, though some are historic sites. Sites were associated with water sources, meadows, rocky timber openings, rock outcrops, and potential travel routes. Significant sites will be deleted from the units, and adequate measures taken to ensure they are not inadvertently damaged.

### **Silver Creek Geographic Area**

The Silver Fire area includes the middle portions of the North Fork, Middle Fork, and South Fork, as well as the main stem of Silver Creek below Thompson Reservoir. Other creeks within the Silver Fire area include Auger Creek, Guyer Creek, Strawberry Creek, and Indian Creek. The upper reaches of these creeks drain the east side of Yamsay Mountain. Yamsay Mountain is a sacred place for the Klamath Indian Tribe and Yahooskin Band of Paiutes, (Spier 1930). Its significance earned it the status of a Traditional Cultural Property (TCP) in 1998. "Yamsay Mountain and its environs are regarded by contemporary members of the Klamath Tribes (Klamath, Modoc, Yahooskin Paiutes) as a place of extraordinary spiritual significance essential to maintaining their cultural history and traditions," (Eligibility Notification, Keeper of the National Register of Historic Places, 12/23/1998). The project area does not extend into the TCP boundary, but is within the viewshed.

The creeks within the upper (southwestern) side of the project area form deeply incised canyons with broad, relatively flat to rolling ridges between the canyons. This area has a moderate density of vegetation including pine and fir. The lower (northern) portion of the project contains the very deeply incised canyons of the West Fork and main stem of Silver Creek with flat mesa-like ridges between. This area has many open, rocky meadows often associated with root crops favored by Native American tribes of the Great Basin. In addition, a source of obsidian is located in the fire area. This resource had a great effect on the nature and distribution of sites in the project area.

The northeast edge of the fire reaches the lower slope of Hager Mountain, just south of the town of Silver Lake. This is an imposing feature rising over two thousand feet above the surrounding landscape. Silver Creek empties into Paulina Marsh near the town of Silver Lake, and eventually drains into Silver Lake. Silver Lake is an interior drainage lakebed of the Great Basin, and part of the large prehistoric Fort Rock Lake, (Allison, Ira S., 1979). Other prominent features include Alder Ridge, Alder Spring, Indian Creek Flat, Silver Creek Marsh, as well as several small knolls, unnamed springs and

creeks, and ridges. This fire area was considered to have a very high probability for the occurrence of cultural resource sites, though the probability in the steeper, western portion of the fire is of lower probability.

Previous surveys within units in the Silver Creek fire have recorded 45 sites within or near proposed activity areas. As of June 1st, 2003, cultural resource inventories have covered 70 percent of the high probability areas within proposed harvest units, fuel reduction units, and other proposed activity areas. Adequate moderate and low probability areas had been covered under previous surveys. These new surveys have documented an additional 134 sites within or near proposed activity areas, and expanded some the previously recorded sites a great deal. The majority of these sites are lithic scatters associated with camps, quarries, travel routes, and single activity events. The large obsidian source area was a primary factor in the number of sites in the area, though many sites were also associated with other resources as well (water, root crops, travel routes, and rock outcrops). All significant sites will be deleted from the salvage units and other ground-disturbing activity units. Road construction, improvements, and decommissioning will avoid all significant sites, as well as ground disturbance associated with prescribed fire, fuel reduction, site preparation for planting, hydrology projects, and any other activities associated with the Toolbox Fire Restoration Project.

## **Environmental Consequences**

### **Direct Effects**

Under the action alternatives (Alternatives C, D, E, G, H), heritage resources could face a wide range of potential adverse effects. Fuel reduction/logging activities such as tree falling, skidding, decking, slash disposal on over 20,000 acres, and temporary road construction could impact cultural properties within or near project units. Reforestation measures can affect cultural sites through ground disturbance during site preparation, slash disposal and replanting. Road reconstruction, culvert improvements, aspen management, and other planned watershed projects, also have the potential to disturb cultural resources. These potential impacts, however, have been mitigated through site avoidance.

For all action alternatives, (Alternatives C, D, E, G, H), project activity areas have been designed to avoid all previously known and newly recorded sites potentially eligible to the National Register of Historic Places. Therefore, there is little differentiation between alternatives based on the direct impacts to cultural resources. Some site protection benefit is anticipated from the proposed actions, (prevention of re-burn, soil stabilization, road closure, etc.). In addition, there are some sites that have likely been missed during survey, and lie within proposed activity areas. No cultural resource survey can find 100 percent of all sites. However, any significant site discovered during project preparation and implementation will be protected from project impacts. There may be some differentiation between alternatives as relates to positive site protection stemming from the proposed actions and potential impacts to unfound site. It is, however, likely that the potential damage of inaction outweighs the potential for damage of sites not found.

