

3.12 CULTURAL RESOURCES

3.12.1 Affected Environment

The project area for the following cultural resources analysis includes the area within a 1-mile buffer or corridor around each of the proposed routes, with the exception of the towns of Twisp and Okanogan, which were excluded from the project area. A slightly larger area was included along the southern portions of the Valley Floor and Pateros/Twisp routes to include potential access routes to the Pateros/Twisp route (Figure 3.1-1).

Comments made during public scoping for this project identified the following issue with respect to cultural resources:

- Ground-disturbing activities associated with construction of the proposed action or one of the alternatives has the potential to affect cultural resources.

This section provides an overview of existing cultural resources in the project area. The following sections define cultural resources, identify the applicable regulatory requirements, discuss the human history of the general project area, and identify known or recorded cultural resources within the area of potential effect (APE).

3.12.1.1 Cultural Resources Defined

Cultural resources are districts, sites, buildings, structures, and objects that are evidence of past human activities or that play an active part in the traditional cultures of the disparate ethnic groups that comprise Washington's populace. Sites that play an active part in ongoing cultures are known as Traditional Cultural Properties (TCPs). Cultural resources have been recognized by legislative bodies at the Federal and state levels as being important for the education and inspiration of future generations of Americans, whatever their backgrounds.

3.12.1.2 Regulatory Requirements

The importance of protecting cultural resources on lands owned by the Federal government, under Federal jurisdiction, or under the jurisdiction of Washington State has been codified in law and policy. Pertinent statutes are Revised Code of Washington (RCW) 27-44 and 27-53, the National Historic Preservation Act (NHPA), The American Indian Religious Freedom Act, and Executive Order 13007.

RCW 27-44. Otherwise known as the Indian Graves and Records Act, this statute makes it a crime to knowingly disturb, remove, or damage American Indian graves and glyptic records, such as petroglyphs or pictographs.

RCW 27-53. This statute prohibits any individual, corporation, or agency from knowingly removing, altering or disturbing any archaeological site or object, except for an Indian grave or glyptic record, without a written permit from the Director of Community, Trade, and Economic Development, or designee.

National Historic Preservation Act. Under Section 106 of the NHPA, Federal agencies are required to take into account the effects of their undertakings on cultural resources that are, or may be, eligible for inclusion on the National Register of Historic Places, and to give the State Historic Preservation Officer (SHPO) and Advisory Council on Historic Preservation a reasonable opportunity to comment. Federal undertakings include actions taken on Federal land or under Federal funding, license, or permit.

American Indian Religious Freedom Act. This act is similar to the NHPA, requiring agencies to take into account the effect of their actions on the ability of American Indians to practice their traditional religions. An agency is to make efforts to avoid adversely affecting tribal use and access to spiritual places.

Executive Order 13007. Executive Order 13007 directs Federal agencies to consult with tribes to identify sacred sites on public lands, to accommodate access to and ceremonial use of Indian sacred sites, and to avoid adversely affecting the physical integrity of such sites. This act applies only to Federal lands.

Executive Order 11593 requires agency heads to locate, inventory, and nominate all eligible cultural resources to the NRHP and exercise caution until these inventories and evaluations are complete to ensure that no eligible Federally owned property is transferred, sold, demolished, or substantially altered. The order outlines procedures for meeting the inventory requirements of NHPA and NEPA and established the principle of “interim protection” which states that, until a resource has been evaluated, it must be treated as if it were eligible for the National Register of Historic Places.

The Native American Graves Protection Act (NAGPRA) (Public Law 101-601, implementing regulations at 43 Code of Federal Regulations [CFR] 10) addresses the rights of lineal descendants and members of Indian tribes, Alaska Native, and Native Hawaiian organizations to retain certain human remains and precisely defined cultural items. It covers items currently in Federal repositories as well as future discoveries on Federal or Indian lands. Federal agencies must consult with the most likely direct descendant or a culturally affiliated tribe or organization where an undertaking may affect an Indian grave site.

3.12.1.3 Human History of the Project Area Native American Habitation

The Methow Valley and the highlands between the Methow and Okanogan Rivers are little known archaeologically, but a picture of early human life in the region can be extrapolated from findings made on the nearby Okanogan and Columbia Rivers. Evidence for human habitation of these areas dates to before 6000 BC, a time when climates were warmer and drier than they are today (Chatters, 1986). People lived in small groups that moved frequently about the landscape, harvesting and consuming food resources that were plentiful in each season. In their sojourns, they left many small, simple campsites along watercourses, hunters’ bivouacs, scattered spearpoints lost during the hunt, and little else that can be associated with them. After around 3000 BC, the regional climate began to cool and precipitation increased. People settled into pithouses at favorable settings along main river courses and soon initiated a lifeway that would continue until contact with Euroamericans.

