

Lake Chelan Airport Project  
Cultural Resource Survey,  
Chelan County, Washington

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# Lake Chelan Airport Project Cultural Resource Survey, Chelan County, Washington

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## **ABSTRACT**

### **Lake Chelan Airport Project Cultural Resource Survey, Chelan County, Washington**

The City of Chelan / Port of Chelan County are proposing to undertake several projects to upgrade the Lake Chelan Airport to meet current and anticipated needs and improve safety. The proposed projects include work to: maintain pavement, shift and lengthen the runway and parallel taxiway, increase clearance to meet required dimensions, relocate one county road, acquire property for runway protection zones, install NAVAID projects, improve security, and revise the airport layout. These projects are included in and near the existing airport, cover less than 40 acres, and lie in Sections 03 and 04 of Township 27 North, Range 23 East; and Section 34 of Township 28 North, Range 23 East, Willamette Meridian. This project is partly funded by Federal Aviation Administration grant monies (federal capital); therefore, the managing agency must meet the requirements of the Section 106 of the NHPA, and consider the potential impacts to historic properties prior to project execution. To that end, USKH retained Plateau Archaeological Investigations (Plateau) to complete the cultural resource survey.

The cultural resource survey and minimal subsurface investigations within the Lake Chelan Airport Project provided no evidence of Native American or historic-era land-use within the Project Area. No further archaeological investigations are recommended prior to or during execution of this project.

## **KEY INFORMATION**

### **PROJECT**

Lake Chelan Airport Project Cultural Resource Survey, Chelan County, Washington

### **LOCATION**

Chelan, Chelan County, Washington

### **USGS QUADS**

Chelan Falls, Washington, 7.5' Series, 1968 (photo revised 1981)

### **LEGAL LOCATION OF PROJECT**

Sections 03 and 04 of Township 27 North, Range 23 East

Section 34 of Township 28 North, Range 23 East

### **PROJECT DATA**

0 Previously recorded Native American cultural resources

0 New cultural resources located and/or recorded

### **AUTHORS**

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### **MANAGING AGENCY**

Lake Chelan Airport jointly sponsored by City of Chelan and Port of Chelan County

### **PROJECT UNDERTAKEN AND REPORT PREPARED FOR**

USKH Inc., Spokane, Washington

### **FIELD NOTE DISPOSITION**

Archived at the office of Plateau Archaeological Investigations LLC, Pullman.

### **PRINCIPAL INVESTIGATOR**

David A. Harder, M.A.

### **DATE**

February 2011

### **CERTIFICATION OF RESULTS**

I certify that this investigation was conducted and documented according to Secretary of Interior's Standards and guidelines and that the report is complete and accurate to the best of my knowledge.

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Signature of Reporter

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Date

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## PROJECT DESCRIPTION

The City of Chelan / Port of Chelan County are proposing to undertake several projects to upgrade the Chelan Municipal Airport, located in Chelan County (Figure 1) to meet future needs and improve safety. The proposed projects include work to: maintain pavement, shift and lengthen the runway and parallel taxiway, increase clearance to meet required dimensions, relocate one county road, acquire property for runway protection zones, install NAVAID projects, improve security, and revise the airport layout including access revisions. This project is partly funded by Federal Aviation Administration (FAA) Airport Improvement Program (AIP) monies. Accordingly, the FAA must comply with the requirements of the Section 106 of the NHPA, and consider the potential impacts to historic properties prior to project execution. To that end, USKH retained Plateau Archaeological Investigations (Plateau) to complete the cultural resource survey.

These projects are included in and near the existing airport, cover less than 40 acres, and lie in Sections 03 and 04 of Township 27 North, Range 23 East; and Section 34 of Township 28 North, Range 23 East, Willamette Meridian (Figure 2). The Area of Potential Effects (APE) includes the vicinity of the runway extending 200 feet on either side of the runway and 1,200 feet on each end of the runway. Within the APE is an 1,850-foot section of Howard Flat Road which may be relocated, 600 feet of Runway 2 which may be extended, and 600 feet of the parallel taxiway connecting to Runway 2 which may be extended. Approximately 15.6 acres of land falls with the Runway Protection Zones (RPZ), 7.8 acres on each end of the runway. These areas may be acquired for the project. Within these areas are orchards and structures which may be removed. Anticipated impacts include demolition, excavation, compaction of soil, and other ground disturbing construction activities.



Figure 1. Chelan, Chelan County, Washington.