### **Alternative A**

Direct impacts to known cultural resources will be entirely avoided in this no action alternative. However indirect impacts would be greater. (see Indirect and Cumulative Effects section below)

### **Alternative C**

Direct impacts would be avoided in this and every action alternative through avoidance of all known significant sites. Potential impacts would only be to those sites that were not discovered in surveys. Alternative C ranks second highest in acres within ground disturbing activity units, (31,143 acres) including 14,441 acres of salvage harvest. Based on the premise that the greater number of acres treated equates to the greater danger to undocumented sites, Alternative C and Alternative G would have the highest potential impact on sites. The potential, however, is quite low in all alternatives since all high probability areas and much of the moderate and low probability areas have been surveyed. Alternative C also has the highest number of sites immediately adjacent to known site areas. Some sites are entirely surrounded by harvest units, fuel treatment units, and site prep and planting areas. This increases the potential that one or more of these sites may inadvertently be impacted by project implementation. These sites would be well identified on the ground prior to project implementation, and the sites' protection would be monitored during the activity. In whole, due to the avoidance of sites, proposed project monitoring, and the complete survey conducted, Alternative C has a low potential for site disturbance.

### **Alternative D**

Direct impacts would be avoided in this and every action alternative through avoidance of all known significant sites. Potential impacts would only be to those sites that were not discovered in surveys. Alternative D ranks fourth highest in

acres within ground disturbing activity units, (27,332 acres) including 6,367 acres of salvage harvest. Based on the premise that the greater number of acres treated equates to the greater danger to undocumented sites, Alternative D and E would have the lowest potential impact on sites. The potential, however, is quite low in all alternatives since all high probability areas and much of the moderate and low probability areas have been surveyed. Alternative D has the lowest number of sites immediately adjacent to known site areas. However, some sites are entirely surrounded by harvest units, fuel treatment units, and site prep and planting areas. This increases the potential that one or more of these sites may inadvertently be impacted by project implementation. These sites would be well identified on the ground prior to project implementation, and the sites' protection would be monitored during the activity. In whole, due to the avoidance of sites, proposed project monitoring and the complete survey conducted, Alternative D has a very low potential for site disturbance.

**Alternative E**

Direct impacts would be avoided in this and every action alternative through avoidance of all known significant sites. Potential impacts would only be to those sites that were not discovered in surveys. Alternative E ranks lowest in acres within ground disturbing activity units, (23,442 acres) including 11,490 acres of salvage harvest. Based on the premise that the greater number of acres treated equates to the greater danger to undocumented sites, Alternative E and Alternative D would have the lowest potential impact on sites. The potential, however, is quite low in all alternatives since all high probability areas and much of the moderate and low probability areas have been surveyed. Alternative E and D have the lowest number of sites immediately adjacent to known site areas. However, some sites are entirely surrounded by harvest units, fuel treatment units, and site prep and planting areas. This increases the potential that one or more of these sites may inadvertently be impacted by project implementation. These sites would be well identified on the ground prior to project implementation, and the sites' protection would be monitored during the activity. In whole, due to the avoidance of sites, proposed project monitoring and the complete survey conducted, Alternative E has a very low potential for site disturbance.

**Alternative G**

Direct impacts would be avoided in this and every action alternative through avoidance of all known significant sites. Potential impacts would only be to those sites that were not discovered in surveys. Alternative G ranks highest in acres within ground disturbing activity units, (34,238 acres) including 14,419 acres of salvage harvest. Based on the premise that the greater number of acres treated equates to the greater danger to undocumented sites, Alternative G and Alternative C would have the highest potential impact on sites. The potential, however, is quite low in all alternatives since all high probability areas and much of the moderate and low probability areas have been surveyed. Alternative G also has the 2nd highest number of sites immediately adjacent to known site areas. Some sites are entirely surrounded by harvest units, fuel treatment units, and site prep and planting areas. This increases the potential that one or more of these sites may inadvertently be impacted by project implementation. These sites would be well identified on the ground prior to project implementation, and the sites' protection would be monitored during the activity. Alternative G also has several thousand acre of fuels treatment in areas with low fire mortality. These areas are less likely to have had bare ground during the 2002-2003 surveys, and therefore more sites may have been missed. The likelihood that undocumented sites would be impacted is still very low however. In whole, due to the avoidance of sites, proposed project monitoring, and the complete survey conducted, Alternative G has a low potential for site disturbance.

**Alternative H**

Direct impacts would be avoided in this and every action alternative through avoidance of all known significant sites. Potential impacts would only be to those sites that were not discovered in surveys. Alternative G ranks third highest in acres within ground disturbing activity units, (29,609 acres) including 13,031 acres of salvage harvest. Based on the premise that the greater number of acres treated equates to the greater danger to undocumented sites, Alternative H's potential impact on sites is mid-way between Alternative C and G at the higher end, and Alternative D and E at the lower end. The potential, however, is quite low in all alternatives since all high probability areas and much of the moderate and low probability areas have been surveyed. Alternative H also has a number of sites immediately adjacent to known site areas. Some sites are entirely surrounded by harvest units, fuel treatment units, and site prep and planting areas. This increases the potential that one or more of these sites may inadvertently be impacted by project implementation. These sites would be well identified on the ground prior to project implementation, and the sites' protection would be monitored during the activity. In whole, due to the avoidance of sites, proposed project monitoring, and the complete survey conducted, Alternative H has a low potential for site disturbance.