People occupied small clusters of semi-subterranean pithouses in winter, where they lived primarily on stores of food amassed during the warmer seasons. With the coming of spring, they dispersed to root gathering grounds in family groups, moving from one familiar camping place to another while the women dug and dried bushel after bushel of roots, including camas, bitterroot, wild carrot, onion, chocolate lily, avalanche lily, and many others. The slopes between Winthrop and Twisp are said to have been especially favored for bitterroot (Portman, 1993). By May, salmon had begun to reach the Methow and Okanogan Rivers, and people left the root grounds to congregate at fishing sites along the streams. The men constructed platforms in the larger rivers, from which they netted or harpooned salmon, and built weirs to trap fish from the smaller tributaries. By the end of August, people moved higher into the mountains to harvest and dry huckleberries and other fruits, and to hunt. Driven downslope by early snows, they settled back into their pithouses by winter, stocked with preserved roots, fish, berries, and meat (Ray, 1933).

The primary subsistence pursuit during the winter—from November to March—was hunting. Small groups of men, sometimes accompanied by a woman who came along to keep camp and help process the kills, left the village for areas where game were wintering. Hunts were usually communal. Some bowmen would take positions near the head of a canyon or draw while others drove game upslope to their waiting collaborators. Men also hunted individually, taking deer or bighorns from blinds set up near watering holes, salt licks, or trails. Another food source at this time of year was pine tree

cambium. After stripping off the outer bark, people would remove the sweet cambium layer as a source of carbohydrates (Turner, 1997). Stripped or “blazed” trees can still be found in older thickets of Ponderosa pine in the area.

This seasonal round of food gathering has left a distinct archaeological trace on the landscape. Sites occupied by root gatherers, which contain grinding stones and remains of root- and lichen-roasting pits, commonly occur near springs in the drier hills and at meadows in the lower forests. Hunting camps can be found in many of the same settings, or in caves and rock overhangs at any elevation. Hunting blinds, which often occur as shallow depressions in talus slopes, can be found in canyons and draws, while groups of similar depressions, which had been used to store winter supplies, often line canyon walls near the remains of pithouse villages.

With the coming of the horse in the mid-eighteenth century, this pattern changed little, except that the criteria for a good wintering location became more restrictive. Not only did people have to be concerned with warming and feeding themselves, they also had to ensure winter forage for their livestock. As a result, by the time Euroamericans arrived in north-central Washington, snowy places like the Methow Valley had been abandoned in winter for warmer settings on the Okanogan or Columbia Rivers (Portman, 1993).

The native occupants of the project area were the Methow and Southern Okanogan, or Sinkaietk. These people spoke the Middle Columbia Salish language, which they shared with neighbors to the south and east, including the Chelan, Entiat, and Wenatchi to the south; the Sinkaiuse of the northern Columbia Basin; and the Sanpoil and Nespelem of the Okanogan Highlands (Miller, 1998). The Methow and Okanogan joined with their neighbors at particularly rich food gathering and trading areas, such as productive root grounds or prime fishing sites, where they visited, courted, and engaged in trading.

Two historic-era native settlements are reported in the vicinity of the project ROWs. Lchupchupoos was located a short distance up Beaver Creek, near its confluence with Frazer Creek. Nxuncin was at the mouth of the Methow River, opposite Pateros (Ray, 1936). Lchupchupoos was probably a seasonal encampment, perhaps for salmon fishing and trade, while Nxuncin may have been used for fishing season conclaves as well as a winter camp.

Native people led an active spiritual life that was in addition to, and deeply interwoven with, their quest for subsistence (Miller, 1998; Ray, 1933). To obtain spiritual guidance, young people would seek solitude in locations where spiritual power was considered to be strong. Such spiritual precincts were often marked with low rock walls. Particularly powerful shamans would create panels of pictographs to create places where others could go to petition that spiritual power for assistance. These stone alignments and pictograph sites can still be seen in the Methow and Okanogan Valleys, and belief in their power remains strong among members of local tribes.