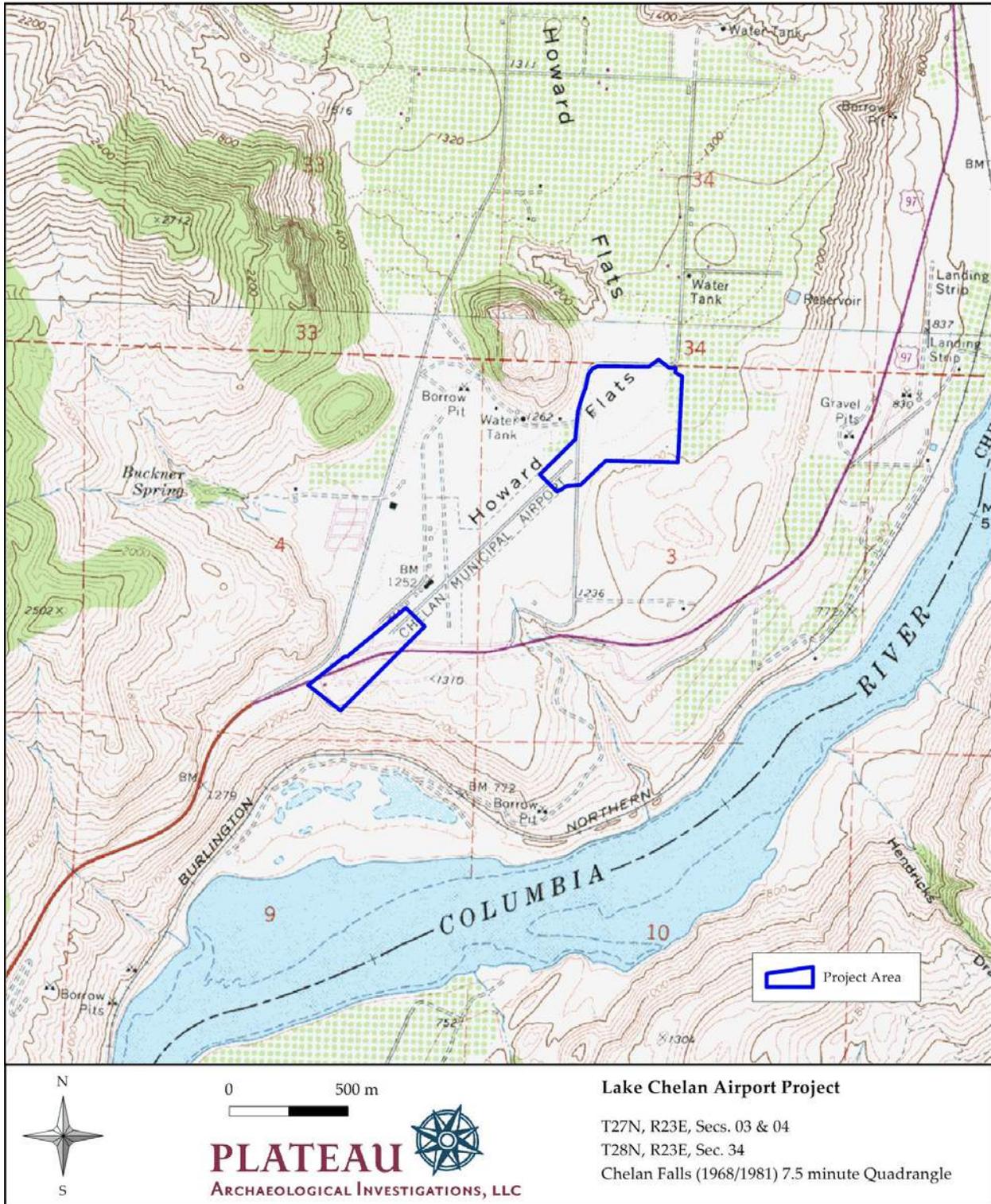


Figure 2. The Project Area shown on a portion of the Chelan Falls USGS map.

## **STATEMENT OF OBJECTIVES**

Cultural resource survey of the Lake Chelan Airport Project is intended to identify potential archaeological resources and potential historic properties on the parcel prior to proposed construction. The pre-field research was designed to identify any known cultural properties located in or near the Project Area. Fieldwork procedures were designed to identify areas of moderate to high probability for Native American and Euroamerican cultural resources. This report describes the pre-field research, field efforts, and results of the project.

## **LOCATION AND GENERAL ENVIRONMENTAL SETTING**

The Lake Chelan Airport is located 3.0 miles (mi) (4.8 kilometers [km]) northeast of the City of Chelan. The city sits on Lake Chelan, located in the southeastern corner of Chelan County. The USGS (1981) map indicates that the airport is bordered by a knob to the north, U.S. Highway 97 to the south, Howard Flats Road to the east, and Apple Acres Road to the west. Neighboring towns include Pateros, 13 mi (21.7 km) northeast; and Entiat, 18 mi (30 mi) southwest. The Wenatchee National Forest surrounds the city and lake.

Chelan sits at the corner of three physiographic provinces; the Northern Cascades, the Okanogan Highlands, and the Columbia Basin. The Northern Cascades extend from Snoqualmie Pass to the Canadian Border. The province is a topographically mature area of great relief, with elevations ranging between 5,905 and 8,530 feet (ft) (1,800 and 2,600 meters [m]) above mean sea level (AMSL) (Franklin and Dyrness 1969:14). The Okanogan highlands are bounded by the Columbia Plateau to the south, the Rocky Mountains to the east, and the Cascade Mountains to the west. This physiographic province consists of forested mountains that reach 4,000 to 6,000 ft (1,220 to 1,830 m) AMSL (Alt and Hyndman 1984:24-37). By contrast, the Columbia Basin, which lies between the Rocky Mountain and Cascade Mountain ranges, consists of gently rolling hills amidst Channeled Scablands. Elevations in this region range between 200 ft (61 m) AMSL near the Columbia River to over 4,500 ft (1,372 m) AMSL in outlying ridges and low mountains (Fenneman 1946; Hunt 1967). The airport is located on Howard Flats, and lies at about 1265 ft (385.6 m) AMSL. Mountains surround the airport. Directly north of the airport is a knob of land that reaches 1,810 ft (551.7 m) AMSL.