**Indirect Effects and Cumulative Effects**

Cultural Resources have been subjected to a wide variety of impacts since their creation. These impacts have been caused by man and by nature. Cultural resource sites are distributions of artifacts and features around a locale. They may be accumulations of objects from centuries of occupation, or items left from a single activity taking only a few minutes. They provide information of past lifeways through the intricate spatial relationship between various artifacts, between various features, between features and artifacts, and between neighboring sites and sites further a field. These relationships, the artifacts themselves, and site features can easily be destroyed through a number of actions. Natural events erase parts of this story through wildfire, landslides, water and wind erosion, bio-turbation (roots, rodents, badger, etc), earthquake, wind throw of trees, and decay of bone, wood, tulle, baskets, and other perishable matter of the material culture.

The actions of humans have also had profound effects. Ground disturbance through logging, road construction, mining, grazing, building construction, waterlines, and fences, etc, has greatly impacted our historic and prehistoric sites. In 1976, the Forest Service began considering effects of proposed activities on all significant sites. In the following few years, surveys prior to project decisions became the standard operating procedure. Now, cultural resource management is well integrated into the project planning process, and sites are accepted as a valued resource. Artifact collection and unauthorized digging is another impact to these sites. Digging and collection removes many of the most significant artifacts from sites. Such artifacts may indicate dates and seasons of occupation, cultural affiliation, activities undertaken, and prehistoric travel or trade patterns. In 1979, Congress passed the Archaeological Resource Protection Act (ARPA) which made excavation of sites without approved permit illegal. Permits were given to trained and educated Archaeologists for purposes of research, or as part of mitigation to proposed projects. This also has stemmed the damage to important archaeological sites. Surface collection, while not covered under ARPA, is covered under the Forest Service regulations as theft of public property. While such protections as ARPA and project avoidance has benefited a vast number of sites, all sites will tend toward deterioration though time.

Forest fire prevention and fire fighting practices over the past century have insulated the forests from natural low intensity maintenance fires. These low intensity fires generally prevented fuel accumulation, overstocking, and spread of disease. Due to past fire prevention, a high density of fuels have now built up on the forest floor, and stands are dense with ladder fuels into overstory tree crowns. When such stands burn, they are not low intensity fires, but extreme, stand-replacing events. While many types of cultural resources can survive low-severity fires with little or no damage, high-severity burns destroy or damage a wide range of cultural sites and artifacts. Historic structures are particularly vulnerable, but even stone tools, bottles, and cans yield to the extremes of temperature in these hottest of fires. Fire impacts to lithic scatters has been recently researched by a number of Archaeologists. High temperature, long duration heating can damage obsidian flakes and tools. It was found that damage to obsidian artifacts occurred at temperatures as low as 400 degrees Fahrenheit sustained for periods of time (Deal 2002, Benson 2002). Temperatures above 900 degrees Fahrenheit often result in melting and frothing of obsidian. Flakes and tools of crypto-crystalline silicates (jasper, chert, flint, etc) were found to have been shattered in to small pieces by the fire in one study (Benson, 2002). Observations in the 2002 Toolbox Project field season: 1. Obsidian flakes and tools shattered or snapped in half from the fire. 2. Obsidian flakes or tools partially melted by the fire. 3. Obsidian flakes, tools and cobbles that frothed into a pieces of pumice as they was completely melted. 4. Bottles shattered or melted by the heat. 5. Historic cans that had all solder in joints melted and have fallen apart. 6. Cans that have been partially burned away by the high heat. Historic structures also suffered. One dug-in cabin was found with all the wood posts, walls and roof burned away, and the historic Fremont Lookout Cabin was burned, as were the wooden parts of the steel framed lookout tower. The fire has had a definite detrimental effect on cultural resources in the Toolbox Project.

Traditional uses of the project area are not well documented. Fires may have impacted traditionally used plants and animals, but such species are likely to have been adapted to fire. Willow in other areas was traditionally burned over to stimulate young straight shoots, needed in basket making. Bulbs and tubers gathered on open rocky flats of the Great Basin are also adapted to fire, and will likely benefit from the fire's removal of competitive brush. Other medicinal plants and food plants may have either benefited or been impacted by the fire. It is unclear what species these may have been and to what degree they were affected by fire.

Sites will continue to degrade regardless of any actions taken or not taken. Cumulative natural and human caused effects will eventually eliminate the significant information from some sites. Others, with sound management and protection, will retain these qualities and data for the benefit of future generations. Future uses of the forest, population pressure, needs of the public and political realities will evolve, requiring careful planning and vigilance to save these sites for future generations.