The native population of the Methow and Okanogan Rivers received a heavy blow when exotic diseases struck in three severe epidemics during the late eighteenth and middle nineteenth centuries (Boyd, 1998). Soon after, in 1872, the Colville reservation was designated by executive order for most of the Mid-Columbia Salishans, including the Okanogan and Methow (Miller, 1998). These peoples' lands, from the Okanogan River to the Crest of the Cascades, were turned over to the Sinkaiuse under Chief Moses in 1879. Moses and most of his followers never moved there, however, and agreed in 1883 to relinquish rights to that reservation and join other Salishan groups on the Colville Reservation (Ruby and Brown, 1965). Those people who chose not to join the reservation were allowed to take allotments of one section of land each. Not many took advantage of this option (Portman, 1993), but four such allotments are associated with the project area. The 1899 General Land Office map for Township 29N, Range 23E shows Sections 24, 25, and 27 adjacent to the Methow River, southwest of Pateros, as Indian allotments. Section 26 is approximately 0.6 mile south

of the Methow. These Sections have allotment holders' names written in as "Mary" (Section 27), Joe (Section 24), Narcisse (Section 25), and Kleek Kum Tuk (Section 26).

Euro American Settlement

The first permanent Euroamerican settlement in the region was Fort Okanogan, built near the mouth of the river of the same name by David Stuart of the John Jacob Astor's American Fur Company (Ross, 1849). In 1814, after Astor's holdings had been purchased under threat of military seizure by the British-owned Northwest company, Fort Okanogan clerk Alexander Ross explored the Okanogan Valley while seeking a route for transporting furs over the Cascades to the Pacific (Ross, 1855). Fur-trading activity continued into mid-century, when the regional focus of Euroamerican interest changed to precious metals.

Gold strikes were made, first, in the Caribou district of British Columbia, then in the Okanogan Highlands and Columbia River, and finally in the Washington Cascades. The first miners in the project area were a group of Chinese, who established a placer operation on the Columbia River, operating their sluice boxes with water diverted by ditch from the Methow River. Gold strikes were made in the Methow Valley proper in the late 1880s, including a gold mine on Squaw Creek and the gold-, silver-, and copper-producing Red-Shirt Mine between Beaver and Benson Creeks. Small settlements sprung up near these mines, including Silver on the Methow River, which was located a short distance below the mouth of Beaver Creek, and Squaw Creek, located on the stream of the same name. The mining boom in the lower Methow had waned by the late 1890s and both towns had disappeared by the end of the first decade of the twentieth century (Portman, 1993). Agrarian pursuits took hold thereafter.

Farmers and stockmen had begun to settle the Methow and Okanogan Valleys in 1886, immediately after the land was officially opened to settlement (Roe, 1980). Beginning with the Thurlows at Beaver Creek, families quickly took up residences from Methow to Winthrop and along the fertile Okanogan Valley. Farmers produced fruit and dairy products, while stockmen raised cattle for market in Ellensburg and ran tens of thousands of sheep, particularly in the hills between the Columbia and Methow Rivers. Post offices were established by 1890 at Silver and Malott, and a regular postal route was begun in 1892 connecting the two towns via the Chiliwist Trail (Portman, 1993).

The Chiliwist Trail was an old Indian route that served the first settlers into the valley. Beginning at Malott, it climbed up Chiliwist Canyon, following the approximate routes of what are now Chiliwist Road and Starr Road, crossed a broad pass, and followed Benson Creek to arrive on the Methow at Silver (Roe, 1980). Steep and arduous, it motivated Methow Valley residents to establish less strenuous routes to move produce and supplies into and out of the valley. Two early attempts, both begun in 1891, were the Bald Knob Route and Brewster Mountain Road. The Bald Mountain route followed Indian Dan Canyon up from the Columbia, passed Bald Knob to Swamp Creek, continued up Swamp Creek to the summit, and descended into the Methow via what is now Benson Creek Road. The Brewster Mountain Road followed Swamp Creek uphill, and joined the first route past Bald Knob. Both routes were difficult, but the narrow, rocky Methow Canyon blocked access along the river. This problem was solved in 1806 with the "Convict Grade," which was blasted into the canyon walls between 1906 and 1909. Convicts who built the road were housed in a barracks situated 4.5 miles up river from Pateros (Portman, 1993).

The other key to agricultural development in the Methow was irrigation, which was needed to bring water from mountain streams to the semiarid terraces of the valley floor. Joe White, among the first residents in the valley, had built a ditch from Beaver Creek to water his fields even before the land was opened to settlement. Individual enterprise soon gave way to collective efforts, as farmer associations developed 20 irrigation systems between 1900 and 1910. The most ambitious irrigation development, however, was that of Thomas "Lord" Blythe, a Scottish remittance man who financed construction of

a major canal system from the Twisp River, down both sides of the valley to Carlton. Now known as the East Side and West Side Canals, these systems were begun by Blythe in 1905 and completed by the Methow Valley Irrigation District in 1919 (Portman, 1993).