The predominant draw for Native American and Euroamerican populations in this region was, and still is, the extensive river systems. The most significant environmental feature is the Columbia River, which flows for more than 1,200 mi (2,000 km) from the base of the Canadian Rockies in southeastern British Columbia to the Pacific Ocean at Astoria, Oregon. Ten major tributaries – the Kootenay, Okanogan, Wenatchee, Spokane, Yakima, Snake, Deschutes, Willamette, Cowlitz, and Lewis rivers – complete the system. The Rocky Reach Dam was built in 1956, creating Lake Entiat along the Columbia River, located 3,090 ft (941.8 m) south of the airport.

While the river alone drew a good-sized population to the area, it was Lake Chelan that became an important environmental and cultural feature in the region. The lake was carved out by the Chelan glacier, which extended from the Cascade crest to the Columbia River (Alt and Hyndman

1984). Lake Chelan measures 50 mi (83 km) long, reaches widths of 1.0 mi (1.6 km), and offers over 110 mi (183.3 km) of shoreline. The Stehekin River flows into the northern end of the lake after its journey through the Cascade Mountains. The Chelan River meanders 5.0 mi (8.3 km) from the southern end of the lake into the Columbia River.

According to the Natural Resource Conservation Service (2010), there are seven soil types within the APE. The northern RPZ and road segment that will be relocated run through Cashmont sandy loam (0-3% slopes). The southern RPZ consists of Cashmont sandy loam (3-8% slopes), Quincy loamy fine sand (0-15% slopes), Supplee very fine sandy loam (0-3% slopes), and terrace escarpments. The proposed access road paralleling U.S. Highway 97 passes through Supplee very fine sandy loam (0-3% slopes), Supplee very fine sandy loam (3-8% slopes), and Supplee very fine sandy loam (8-15% slopes).

Native vegetation consists of the *Artemisia tridentata*-*Agropyron spicatum* (big sage-bluebunch wheatgrass) association (Franklin and Dryness 1969). Along with big sagebrush and bluebunch wheatgrass, in an undisturbed setting, this association includes stiff sagebrush (*Artemisia rigida*), low sagebrush (*Artemisia arbuscula*), Idaho fescue (*Festuca idahoensis*), giant wildrye (*Leymus condensatus*), and Thurber needlegrass (*Achnatherum thurberianum*).

The region within which the project lies contains an abundance of life. It is within the Canadian Life zone as defined by Merriam in 1892 (Dalquest 1948:27) and many species of animals are present. It is likely though, that Native Americans had access to a larger variety of creatures during the past. The following animals may have been available to aboriginal populations in the past; elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*), mountain goat (*Oreamnos americanus*), bighorn sheep (*Ovis canadensis*), black bear (*Ursus americanus*), racoon (*Procyon lotor*), marten (*Martes americana*), fisher (*Martes pennanti*), shorttail weasel (*Mustela erminea*), longtail weasel (*Mustela frenata*), mink (*Mustela vison*), striped skunk (*Mephitis mephitis*), badger (*Taxidea taxus*), river otter (*Lutra canadensis*), coyote (*Canis latrans*), red fox (*Vulpes fulva*), cougar/mountain lion (*Felis concolor*), lynx (*Lynx canadensis*), bobcat (*Lynx rufus*), hoary marmot (*Marmota caligata*), golden-mantled squirrel (*Citellus lateralis*), ground squirrels (*Citellus* sp.), northern flying squirrel (*Glaucomys sabrinus*), red squirrel (*Tamiasciurus hudsonicus*), bushytail woodrats (*Neotoma cinerea*), porcupine (*Erethizon dorsatum*), snowshoe hare (*Lepus americanus*), and possibly cottontail (*Sylvilagus nuttalli*). Species that may have been present in the region in the past include wolverine (*Gulo luscus*), wolves (*Canis lupus*), and even the occasional bison (*Bison bison*) (Burt and Grossenheider 1961; Dalquest 1948).

According to Lothson (1977), several species of fish were, or are, available in the region (especially along the major drainages) including: sturgeon (*Acipenser*), whitefish (*Prosopium*), suckers (*Pantosteus*, *Catostomus*), bullhead (*Cottus*) and anadromous fish such as salmon (*Oncorhynchus* spp.) and steelhead (*Salmo gairdneri*). Rainbow trout (*Oncorhynchus mykiss*) and brook trout (*Salvelinus fontinalis*) are also present in regional lakes and streams. Lake Chelan had small landlocked coho salmon (Miller 1998:255).