### **Alternative A**

Because no fuel reduction, reforestation, or watershed improvement would occur, there would be no direct effects of the project action to cultural resources. However, the failure to address problems caused by the fire may accelerate degradation of significant cultural resources. Many proposed project activities may address the potential for future damage. With no reforestation or watershed improvement, cultural sites in floodplains, draws, or stream terraces could be at risk from erosion and flooding over a longer period of time. Riling of side slopes may directly erode the cultural deposits on upland sites, or bury the cultural material located benches at the base of these slopes. Gulling along slopes and flats adjacent to creeks could directly erode the soils in the sites and redeposit cultural material outside its original context. Noxious weed invasion is known to promote erosion, and could contribute to site damage. The sites may also be subject to prolonged exposure to looting due to their exposed nature and unlimited road access due to lack of road closures.

The lack of fuel reduction under this alternative would eventually result in heavier ground level fuels throughout the project area. The area would then be at higher risk for future intensive fire. These fires could again burn over sites and further degrade and destroy the surface artifacts. Failure to implement proposed riparian improvement projects could result in destabilization of creek banks, and eventual bank failure. Such degradation of creek banks may directly impact the 27 sites in the project area located immediately adjacent to these creeks. No roads are planned to be closed under this alternative, leaving open road density at 3.63 miles per square mile. At present, the exposed condition of sites in the burned area, and the open access, leads to the potential for accelerated surface collection of artifacts. All of the action alternatives close a significant number of miles of roads. This would benefit a number of sites now vulnerable to surface collection. The no action alternative has a greater potential for causing further site degradation than does any of the four action alternatives due to the existing unstable condition the project area is now in, and the plan to avoid any direct impacts to known sites. This potential for further indirect site impact is considered high.

### **Alternative C**

Alternative C addresses many of the fuel reduction, road management, and soil stabilization issues that would impact cultural resources within the project area. All previously known and recently recorded significant cultural resources would be protected from all project impacts.

Alternative C would treat a large amount of fuel through timber sales, thinning; slash disposal, and prescribed fire. This alternative would greatly reduce the likelihood that significant sites would experience a re-burn of existing dead timber.

Alternative C would reduce motorized access by decommissioning or closure of 142 miles of roads. This would benefit cultural resources through limiting vehicle access to sites exposed during the 2002 fires, thereby reducing the opportunities for site looting. Road closure (berms or other blocks) would be placed outside of site boundaries. Road decommissioning may require ripping or reshaping of the road bed along part or all of its length. Where a site is crossed by a road to be decommissioned, the ground disturbing activity would halt across the site area, but continue outside the site area.

Alternative C would maximize watershed stabilization projects. Placement of large woody debris in the creeks, hardwood planting, and aspen management would provide protection to the sites located near streams from erosion, bank destabilization, and flooding.

Overall, the potential for further indirect site impact is considered low. Many activities associated with the actions in this alternative, particularly that involving timber harvest, have the potential for indirect effects on cultural resources such as temporary auditory and visual effects on the Yamsay Mountain Traditional Cultural Property. The Klamath Tribes have been contacted concerning the project and this particular point.

**Alternative D**

Alternative D addresses some of the fuel reduction, many of the road management, and much of the potential soil stabilization issues that could impact cultural resources within the project area. All previously known and recently recorded significant cultural resources would be protected from all project impacts.

Alternative D would treat a moderate amount of fuel through timber sales, thinning, slash disposal, and prescribed fire. This alternative would reduce the likelihood that a significant site would experience a re-burn of existing dead timber, though not the extent that Alternative C does.

Alternative D would reduce motorized access by decommissioning or closure of 147 miles of roads, the most of any alternative. This would benefit cultural resources through limiting vehicle access to sites exposed during the 2002 fires, thereby reducing the opportunities for site looting. Road closure (berms or other blocks) would be placed outside of site boundaries. Road decommissioning may require ripping or reshaping of the road bed along part or all of its length. Where a site is crossed by a road to be decommissioned, the ground disturbing activity would halt across the site area, but continue outside the site area.

Alternative D would maximize watershed stabilization projects. Placement of large woody debris in the creeks, hardwood planting, and aspen management would provide protection to the sites located near streams from erosion, bank de-stabilization, and flooding.

Overall, the potential for further indirect site impact is considered Low. Many activities associated with the actions in this alternative, particularly that involving timber harvest, have the potential for indirect effects on cultural resources such as temporary auditory and visual effects on the Yamsay Mountain Traditional Cultural Property. The Klamath Tribes have been contacted concerning the project and this particular point.

**Alternative E**

Alternative E addresses most of the fuel reduction, some of the road management, and little of the soil stabilization issues that would impact cultural resources within the project area. All previously known and recently recorded significant cultural resources would be protected from all project impacts.

Alternative E would treat a large amount of fuel through timber sales, with lesser quantities of thinning, slash disposal, and no prescribed fire. This alternative would somewhat reduce the likelihood that a significant site would experience a re-burn of existing dead timber.