3.12.1.4 Cultural Resources in the Project Area

Information on the cultural resources of the project area has been obtained through literature and records search, coupled with archaeological survey of all route alternatives. Research to locate Traditional Cultural Properties is planned, but awaits a research permit from the Confederated Tribes of the Colville Reservation before it can proceed. The archaeological survey consisted of a pedestrian inventory using transects spaced 66 feet apart within a 200-foot-wide APE for transmission and distribution line corridors and the substation, and a 60-foot-wide corridor for access roads. Staging areas and the proposed substation site were also subjected to survey at the same level of intensity.

Based on regional history and the records of the Washington State Office of Archaeology and Historic Preservation, it appears that the proposed alternative corridors intersect early roads, irrigation lines, a town site, and a small number of archaeological properties.

Staff from the University of Washington conducted an archaeological reconnaissance in the Okanogan and Methow Valleys in the middle twentieth century, identifying most of the known archaeological sites in the vicinity of the project area (Swanson, 1958; Grabert, 1968, 1970). Swanson identified Native American cemetery sites, pictographs, racetracks, a fishing station, and a rockshelter, none of which are within this project's APE. Additional surveys by Washington State Department of Natural Resources (WDNR), Bureau of Land Management (BLM), and USDA Forest Service personnel resulted in the identification of a lithic scatter, peeled Ponderosa pines, and isolated projectile points. A lithic scatter (45OK526) is located directly along the proposed Valley Floor corridor. These surveys, along with an earlier survey conducted for the proposed Pateros/Twisp route (Shong and Miss, 1998), also identified historic cultural resources, including two grave sites, the Loup Loup ski hill, a placer mine, an historic cabin, and two irrigation lines. The Loup Loup corridor intersects one of the historic graves (OK-FS-96). The Pateros/Twisp corridor intersects the cabin (45OK1002) and the Valley Floor corridor intersects both irrigation lines, which are Lord Blythe's east (45OK526) and west (45OK844) side canals (Table 3.12-1). The two irrigation canals meet criteria for inclusion on the National Register of Historic Places (NRHP).

In addition to the documented sites, the Pateros/Twisp corridor intersects the old Chiliwist Trail and the Bald Knob and Brewster Mountain Routes. Both the Pateros/Twisp and Valley Floor corridors pass near the old Thurlow homestead and the site of the historic town of Silver.

An inventory of TCPs along the project's alternative routes is currently underway. Information gathered during this survey will be used to further characterize potentially affected cultural resources and traditional cultural properties.

Table 3.12-1. Cultural Resources Intersected by Project Rights-of-Way

Site No.	Description	Documented by	NRHP Eligible
45OK526	East Side Irrigation Canal	BLM	Yes
45OK596	Lithic Scatter		Undetermined
45OK600	Isolated Projectile Point	USDA Forest Service	No
45OK1002	Historic Cabin Site	Shong & Miss 1998	Undetermined
45OK844	West Side Irrigation Canal		Yes
OK-FS-96	Stone grave markers	USDA Forest Service	No

3.12.2 Environmental Effects

This section assesses the potential effects of the Methow Transmission Project alternatives on cultural resources. The following discussion is divided into three sections. The first section discusses the indicators and significance criteria used to assess the potential effects of the proposed action and the six alternatives. The second section assesses the direct and indirect effects of the proposed alternatives on the cultural resources that have been identified in the project area. The final section discusses the cumulative effects on cultural resources that might be associated with the proposed project.

3.12.2.1 Evaluation Criteria

The cultural resources that are taken into consideration in this analysis are those that are either listed on the National Register of Historic Places or considered eligible for such listing under the criteria established in 36 CFR 60.4. According to 36 CFR 60.4, properties are of sufficient significance to be eligible for the National Register if they possess integrity of location, design, setting, materials, workmanship, feeling, and association and have one or more of the following characteristics:

- is associated with events that have made a significant contribution to the broad patterns of our history;
- is associated with the lives of persons significant in our past;
- embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; and
- has yielded, or may be likely to yield, information important in prehistory or history.

Cultural resources that are eligible for or listed as the National Register are referred to as “historic properties.” To have a significant effect on historic properties, an undertaking must adversely affect one or more of the characteristics of a property that render it eligible, which include its physical integrity; its integrity of setting, feeling, or association; or its ability to yield information important to prehistory or history. If an undertaking does not change any of these characteristics from their current condition, it does not have a significant effect for purposes of this analysis.