Many types of fowl and game may also have been available in the region in the past including: Swarth blue grouse (*Dendragapus obscurus pallidus*), Columbian ruffed grouse (*Bonasa umbellus affinis*), Columbian sharp-tailed grouse (*Pedioecetes phasianellus*), mallard duck (*Anas platyrhynchos platyrhynchos*), western harlequin duck (*Histrionicus histrionicus pacificus*), American common merganser (*Mergus merganser americanus*), the lesser snow goose (*Chen hyperborea hyperborea*), and the Great Basin Canada goose or "honker" (*Branta canadensis moffitti*). Seasonally available birds such as Gadwall (*Anas strepera*), wood duck (*Aix sponsa*), redhead (*Aythya americana*), and the northern ruddy duck (*Oxyura jamaicensis rubida*) reside in the region in the summer. Winter game birds include canvasback (*Aythya valisineria*) and American greater scaup (*Aythya marila nearctica*) (Lothson 1977).

The creatures listed above are not necessarily present or available in or adjacent to the project areas today. This is provided merely as a list of resources that may have played a role in aboriginal use, settlement, and travel patterns in relation to the project areas. In fact, Ray (1942) noted the importance of many of these animals in the Native American lifeways.

The Lakeside weather station, located at the southern terminus of Lake Chelan, has recorded this region as receiving an average of 10.87 inches of precipitation. The average seasonal temperatures recorded are 28.3° F in winter and 70.4° F. in the summer. Extreme temperatures of -18° F and 106° F have been recorded (Western Regional Climate Center 2010).

## **PRE-FIELD RESEARCH**

Pre-field research consisted of the review of known archaeological resources within a 1.0-mi (1.6-km) radius of the Project Area as inventoried at the Washington State Department of Archaeology and Historic Preservation (DAHP) in Olympia, Washington. This was completed using the Washington Information System for Architectural and Archaeological Records Data (WISAARD) electronic database on March 23, 2010. Following this, the electronic database of National Register of Historic Places (NRHP) and the Washington Heritage Register (WHR) were consulted.

Plateau also conducted cartographic analysis of landform, topography, soils, and proximity to water using topographic maps. Secondary historic resources, on file at the DAHP and Washington State University (WSU) in Pullman were consulted to identify any known cultural resources. This search allows identification of previously recorded historic and archaeological resources within or near the project's area of potential effect.

In addition, available survey and overview reports were consulted as were ethnographic accounts of the region. A review of ethnographies was done to help identify any known Traditional Cultural Properties.

## PREVIOUS ARCHAEOLOGICAL RESEARCH

There are 11 cultural resources inventoried on the WISAARD database within 1.0 mi (1.6 km) of the Lake Chelan Airport (Table 1). Five of these are located across the Columbia River in Douglas County. Five of the six Chelan County sites are located along the shores of the Columbia River. There are over 50 Native American and historic-era cultural resources identified less than 5.0 mi (8.3 km) southwest, closer to the City of Chelan and the lake.

Table 1. Cultural Resources within 1.0 Mile of the Lake Chelan Airport.

Site Number	Site Type	Recorder
45CH225	Pre Contact Pictographs	Hess (2007); McClure (1978)
45CH253	Pre Contact Camp	Simmons and Comfort (1981)
45CH267	Pre Contact Shell Midden	Simmons and Comfort (1981)
45CH268	Pre Contact Lithic Scatter	Simmons and Comfort (1981)
45CH274	Multi-component	Simmons and Comfort (1981)
45CH406	Pre Contact Camp	Welch (1990)
45DO407	Pre Contact Camp	Schumacher (2005); Simmons and Comfort (1981)
45DO428	Historic Agriculture	Simmons (1981)
45DO429	Historic Refuse Scatter	Simmons (1981)
45DO507	Pre contact Camp	Fredin (1990); Lyons (1991)
45DO508	Pre Contact Lithic Scatter / Pre Contact Midden	Lyons 1991; Welch (1990)

Site 45CH225 is a pre contact pictograph (Hess 2007; McClure 1978). One of the pictographs appear to represent a horse bearing a saddle, placing the site in the late 18<sup>th</sup> century. The site is located at the edge of a high terrace overlooking the Columbia River, and directly east of U.S. Highway 97. This is the closest site to the Lake Chelan Airport.

Site 45CH253 is a pre contact camp (Simmons and Comfort 1981). The site consists of post molds, hearth feature, an oven, a fire cracked rock concentration, and horse bones. The site is located along the northern banks of the Columbia River, approximately 540 ft (164.6 m) below the Lake Chelan Airport.

Site 45CH267 is a pre contact shell midden (Simmons and Comfort 1981). The site is centered around a small draw. The midden contains a matrix of shell, bone, fire cracked rock, and lithics. A jasper flake was also observed at the site. This site is located along the western shore of the Columbia River, approximately 528 ft (160.9 m) below the Lake Chelan Airport.