Alternative E would reduce motorized access by decommissioning or closure of 82 miles of roads. This would benefit cultural resources through limiting vehicle access to sites exposed during the 2002 fires, thereby reducing the opportunities for site looting. Road closure (berms or other blocks) would be placed outside of site boundaries. Road decommissioning may require ripping or reshaping of the road bed along part or all of its length. Where a site is crossed by a road to be decommissioned, the ground disturbing activity would halt across the site area, but continue outside the site area.

Alternative E provides the minimum of watershed stabilization projects. Placement of large woody debris in the creeks may provide some protection to the sites located near streams from erosion, bank de-stabilization, and flooding. The lack of hardwood planting, and aspen management (as seen in Alternatives C, D, G, and H) may jeopardize stream bank stability.

Overall, the potential for further indirect site impact is considered Low. Many activities associated with the actions in this alternative, particularly that involving timber harvest, have the potential for indirect effects on cultural resources such as temporary auditory and visual effects on the Yamsay Mountain Traditional Cultural Property. The Klamath Tribes have been contacted concerning the project and this particular point.

**Alternative G**

Alternative G addresses most of the fuel reduction, some of the road management, and much of the soil stabilization issues that would impact cultural resources within the project area. All previously known and recently recorded significant cultural resources would be protected from all project impacts.

Alternative G would treat a large amount of fuel through timber sales, with greater quantities of thinning, slash disposal, and prescribed fire. This alternative would most greatly reduce the likelihood that a significant site would experience a re-burn of existing dead timber.

Alternative G would reduce motorized access by decommissioning or closure of 82 miles of roads. This would benefit cultural resources through limiting vehicle access to sites exposed during the 2002 fires, thereby reducing the opportunities for site looting. Road closure (berms or other blocks) would be placed outside of site boundaries. Road decommissioning may require ripping or reshaping of the road bed along part or all of its length. Where a site is crossed by a road to be decommissioned, the ground disturbing activity would halt across the site area, but continue outside the site area.

Alternative G would maximize watershed stabilization projects. Placement of large woody debris in the creeks, hardwood planting, and aspen management would provide protection to the sites located near streams from erosion, bank destabilization, and flooding.

Overall, the potential for further indirect site impact is considered Low. Many activities associated with the actions in this alternative, particularly that involving timber harvest, have the potential for indirect effects on cultural resources such as temporary auditory and visual effects on the Yamsay Mountain Traditional Cultural Property. The Klamath Tribes have been contacted concerning the project and this particular point.

**Alternative H**

Alternative H addresses most of the fuel reduction, most of the road management, and most of the soil stabilization issues that would impact cultural resources within the project area. All previously known and recently recorded significant cultural resources would be protected from all project impacts.

Alternative H would treat a large amount of fuel through timber sales, with greater quantities of thinning, slash disposal, and prescribed fire. This alternative would reduce the likelihood that a significant site would experience a re-burn of existing dead timber.

Alternative H would reduce motorized access by decommissioning or closure of 144 miles of roads. This would benefit cultural resources through limiting vehicle access to sites exposed during the 2002 fires, thereby reducing the opportunities for site looting. Road closure (berms, or other blocks) would be placed outside of site boundaries. Road decommissioning may require ripping or reshaping of the road bed along part or all of its length. Where a site is crossed by a road to be decommissioned, the ground disturbing activity would halt across the site area, but continue outside the site area.

Alternative H would maximize watershed stabilization projects. Placement of large woody debris in the creeks, hardwood planting, and aspen management would provide protection to the sites located near streams from erosion, bank destabilization, and flooding.

Overall, the potential for further indirect site impact is considered Low. Many activities associated with the actions in this alternative, particularly that involving timber harvest, have the potential for indirect effects on cultural resources such as temporary auditory and visual effects on the Yamsay Mountain Traditional Cultural Property. The Klamath Tribes have been contacted concerning the project and this particular point.

The No Action and five action alternatives do differ in their potential to affect cultural resources. Alternative A (no action) has the highest potential to impact sites through indirect actions following re-burn, erosion, and free access to sites by artifact collectors. Alternative E has the next highest potential for effect due to some potential to impact undocumented sites, the lower amount of access restriction, and the lower amount of erosion prevention activities. Alternative C, D, G and H all have about the same likelihood of impacting sites. Three (C, D, and H) all have about the same potential in each category. Alternative G would prevent re-burn better than C, D or H, but leaves more roads open, allowing greater collector access. The difference in potential impact between these four alternatives is negligible.

Table 3.XX.