This analysis considers the effect of the proposed action and its alternatives on cultural resources by quantifying the cultural resources that might be significantly affected under each of the alternatives. Cultural resources that have not yet been formally evaluated for National Register eligibility are considered eligible for purposes of this EIS. Three categories of cultural resources are considered: archaeological sites, historic structures, buildings or objects (historic sites), and TCPs.

3.12.2.2 Effects on Cultural Resources

This section identifies the direct and indirect effects on cultural resources of each of the alternatives. Potential effects to archaeological resources might consist of damage to their physical integrity and scientific value resulting from excavation of pits for transmission or distribution structure installation or replacement, earth disturbance and excavation required for substation construction, bladework during access road improvements, and tire and tread damage from heavy equipment and automobiles during construction. Historic sites might be physically damaged by construction equipment or have their integrity of feeling and association affected by the addition of a transmission line to their viewsheds. TCPs might be affected by these same activities. In addition, the addition of new high voltage lines on or near a TCP might affect its continued utility for traditional cultural practices.

Alternative 1—No Action

This alternative has the potential to adversely affect archaeological site 45OK596, should structure replacement be necessary on the site as a part of routine maintenance. Additional buried sites could also be encountered and damaged during structure replacements at other localities, particularly along the valley floor and in stream bottom settings along the Loup Loup line. With the exception of

activities on NFS and BLM lands, there are no procedures are in place for identifying and protecting archaeological resources during routine maintenance, so these potential effects would not be mitigated.

Alternative 2—Pateros/Twisp (Proposed Action)

One historic archaeological site, an historic cabin (45OK1002), has been identified along this route and could be directly affected by construction of the transmission line. Because the transmission line route traverses a hilly landscape with a low potential for buried prehistoric archaeological sites and transmission lines are expected to span canyon environments without structures being placed in them, it is unlikely that construction of the line would result in inadvertent discovery of or damage to any other sites.

TCP research has been conducted based on a protocol provided to the Forest Service by the Confederated Tribes of the Colville Reservation. The draft overview document, a summary of the available literature, has been completed and is under review. Further TCP work will be conducted by the Tribes themselves under an agreement with the PUD and the results provided to the PUD, the Forest Service, and the BLM. Final results of the TCP survey will be presented in the Final EIS.

The transmission line would be designed to span across the historic archaeological site and thus avoid any impact. It would, therefore, have no effect on known cultural resources.

Alternative 3—Valley Floor

One known prehistoric archaeological site (45OK596) has been identified along the Valley Floor route, crossed by the existing distribution line. Because the section of distribution line that traverses the site would not be overbuilt or re-conducted under this alternative, the site would not be affected. The Valley Floor corridor is situated in an area that has a high potential for buried prehistoric archaeological deposits. There is, therefore, a strong possibility that excavations for transmission or distribution structure installation or replacement could expose and significantly affect the potential of as-yet-undiscovered archaeological properties to contribute information to the understanding of prehistory, if no mitigation plans were in place.

This alternative repeatedly crosses and re-crosses the historic east and west canals and, in so doing, may potentially affect these significant structures. The proposed transmission line would, however, span these canals and it is unlikely that the new transmission line or associated construction activities would affect the qualities that make them eligible for the National Register. Both irrigation systems remain functioning canals and, as such, are continually maintained through cleaning and occasional repair. Minor damage to the banks of a canal would not affect its physical integrity in an irreparable manner. Neither would construction or overbuilding of the transmission line affect the canals' feeling and association; they have existed side by side with a distribution line and other components of the built environment for most of their history (see Appendix A).

TCP research has been conducted based on a protocol provided to the Forest Service by the Confederated Tribes of the Colville Reservation. The draft overview document, a summary of the available literature, has been completed and is under review. Further TCP work will be conducted by the Tribes themselves under an agreement with the PUD and the results provided to the PUD, the Forest Service, and the BLM. Final results of the TCP survey will be presented in the Final EIS.

This alternative would not significantly affect identified cultural resources, but could have significant effects on buried archaeological sites if any are encountered during construction. Procedures would be implemented for reporting and protecting archaeological finds made during construction. These effects would, as a result, be lowered below the level of significance. As described in Section 4.12, excavations in areas with high archaeological probability would be monitored by a qualified archaeologist. If archaeological materials were found, excavation work would cease until the find could be evaluated and a treatment plan implemented.