Site 45CH268 is a pre contact lithic scatter (Simmons and Comfort 1981). Observed artifacts were found on a sand slope in blowout area, and include three jasper flakes, two shell fragments, and ten bone fragments. This site is located along the western shore of the Columbia River, approximately 434 ft (132.3 m) below the Lake Chelan Airport.

Site 45CH274 is a multi-component site consisting of chipped stone tools and historic features (Simmons and Comfort 1981). Depressions in the cobble beach may be the result of Chinese gold panning. This site is located adjacent to site 45CH406.

Site 45CH406 is a pre contact camp located along the western shore of the Columbia River, approximately 538 ft (163.9 m) below the Lake Chelan Airport (Welch 1990). The site consists of a sporadic scatter of cultural material over 0.5 mi (0.8 km) of cobble beach.

Archaeological investigations have been carried out along the Rocky Reach since the mid 20<sup>th</sup> century (Boeson 1992; Daugherty 1956a; Galm 1990; Gunkel 1961; Hartmann and Schumacher 2003; Schalk and Mierendorf 1983; Schumacher et al. 1999). Additionally, cultural overviews of the Wenatchee National Forest were completed (Hollenbeck and Carter 1986; Holstine 1994). Background research at the DAHP indicated that there have been no cultural resource surveys conducted within the Lake Chelan Airport property. There have been eight cultural resource surveys conducted within 1.0 mi (1.6 km) of the airport. Five of these are in Douglas County, including a subdivision surveys (Arthur 2009; Schumacher 2004), a dock project (Schumacher 2008), a shoreline permit project (Schumacher 2008), and a grazing lease project (Sweeney 2008).

In 2002 WSHS completed a survey of 3.75 mi (6.25 km) of U.S. Highway 97A in preparation of road improvements (Hartmann 2003). The right-of-way included a width of 100 ft (30.5 m). While several historic-era structures were observed related to the Isenhart orchard company, no Native American cultural material or features were observed. The Isenhart structures were considered eligible for listing on the NRHP; however, to-date they are not listed.

In 2009, Bureau of Land Management completed a cultural resource survey of 1.5 acres for the Howard Flats hazardous materials clean-up project (Sweeney 2009). A historic scatter was identified during the survey. The site consists of a stack of square-cut timbers that may be related to an outbuilding associated with an early 20<sup>th</sup> century homestead, although the timbers have been moved from their original location. This project is to the north of the airport.

Another survey was completed in 2009 for a Natural Resource Conservation Service water development project (Amara 2009). The survey covered approximately 0.7 acres, and no cultural resources were identified. This project is to the northwest of the airport.

## REGIONAL PREHISTORIC BACKGROUND

The Project Area is included in the Plateau culture area which corresponds roughly to the geographic region drained by the Fraser, Columbia, and Snake rivers. The Plateau cultural area is bordered on the west by the Cascade Mountains and on the east by the Rocky Mountains. The northern border of the cultural area is in Canada where the Plateau cultural area gives way to Arctic cultural patterns. The southern portion of the Plateau cultural area mixes gradually with the Great Basin cultural area.

Although this particular location is near the middle Columbia River, two regional cultural chronologies will be presented. The chronology from the Lower Snake River developed by Frank Leonhardy and David Rice (1970) will be presented first since this chronology offers a more complete thesis regarding material culture and settlement patterns in the Columbia Plateau culture area. Next, the middle Columbia River chronology developed by Galm et al. (1981) and Nelson (1969) will be presented. Generally, these two chronologies are similar to one another, yet there are differences in ages of phases and material culture inventories. The middle Columbia River chronology, though, is more applicable to the Project Area.

### Lower Snake River Cultural Chronology

Paleoindian ~ Evidence of established Paleoindian populations dating as early as 11,500 Before Present (B.P.) (Meltzer 1993) and Clovis artifacts are found across the North American continent including Washington at East Wenatchee near the Columbia River (Gramly 1993:6-7; Mehringer 1989; Mehringer and Foit 1990). Reid (1991:63) reports the existence of a fluted point base and two channel flakes from separate fluted points from the Mitchell Site (45WW62) in the Ice Harbor Reservoir. These artifacts are in a private collection. It is therefore reasonable to hypothesize that Paleoindian hunter-gatherers were present along the Snake and Columbia rivers.

Windust Phase ~ The Windust Phase dates from 10,000 to 8,000 B.P. (Leonhardy and Rice 1970) and its existence has been well established. The principal raw material used was cryptocrystalline silicates (CCS) but andesite was also used. The typical "Windust Points" are short-bladed with shoulders of varying prominence and straight to contracting stems and bases that are straight to slightly concave (see Leonhardy and Rice 1970:4-5). They were probably used on the tips of thrusting spears. Lanceolate points are represented, though rarely, and large tabular flakes and prismatic blades are also found in the assemblages. Cobble tools were utilized and include large scrapers, unifacial and bifacial choppers, and utilized spalls. Other items present in small numbers include relatively large endscrapers and single- and multi-faceted burins.