Analysis of Alternative Direct and Indirect Effects on Cultural Resources: (1)

Alternative	Harvest/ (2)	Future Intensive	Illegal Surface (3)	Riparian (3)	Total
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	Fuel Treatment	Fire(3)	Collection	Degradation	Score
A	0	3	3	2	8
C	1	1	1	1	4
D	1	1	1	1	4
E	1	1	2	2	6
G	1	0	2	1	4
H	1	1	1	1	4

(1) Score is based on lesser or greater potential to impact sites directly or indirectly (higher Score = more potential impact)

0 = No potential or very low potential for impact

1 = Low potential for impact

2 = Moderate potential for impact

3 = High potential for impact

(2) (direct effect of ground disturbance on potential undocumented sites)

(3) (indirect effects from future fire, artifact collection, and bank de-stabilization)

#### **Consistency with Forest Plan and Other Regulatory Direction**

Heritage and Tribal interests are regulated by federal laws that direct and guide the Forest Service in identifying, evaluating and protecting heritage resources. All of the alternatives would comply with federal laws. The Fremont Forest Plan tiers to these laws, therefore the proposed action alternatives would all meet Forest Plan standards.

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Objectives/Mitigation Measures & Management Requirements	Alternatives
<b>Protect Significant Cultural Resources During Commercial Timber Salvage Activities</b>	
Significant cultural resource sites were excluded from potential timber salvage units during the planning process. Therefore, all sites will retain those features that make them eligible to the National Register of Historic Places.	Alternative C, D, E, G, H
A number of significant cultural resource sites lie within or immediately adjacent to proposed harvest units. These site boundaries within or adjacent to the proposed units will be identified on the ground by North Zone Heritage personnel. No harvest of timber within cultural resource sites will be allowed. Trees adjacent to the site will be directionally fell away from the site location. Generally, no skidding will be allowed within cultural resource sites, except along existing roads. Access to units through cultural resource sites along existing classified or unclassified roads will be allowed.	Alternative C, D, E, G, H
There may be a few locations where skidding from a unit to an adjacent road may require skidding through a significant cultural resource site. Where there are well-established skid trails or old temporary roadbeds these may be used to skid the timber to the road. The North Zone Archaeologist will confer with the Timber Sale Administrator, or Timber Planner, and review each of these skid trail locations on the ground prior to any approval for use by the US Forest Service.	Alternative C, D, E, G, H?
All temporary roads needed to access proposed units in all alternatives have been surveyed, and have been relocated, where needed, to protect significant cultural resource sites.	Alternative C, D, E, G, H
The beds of historic road routes will not be utilized as haul routes, or skid roads. These roads have been identified from historic maps and records, and are considered potentially eligible to the National Register of Historic Places. They will be protected from any activities during salvage operations.	Alternative C, D, E, G, H
Where changes in temporary road locations are needed during implementation of the activity, the North Zone Archaeologist will determine if additional inventory is necessary. The North Zone Heritage personnel will conduct an inventory of the proposed road route change, if needed. The North Zone Archaeologist will approve any relocation prior to ground disturbing activity, and document such inventory and newly recorded sites to the Forest Archaeologist and Oregon SHPO.	Alternative C, E, G, H
Sites will be avoided during placement of Helicopter logging landings. The locations of these landings have been surveyed in 2002 and 2003. The need to survey relocated landing locations will need to be assessed prior to any approval of ground disturbing actions.	Alternative C, D, E, G
The Heritage Department will be notified if a need for skid trails, temporary roads or landings outside of proposed units is discovered during the timber salvage operation. The North Zone Archaeologist will approve these locations prior to approval of ground-disturbing activity.	Alternative C, D, E, G, H
If sites are discovered during the on-the-ground preparation of the sale units or at any time prior to the ground disturbing activity, the North Zone Heritage department will be notified, and the location will be reviewed on the ground. The North Zone Archaeologist will develop protection measures for these sites, if needed. Once this review has been undertaken, and resources protected, project activity could proceed.	Alternative C, D, E, G, H
If a site is discovered during harvest or other ground disturbing activity, all work will cease in the vicinity of the discovery. At that time, the North Zone Heritage department will be notified, and the location will be reviewed on the ground. The North Zone Archaeologist will develop protection measures for these sites, if needed. Once this review has been undertaken, and resources protected, project activity could proceed.	Alternative C, D, E, G, H
Road reconstruction will avoid impacts to significant cultural resource sites. Where sites extend across the areas to be improved, the roadbeds will not be enlarged, or shaped. Cinder may be placed overtop of the disturbed site within the roadbed.	Alternative C, E, G, H
Road reconstruction will not be undertaken where the road in question is a historic road route.	Alternative C, D, E, G, H