Alternative 4—Loup Loup Hot Rebuild

This alternative would involve rebuilding the existing distribution circuits that follow the valley floor and has the potential to have significant effects on archaeological site 45OK596 by disturbing intact artifact associations as a result of excavation for structure emplacement and traversing by heavy equipment. Re-conductoring of the distribution lines along the Methow Valley floor would occur in an area that has a high potential for buried prehistoric archaeological deposits. Likewise, rebuilding the existing Loup Loup transmission line would entail construction in some areas, particularly along Frazer Creek, that the USDA Forest Service considers to have a high probability for containing buried archaeological deposits, although none were found during surveys. There is, therefore, a strong possibility that excavations for structure emplacement and other earth-disturbing activities associated with this work would expose and significantly affect the potential of as-yet-undiscovered archaeological properties to contribute information to the understanding of prehistory, if no mitigation plans were in place.

No historic sites that are eligible for the National Register have been identified along the Loup Loup route, but re-conductoring the existing distribution circuits along the Methow Valley floor could potentially affect the historic east and west canals. The re-conducted distribution circuits would, however, span these canals and it is unlikely that these distribution circuits or associated construction activities would affect the qualities that make them eligible for the National Register. Both irrigation systems remain functioning canals and, as such, are continually maintained through cleaning and occasional repair. Minor damage to the banks of a canal would not affect its physical integrity in an irreparable manner. Neither would construction or overbuilding of the transmission line affect the canals' feeling and association; they have existed side by side with a distribution line and other components of the built environment for most of their history (see Appendix A).

A request for a permit to conduct research in the TCP records of the Confederated Tribes of the Colville Indian Reservation has been submitted to the tribe. At this writing, construction of Alternative 2 would affect no TCPs of which the proponent is aware.

This alternative has the potential to affect site 45OK596 and may affect buried archaeological sites if any are encountered during construction. Procedures would be implemented for reporting and protecting 45OK596 and any archaeological finds made during construction. As described in Section 4.12, excavations in areas with high archaeological probability would be monitored by a qualified archaeologist. If archaeological materials are found, excavation work would cease until the find could be evaluated and a treatment plan implemented. These effects would, as a result, be lowered below the level of significance.

Alternative 5—Loup Loup Hot Rebuild with New Substation and Transmission Line

No known archaeological sites would be affected along the Loup Loup transmission line route or along the 14 miles of new transmission line between Pateros and Gold Creek. However, rebuilding the Loup Loup line would entail construction in some areas, particularly along Frazer Creek, that the USDA Forest Service considers to have a high probability for cultural resources based on topography. There is, therefore, a possibility that excavations for structure emplacement and other earth-disturbing activities associated with this work would expose and significantly affect the potential of as-yet-undiscovered archaeological properties to contribute information to the understanding of prehistory if no mitigation plans were in place.

No historic sites that are eligible for the National Register would be affected by a hot rebuild of the existing Loup Loup transmission line or by construction of a new transmission line from Pateros to a new substation in the Gold Creek area.

TCP research has been conducted based on a protocol provided to the Forest Service by the Confederated Tribes of the Colville Reservation. The draft overview document, a summary of the

available literature, has been completed and is under review. Further TCP work will be conducted by the Tribes themselves under an agreement with the PUD and the results provided to the PUD, the Forest Service, and the BLM. Final results of the TCP survey will be presented in the Final EIS.

This alternative would not significantly affect identified cultural resources, but could have significant effects on buried archaeological sites if any are encountered during construction. Procedures would be implemented for reporting and protecting archaeological finds made during construction. As described in Section 4.12, excavations in areas with high archaeological probability would be monitored by a qualified archaeologist. If archaeological materials were found, excavation work would cease until the find could be evaluated and a treatment plan implemented. These effects would, as a result, be lowered below the level of significance.

Alternative 6—Loup Loup Cold Rebuild with Temporary Generation

This alternative would involve rebuilding the existing distribution circuits that follow the valley floor and has the potential to have significant effects on archaeological site 45OK596 by disturbing intact artifact associations as a result of excavation for structure emplacement and traversing by heavy equipment. Re-conductoring of the existing distribution circuits along the Methow Valley floor would occur in an area that has a high potential for buried prehistoric archaeological deposits. Likewise, rebuilding of the Loup Loup Line would entail construction in some areas, particularly along Frazer Creek, which the USDA Forest Service considers to have a high probability for cultural resources based on topography. There is, therefore, a strong possibility that excavations for structure emplacement and other earth-disturbing activities associated with this work would expose and significantly affect the potential of as-yet-undiscovered archaeological properties to contribute information to the understanding of prehistory, if no mitigation plans were in place. The potential for disturbance in the Frazer Creek area is slightly lower under this alternative than under Alternatives 4, 5, and 7 because smaller construction areas would be required for a cold rebuild of the existing Loup Loup transmission line in this area.