Bone tools were found in Windust assemblages with good preservation such as Marmes Rockshelter (Rice 1969:40-43) and Lind Coulee (Daugherty 1956b:252-255; Irwin and Moody 1978:84-106). These include composite bone tools, tips of awls, shaft fragments, atlatl spurs, needles, projectile points, and bone beads.

Several species of fauna have been found in association with Windust artifacts including an extinct variant of bison (*Bison bison* c.f. *occidentalis*) (Wilson 2008:133-134), elk (*Cervus canadensis*) that are

larger than modern individuals, deer (*Odocoileus* spp.), pronghorn antelope (*Antilocapra americana*), rabbits (*Lepus* spp. and *Sylvilagus* spp.), and beaver (*Castor canadensis*). River mussels (*Margaritifera falcata* or *Gonidea angulata*) indicate some use of riverine resources. Faunal remains from various sites throughout the Plateau.

Cascade Phase ~ The Cascade Phase dates from 8,000 to 5,000 B.P. and is divided into two subphases that are defined by the absence or presence of side notched projectile points (Leonhardy and Rice 1970). The primary characteristic of the Cascade Phase is the lanceolate point – called "Cascade Points," or sometimes "leaf shaped" or "foliate" – which was probably mounted on light javelins or darts that could be propelled with an atlatl (Aikens 1993:95). Aside from a difference in projectile points, Cascade Phase artifacts resemble Windust Phase artifacts that have been refined over time. The same types of cobble tools were still in use as well as edge ground cobbles, atlatl weights, and pounding and grinding stones. Bone artifacts include large and small needles, splinter awls, shaft fragments and atlatl spurs. *Olivella* beads are the only shell artifacts represented.

The early and late Cascade subphases are separated stratigraphically by a volcanic ash layer from Mt. Mazama (Crater Lake) in Oregon dated at approximately 6,850 B.P. (Bacon 1983). The late subphase – referred to as the Cold Springs horizon – contains the same artifact assemblage as the early subphase with the addition of side-notched projectile points. There is little evidence of specialized fishing techniques, although riverine resources such as river mussels, become increasingly important. Deer, elk, and pronghorn antelope were important faunal resources as were smaller animals such as rabbits and beaver. The Cascade Phase hunter-gatherer-fishers settlement pattern was non-nucleated, and these foragers relied upon a broad spectrum of plant and animal resources (Bense 1972:113-114).

Tucannon Phase ~ The Tucannon Phase dates from 5,000 to 2,500 B.P. The material culture of this phase is distinct from the previous two phases. Several projectile point forms are present; one has a short blade with varying shoulder widths and contracting stems, another is notched low on the side or at the corners giving it an expanding stem and short barbs. A third form is side-notched with a concave base (Ames et al. 1980:69). Cobble scrapers and small side- and end-scrapers and hopper mortars, pestles, pounding stones, and ground or notched net sinkers are present. Awls were made of split or splintered bone and a recovered bone shuttle is indicative of net making. Faunal resources exploited are similar to those used in the other phases and bighorn sheep (*Ovis canadensis*) were added to the inventory. Intensification of riverine resources is indicated by an increased variety of fishing gear (Harder 1998:120).

A dramatic change in the settlement systems is the most striking difference between the Tucannon Phase and previous phases. The advent of pithouse construction signals a shift in settlement patterns and indicates an increase in sedentism (Harder 1998). These people were semi-sedentary hunter-gather-fishers that relied upon delayed consumption of seasonally abundant resources. The shift may have been brought about by the intensification of root crops, as indicated by the addition of hopper-mortar bases and digging stick handles to the archaeological record (Ames and Marshall

1980; Harder 1998). The desire to control access to critical resources may also have played a part (Lohse and Sammons-Lohse 1986; Nelson 1973). The presence of pipes, digging stick handles, carved bone, and bone beads in the archaeological record suggests an increase in social complexity, craft specialization, class structure, and social ranking (Harder 1998:124).

Harder Phase ~ The Harder Phase dates from 2,500 B.P. to 150 B.P. (Leonhardy and Rice 1970:17). The onset of the Harder Phase is marked by the presence of sculpted mauls, perforated net sinkers, exotic shell artifacts, dog burials, and pithouse villages (Harder 1998:124). The change during the phase from large basal and corner-notched projectile points to projectile points that are smaller and more refined indicate that the bow and arrow were introduced during this time. Lanceolate and pentagonal knives as well as small end scrapers are present throughout the phase. Bison and dog remains are associated with Harder Phase sites as are bighorn sheep, deer, elk, pronghorn, and small mammals. An increase in the frequency of net sinkers and an inference that weirs and traps were utilized indicates a dependance upon fish.

Changes in feature construction and artifact types, although not firmly defined, were probably established by about 1,000 B.P. The change in pithouse designs from steep walled to saucer shaped, as noted on Strawberry Island, may be indicative of a shift in procurement and settlement practices (Shalk et al. 1983). Projectile point types shift toward small, delicate basal and corner-notched points. Scrapers with a concave bit, possibly a specialized woodworking tool, have been recovered. Twined basketry, awls, matting needles, and composite harpoons are some of the fragile materials recovered from the latter portion of the phase. The Harder Phase materials and settlement patterns suggest a culture that is very similar to the ethnographic pattern. People lived in pithouse villages in the winter months and relied upon a seasonal round that provided both immediate return and storable items for winter subsistence.