<b>Protect Significant Cultural Resources During Post-Salvage, Site Preparation and Planting Activities</b>	
If a site is discovered during post harvest, ground disturbing activity, or other rehabilitation activity (slash piling, site scarification, planting), all work will cease in the vicinity of the discovery. At that time, the North Zone Heritage department will be notified, and the location will be reviewed on the ground. The North Zone Archaeologist will develop protection measures and or mitigations for these sites, if needed. Once this review has been undertaken, and resources protected, project activity could proceed.	Alternative C, D, E, G, H
Slash piles will not be located immediately adjacent to un-piled slash within significant cultural resource sites if they are scheduled for burning. They will be located at a distance that would reasonably prevent the spread of fire into the site during pile burning.	Alternative C, D, E, G, H
Hazard trees within significant cultural resource sites may be felled to protect the public. Will not be removed with any manner that would disturb the ground surface.	Alternative C, D, E, G, H
Significant cultural resource sites will be avoided during potentially ground disturbing slash treatment of plantation thinning. Sites may be avoided during thinning, leaving a thicker patch of trees on the site, or may be thinned with no slash treatment leaving heavier fuels on the site. Hand piling of slash from within the site to areas outside the site boundary may also be undertaken on cultural resource sites.	Alternative C, D, G, H
Significant cultural resource sites will be avoided during site preparation for reforestation. Sites will be left untreated unless specific circumstances dictate that fuels must be treated in order to protect public safety, or for very significant needs of other resource areas. Such situations will be rare. Such treatments will not be ground disturbing (hand piling, lop and scatter, etc.). The North Zone Archaeologist will approve such treatment prior to implementation.	Alternative C, D, E, G, H
Significant cultural resource sites within existing plantations will not be re-planted using mechanized systems. The North Zone Archaeologist on a site-by-site basis may approve hand planting using spade, hodad, or planting bar. Scalping of the ground will not be undertaken at such planting locations. Trees will be planted at 20 by 20 foot spacing to prevent the need for future thinning and slash disposal on these sites.	Alternative C, D, G, H
Historical Peeled trees (dead or live) will be protected during fuel treatment activities	Alternative C, D, E, G, H
<b>Protect Significant Cultural Resources During Prescribed Fire and Fuel Reduction Activities</b>	
Significant cultural resource sites will be avoided during prescribed fire activities (underburning, jackpot burning, pile burning). Lithic scatters and historic sites are adversely impacted by fire. Although the 2002 wildfires have burned over many of these sites, the impacts are cumulative, resulting in further degradation of the surface expression and features of these sites. Tree carvings are particularly susceptible to fire damage. Fuel reduction near sites should include measures to ensure the sites are not re-burned.	Alternative C, D, G, H
All significant cultural resource sites will be avoided during construction of fire lines for prescribed fire.	Alternative C, D, G, H
Existing woody fuels within significant cultural resource sites will not be piled using potentially ground-disturbing methods if such activity will damage these sites. Hand piling may be allowed, but piles placed within sites will not be burned.	Alternative C, D, E, G, H
Dead trees standing and down that are within significant cultural resources can be removed, and hand carried off site for firewood, or other uses to vehicles located on existing roads, or piled out side the site boundaries. These activities will be coordinated with the North Zone Archaeologist.	Alternative C, D, E, G, H
In areas where high fuel loadings, and high fire hazards exist within significant cultural resource sites, those fuels can be hand piled, to break up continuous fuel beds and/or removed by vehicle from roadsides within the sites. These hand piles will not be burned. These activities will be coordinated with the North Zone Archaeologist.	Alternative C, D, E, G, H

Protect Significant Cultural Resources During Road Management Activities	
If an unclassified road or skid trail is utilized through a significant cultural resource site, as discussed in the Timber Salvage Activity section above, the road or skid trail bed will not be scarified, blocked with an earth berm, or otherwise obliterated with ground disturbing methods within the site boundary. Closures using logs, brush, or slash to block or disguise the road will be utilized if needed.	Alternative C, D, E, G, H
Other closures of roads that pass through significant cultural resource sites will avoid ripping, berm construction or other ground disturbance within the boundaries of the sites. The roads may be obliterated or closed on either side of these sites however. Closures using logs, brush, or slash to block or disguise the road will be utilized if needed.	Alternative C, D, E, G, H
The beds of historic road routes will not be obliterated, though they may be closed at intersections with modern roads, or areas that have been obliterated by other activities in the past. These closure locations will be identified and or approved by the North Zone Archaeologist.	Alternative C, D, E, G, H
Protect Significant Cultural Resources During Soil and Riparian Protection and Restoration Projects	
Aspen thinning will avoid any historic aspen dendroglyph trees. Any trees with writing on them will be avoided until they can be reviewed by the North Zone Heritage Department.	Alternative C, D, G, H
Aspen Dendroglyph sites with surviving dendroglyph trees may have fuels piled and burned, as long as such activity does not impact the dendroglyphs or the health of the surviving aspen on which the dendroglyph lies.	Alternative C, D, G, H
Significant cultural resource sites that are susceptible to ground disturbance will be avoided during aspen and willow plantings. Planting may occur in aspen dendroglyph sites with approval of the North Zone Archaeologist. Generally, most other cultural resource sites lie outside the potential project impact zones of aspen and willow planting.	Alternative C, D, G, H
Road 2917-431 improvement location will be surveyed in 2003. Any significant cultural resource sites located at the project area will be avoided, or further mitigation will be required. Such mitigations will be developed by the North Zone Archaeologist in conjunction with the Forest Archaeologist and approved by the State Historic Preservation Officer.	Alternative C, D, G, H
Aspen Dendroglyph sites that have had all historic dendroglyphs destroyed by the 2002 fires will no longer be managed as cultural resource sites. These sites may be harvested of salvageable timber, and replanted to aspen. Inspection and determination of the impacts to these sites will take place in summer of 2003.	All Alternatives
One carving of initials and a date on a ponderosa pine was previously located along the West Fork of Silver Creek. The fire has obliterated the tree carving. The feature will no longer be managed as a site. (not in any harvest units, within RHCA)	All alternatives