No historic sites that are eligible for the National Register have been identified along the Loup Loup corridor, but re-conductoring of the existing distribution circuits along the Methow Valley floor could potentially affect the historic east and west canals. The re-conducted distribution circuits would, however, span these canals and it is unlikely that these distribution circuits or associated construction activities would affect the qualities that make them eligible for the National Register. Both irrigation systems remain functioning canals and, as such, are continually maintained through cleaning and occasional repair. Minor damage to the banks of a canal would not affect its physical integrity in an irreparable manner. Neither would construction or overbuilding of the transmission line affect the canals' feeling and association; they have existed side by side with a distribution line and other components of the built environment for most of their history (see Section 2.2).

TCP research has been conducted based on a protocol provided to the Forest Service by the Confederated Tribes of the Colville Reservation. The draft overview document, a summary of the available literature, has been completed and is under review. Further TCP work will be conducted by the Tribes themselves under an agreement with the PUD and the results provided to the PUD, the Forest Service, and the BLM. Final results of the TCP survey will be presented in the Final EIS.

This alternative has the potential to affect site 45OK596 and may affect buried archaeological sites if any are encountered during construction. Procedures would be implemented for reporting and protecting 45OK596 and any archaeological finds made during construction. As described in Section 4.12, excavations in areas with high archaeological probability would be monitored by a qualified archaeologist. If archaeological materials were found, excavation work would cease until the find could be evaluated and a treatment plan implemented. These effects would, as a result, be lowered below the level of significance.

Alternative 7—Partial Hot, Partial Parallel Rebuild of the Loup Loup

This alternative would involve rebuilding the existing distribution circuits that follow the valley floor and has the potential to have significant effects on archaeological site 45OK596 by disturbing intact artifact associations as a result of excavation for structure emplacement and traversing by heavy equipment. Re-conductoring of the existing distribution circuits along the Methow Valley floor would occur in an area that has a high potential for buried prehistoric archaeological deposits. Likewise, rebuilding of the Loup Loup line would entail construction in some areas, particularly along Frazer Creek, which the USDA Forest Service considers to have a high probability for cultural resources based on topography. There is, therefore, a strong possibility that excavations for structure emplacement and other earth-disturbing activities associated with this work would expose and significantly affect the potential of as-yet-undiscovered archaeological properties to contribute information to the understanding of prehistory if no mitigation plans were in place.

No historic sites that are eligible for the National Register have been identified along the Loup Loup corridor, but re-conductoring of the existing distribution circuits along the Methow Valley floor could potentially affect the historic east and west canals. The re-conducted distribution circuits would, however, span these canals and it is unlikely that these distribution circuits or associated construction activities would affect the qualities that make them eligible for the National Register. Both irrigation systems remain functioning canals and, as such, are continually maintained through cleaning and occasional repair. Minor damage to the banks of a canal would not affect its physical integrity in an irreparable manner. Neither would construction or overbuilding of the transmission line affect the canals' feeling and association; they have existed side by side with a distribution line and other components of the built environment for most of their history (see Section 2.2).

TCP research has been conducted based on a protocol provided to the Forest Service by the Confederated Tribes of the Colville Reservation. The draft overview document, a summary of the available literature, has been completed and is under review. Further TCP work will be conducted by the Tribes themselves under an agreement with the PUD and the results provided to the PUD, the Forest Service, and the BLM. Final results of the TCP survey will be presented in the Final EIS.

3.12.2.3 Cumulative Effects

This section considers the incremental effects of the proposed alternatives when added to other past, present, and reasonably foreseeable future actions. The cumulative effects boundary for this analysis is the area within one mile of proposed development corridors. Past actions that may have affected cultural resources include stock raising, agricultural development, timber harvests, excavation of the east and west canals, road construction, residential and commercial construction, and construction of the existing Loup Loup transmission and Valley Floor distribution lines. Present actions consist of transmission line maintenance, road maintenance, and continued agricultural and grazing activity. In the case of Alternatives 2 and 3, other past, present, and reasonably foreseeable actions include the operation and maintenance of the existing Loup Loup transmission line and the valley floor distribution circuits. As a result, all of the cumulative effects sections assess the effects of Alternative 2 and 3 in conjunction with the existing Loup Loup transmission line and the valley floor distribution circuits. Reasonably foreseeable future actions are defined for the purposes of this analysis as future actions that are planned or proposed within the project area or in its immediate vicinity