Numipu Phase ~ Leonhardy and Rice (1970:20) use the Numipu Phase to designate the period of time beginning when the aboriginal cultures of the Columbia Plateau were affected directly or indirectly by the westward expansion of the Euro-American culture. It is marked by the introduction of the horse and historic trade goods such as beads, glass, and metal. This time is sometimes called the Protohistoric period. Populations were affected dramatically through disease, and changes in material culture and transportation. This is also the time from which most ethnographies begin.

### **Mid-Columbia River Cultural Chronology**

Windust Phase ~ Windust Phase components are not well represented along the mid-Columbia River but the phase has been extrapolated based upon similarities in assemblages to those along the Snake River. Windust type points from the Lower Snake River have been found along the mid-Columbia River, but only as surface finds, and at Lind Coulee (Galm et al. 1981:59).

Vantage Phase ~ The Vantage Phase dates from 8,000 B.P. to 4,000 B.P. Artifacts from this phase include leaf shaped (Cascade) projectile points and knives, flake tools, scrapers, tabular cores, edge ground cobbles bone needles, awls, burins and *Olivella* beads. Cold Springs is included as a

subphase that arises after the eruption of Mt. Mazama at approximately 6,850 B.P. (Bacon 1983). The subphase is delineated by the presence of Cold Springs Side-Notched projectile points found in association with Cascade points. Nelson (1969:27) further mentions manos, conical pestles, grinding stones, and atlatl weights as being characteristics of this phase.

Frenchmen Springs Phase ~ The Frenchmen Springs Phase dates from 4,000 to 2,500 B.P. (Galm et al. 1981:55; Nelson 1969:33). Swanson delineated and described this phase based largely upon perishable materials and features (Nelson 1969:28). He found cordage, sewn and woven matting, coiled basketry and wooden tools as well as a small housepit and a probable mat lodge (Swanson 1962:39). This phase has a wide variety of point types associated with it; leaf shaped points (stemmed, non-stemmed and shouldered varieties), rectangular stemmed points (called Rabbit Island Stemmed), tanged points (some with serrations), Cold Springs Side-Notched, and corner notched points (Nelson 1969:28; Swanson 1962:39). Other items associated with this phase are awls of stone, wood, and bone; drills; milling stones and hopper mortars; scrapers of all types; cobble tools; wooden tools; and a fire-drill. The Quilomene Bar Phase, which rested upon the presence of base-notched projectile points which were of "minor importance" to the Frenchman Springs Phase and the Sunset Creek Phase (Nelson 1969:37), was split into two and subsumed into the Frenchman Springs Phase and the later Sunset Creek Phase (Galm et al. 1981:55). The terminus of the Frenchman Springs Phase was then set at 2,500 B.P. (Galm et al. 1981:55).

Sunset Creek Phase ~ The Sunset Creek Phase dates from 2,500 to 250 B.P. (Galm et al. 1981:82). Originally designated the Cayuse Phase by Swanson following his research near Vantage, Galm et al. (1981:62) suggested the name change to avoid using "misleading and...inappropriate" terminology. This phase has been separated into sub-phases based upon cordage styles (Swanson 1962), and on housepit styles and associated artifacts (Nelson 1969) which will not be discussed here as they are not immediately pertinent to this discussion. The most prominent feature of the Sunset Creek Phase are winter villages, which may be made up of dozens of housepit features and are normally located in protected areas near confluences of rivers or near lakes. These villages are noted in close physical proximity to other contemporary sites such as fishing stations, storage shelters and pits, cemeteries and pictographs and petroglyphs (Nelson 1969:38). "The basic hunting-gathering equipment of earlier phases is retained *in toto*" (Nelson 1969:49), although technological additions to the material culture included specialized fishing gear like composite harpoons and leisters (Galm et al. 1981:Figure 7). The terminus of the Sunset Creek III sub-phase is marked by the introduction of items with a "European" origin (Nelson 1969:96).

### **Ethnography**

The ethnographic peoples of the Plateau lived in an egalitarian society with little or no slavery or caste systems. Their villages were autonomous and their leaders probably influenced others through charismatic actions or persuasive speech. In winter the people lived along major rivers in earth or mat lodges at semi-permanent villages. Their villages were situated in relatively warm locations that were protected from the harsh elements and their earth lodges were semi-subterranean (Ray 1939:135). A hole was dug in the earth, and a pole frame was erected on the pit and covered with mats and brush and finally earth to insulate it. Mat lodges also were built and

used as lodging year round. These consisted of a pole frame with a mat covering and the structures were probably easily dismantled, moved and re-assembled at a new campsite.