The Klamath Tribes (Klamath, Modoc, and Yahooskin Band of the Paiutes) consider this area to be part of their homeland territory. The Toolbox Project area lies within lands that these tribes relinquished under an 1864 Treaty. In addition the fire also burned some lands that were part of the Klamath Indian Reservation until 1961. Various interpretations of the descriptive boundary in the treaty led to several surveys, and a lawsuit. The treaty used a geographic feature description for the reservation's boundaries. The Klamath Tribes have claimed the reservation's northern boundary follows a line between Crater Butte, west to Walker Mountain, Bald Mountain, Hagar Mountain and Dead Indian Mountain, the eastern boundary as extending from Dead Indian Mountain, south along Winter Ridge, then to Bald butte, Gearhart Mountain, along Coleman Rim, to Quartz Mountain, the southern boundary as extending west from Quartz Mountain to Horse Fly Mountain to Klamath Lake, then west to the Cascade Crest, and the western boundary as following the crest of the Cascade Mountains north to Crater Butte. The Mercer survey in 1871 identified a much smaller reservation following newly surveyed Township and Range lines. This survey did not include any land west of Klamath Lake, and was significantly reduced on all sides from the above Klamath Tribes interpretation. William Thiel surveyed the reservation in 1888, and added some lands to its northern and southern ends. In 1898, Elliot attempted to survey a reservation boundary that followed as closely as possible the original boundary description. This survey included lands to the edge of Winter Ridge and Gearhart Mountain, but did not include lands west of Klamath Lake, nor lands north of a line between Hagar Mountain and Mount Thielsen. This survey was never approved, and the Mercer survey with the Thiel survey additions was adopted as the final boundaries of the Klamath Reservation. In 1901??/ the court determined that the boundaries did follow that which Mercer and Thiel had surveyed. In 1954, the United States Congress terminated the Klamath, Modoc and Yahooskin Band of Paiutes as Indian Tribes, and eliminated the majority of the Klamath Indian Reservation. In 1961, these lands were divided between the newly created Winema National Forest, the Fremont National Forest, the Klamath Wildlife Refuge, and private corporations. This action transferred 14,232 acres of land from the former reservation to the Silver Lake Ranger District.

In 1864, a few months after the Klamath had signed the treaty setting up a Klamath Indian Reservation, (but six year prior to congressional approval), Congress approved the construction of a wagon road from Eugene, Oregon to Boise, Idaho. This included a grant of alternate sections of land along the route. The road passed though the Klamath Indian Reservation, and the wagon road company claimed 110,000 acres of land within the reservation. The federal courts approved the rights of the wagon road company to the lands since their grant predated the Congressional approval of the Klamath Treaty, though it came after the signing of the treaty by the Klamath themselves. In 1908, the Booth Kelly Lumber Company of Springfield, Oregon agreed to consolidate its claims into one 87,000 acre block of timberland on the Klamath Reservation instead of scattered checkerboard parcels. Congress added to the offer, \$108,000 to agree to this settlement. The Klamath Tribes fought this agreement to the Supreme Court where they were awarded an additional \$5.3 million in 1938. This parcel was known as the Booth Kelly tract, later owned by the Long-Bell, Weyerhauser, and now U.S. Timberlands companies.

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This Toolbox Fire Recovery Project specialist report was prepared during March, April, and May of 2003. It will be used, along with specialist reports from multiple resource areas, to prepare a Draft Environmental Impact Statement (DEIS) for the Toolbox Fire Recovery project. This specialist report will become a part of the planning record for the project, filed under:

“Toolbx/ Planning Record/ E\_Specialists\_reports\_data\_inventory\_and\_collection”

This report will be filed both in the ‘hard-copy’ planning record binders, on file at the Silver Lake Ranger District, and on the Fremont National Forest “K-Drive”. In the interest of planning process efficiency, particularly in light of time and budget constraints, editing that occurs to the content of this report during the preparation of the DEIS will be reflected in the DEIS and will not necessarily be entered back into the content of this report. To insure the accuracy of such edits, I will review the content of both the DEIS and the (Final) FEIS and certify that their content is consistent with the analytical conclusions in this report. If during DEIS or FEIS editing, substantially different conclusions or interpretations are reached or substantial additional analysis is prepared from that displayed in this report, an addendum to this report will be prepared.

Specialist: /S/ *Mark Swift*  
Mark Swift

Discipline: North Zone Archaeologist

Date: May 15, 2003