Past and Present Actions

Livestock grazing began with the adoption of horses by Indian tribes in the Eighteenth Century, and greatly accelerated during the early days of Euro-American settlement. Conducted without concern for protecting ground cover and riparian floras, grazing activity would have led to increased bank erosion and sheet wash, which no doubt eliminated or severely damaged many archaeological sites. Agricultural activity, including orchard development, certainly continued this alteration of the past record as it disturbed surface artifact distributions, leveled landscapes, and eliminated cairns and other

above-ground constructions, largely along the valley floor and on bluffs adjacent to it. Road construction and maintenance, irrigation canal excavation, residential and commercial construction, and transmission line development all are likely to have disturbed archaeological sites and eliminated some early historic sites, to some degree. In the absence of archaeological surveys for most of these actions, however, it is impossible to quantify their impact. It is also likely that these actions adversely affected traditional cultural properties, such as fishing location or landforms important in native folklore, either by damaging them directly, inserting nonconforming land uses and structures into their viewsheds, or adding unwelcome noise into their environments. Grazing certainly eliminated many native plants that were part of past subsistence practices and are now important elements in the drive to maintain cultural continuity.

Reasonably Foreseeable Actions

The reasonably foreseeable actions included in this analysis are discussed in Section 3.1. These activities include grazing allotment actions on NFS lands, grazing management on WDNR land, fuels management and timber salvage projects on NFS lands, Forest Practices on local government, state, and private forestlands, and residential and commercial development.

Grazing may affect the physical structure of wetlands and riparian vegetation in areas where cattle have direct access to streams. The three reasonably foreseeable grazing allotment actions on NFS lands are all intended to reduce grazing impacts to riparian areas and would meet all applicable Forest Plan standards and guidelines intended to protect wetlands, riparian areas, and other resources. Grazing allotment management plans and structural developments generally have a low probability for disturbing cultural resources. In addition, grazing actions on NFS lands fall under Section 106 of the NHPA and are not expected to adversely affect cultural resources.

The four reasonably foreseeable fuels management and timber salvage projects on NFS lands would meet all applicable Forest Plan standards and guidelines, including Section 106 of the NHPA, and are not expected to have significant effects on any cultural resources identified on the subject lands. The 16 reasonably foreseeable Forest Practices authorized by the WDNR within or in the immediate vicinity of the project area are assumed to meet all Forest Practices rules, which are, among other things, designed to specifically address cumulative effects (WAC 222-12-046).

Land development in previously undeveloped areas typically results in an increase in impervious surface area and may lead to increases in erosion and sedimentation, which have the potential to have negative effects on cultural resources. There are six approved and nine pending reasonably foreseeable residential development projects, and six approved 20-acre exempt segregations in the project area (See Section 3.1). The reasonably foreseeable residential development projects in the area approved and pending approval by the Okanogan County Planning Department are assumed to meet all local, county, and state planning regulations and ordinances. These developments are assumed to meet all local, county, and state planning regulations and ordinances, including those designed to protect wetlands and riparian areas.

Residential developments generally have the potential to disturb known and as-yet-undiscovered buried archaeological sites. Residential developments also have the potential to alter the viewsheds of historic and TCP sites and can alter the feeling and association of both by increasing the level of human activity around them. Any TCPs that are used for traditional spiritual practices might become less usable or useless for such purposes as a result of these changes. The reasonably foreseeable residential development projects in the area are assumed to meet all local, county, and state planning regulations and ordinances. However, sites identified during private development activities are not protected by any statute, so the effects of this type of disturbance might be considerable.

Cumulative Effects of the Proposed Alternatives

The potential for the proposed alternatives to contribute to cumulative effects associated with reasonably foreseeable grazing allotment and timber management activities is expected to be low under all alternatives. The potential for cumulative effects does, however, exist for those alternatives that involve construction along the valley floor. The effects associated with the alternatives themselves are not expected to be significant. As discussed in Section 3.12.2.2, minor effects from transmission construction or distribution rebuild under Alternatives 3 through 7 could combine with the effects of residential development to raise the effects on as-yet-undiscovered archaeological sites along the valley floor. Likewise, although the effects of transmission or distribution line construction on the historic east and west canals are unlikely to be significant, changes in the feeling and association of the canals might be significantly affected if combined with similar effects from residential developments. This type of cumulative effect seems unlikely to occur based on the reasonably foreseeable residential development projects identified to date.