Villages and food procurement followed seasonal change. Permanent villages were situated in valley bottoms and along major riverways, not so much for the natural resources rivers offered but more for the protection that the valleys offered from inhospitable winter conditions. Winter habitation sites were occupied during the coldest months of the year. People probably settled in for the winter in mid- or late-October. During the next four or five months they relied upon stored foods and any game that could be taken. In early spring, winter supplies began to dwindle and people began making forays to gather emergent root crops (Nelson 1973). Summer camps were situated in the uplands where hunting, berry picking, and root digging occurred. Task groups often went to specific areas to hunt, to quarry toolstone, to collect berries, or to gather other resources such as tules to make mats (Aikens 1993:90).

## **REGIONAL HISTORIC BACKGROUND**

Contact with peoples on the west coast of the continent were well established by the end of the eighteenth century by British, Spanish and Russian trading vessels that made regular visits to the coastline. These trading expeditions began the first contact between aboriginal groups and outside cultures. The written historical record of the area, though, really begins when the Corps of Discovery, led by Meriwether Lewis and William Clark, journeyed through the region in 1805. Although the Corps were not near the Project Area, their travels foreshadowed the imminent changes.

Trappers from the Canadian-owned Northwest Company made their way into the region in 1809 and built Spokane House, located at the confluence of the Spokane and Little Spokane rivers. In 1811 Fort Okanogan was built at the confluence of the Columbia and Okanogan rivers by the American-owned Pacific Fur Company. These two companies struggled against one another for fur trade business until 1812 when the Pacific Fur Company holdings were sold to the Northwest Company. Soon the London-based Hudson's Bay Company and the Northwest Company were amalgamated under the British Crown. When it became clear in the mid 1820s that Spokane House was struggling to make a profit, the company moved operations to a new fort near Kettle Falls and named it Fort Colville, 105 mi (175 km) northeast of Lake Chelan. It became the most important post between the Cascade and Rocky mountains. The post provided grain to other forts in the northwest

and was an important fur trading depot. Fort Colville operated for 46 years (Beckham 1998; Bohm and Holstine 1983). The U.S. Army built Fort Chelan in 1880, only to abandon it within a year.

Because of increasing numbers of emigrants, the Oregon Territory was officially established in 1848. By 1850, nearly 12,000 emigrants had passed through the Plateau region along the Oregon Trail (Beckham 1998; Walker and Sprague 1998). With the establishment of the Oregon Territory, federal involvement proliferated. Treaties between Indian tribes and the new state and federal governments were soon underway. These treaties were difficult to maintain in light of the rapid

influx of miners following the several “rushes” and settlers who were eager for property. The unintentional introduction of disease and other stresses introduced by the new settlers caused mistrust and eventually, warfare. Several battles took place in the Oregon Territory between 1855 and 1858.

During this unrest, efforts were made to limit the incursion of emigrants and others into Indian territories. Volunteer militias, though, attacked indiscriminately and fueled the problems. The unrest culminated with Colonel Edward J. Steptoe’s ruthless campaign in 1858 that resulted in the executions and murders of sixteen Indians including a Yakama chief named Owhi and his son, Qualchan (Beckham 1998). While Steptoe’s campaign was underway, Major R.S. Garnett led approximately 300 soldiers on a sweep from Fort Simcoe up through the Yakima country, through Wenatchee (32 mi [53.3 km] southwest of Lake Chelan) and as far as the Similkameen River.

Garnett’s sweep was partly in response to an ambush of miners passing along the Cariboo Trail. An undetermined number of Indians attacked the party in what is now known as McLoughlin Canyon south of Tonasket (approximately 60 mi [100 km] northeast of Lake Chelan), resulting in the death of at least three and injury to as many as 20 in the party (Wilson 1990:58-61). Garnett’s campaign resulted in the summary executions of ten Indians suspected of having attacked the miners and the loss of one private who was lagging behind the company and was presumably shot by an Indian (Wilson 1990:62).

In 1859 the U.S. Army moved forces from the Yakima Valley to the Colville area. A post, initially named “Harney’s Depot” was set up northeast of the present city of Colville. It quickly became known as Fort Colville. This military post was distinguished from the fur trading post by its “American” spelling. Fort Colville provided a base for boundary commissioners who surveyed the American/Canadian border and for the Army that was responsible for moving Indians onto reservation land. The post was abandoned for Fort Spokane in 1885 (Bohm and Holstine 1983).

Settlement of the region by non-Indians began as early as 1856. During the 1870s and 1880 the surrounding region attracted settlements of Chinese and American miners and traders. But settlement was relatively slow until 1886 when the Moses Reservation was opened to occupation by non-Indians. The region was quickly deluged by miners, stockmen, lumbermen, farmers, merchants, and others.

Beginning in 1896 when the north half of the Colville Reservation was opened to mining, a large number of miners moved into the region to prospect. With this came the establishment of many towns, communication networks, cabins, and mining related sites. Since the first flush at the end of the 18<sup>th</sup> century, mining has remained a prime motivating factor in the Okanogan Highlands. Twenty-three precious and industrial metals have been identified in the region including gold, silver, copper, chromium, molybdenum, titanium, and zinc. Other economically attractive non-metallic minerals such as gypsum and limestone are also present in the region (Wilson 1990:119).

In 1900 the north half of the Colville Reservation was opened to homesteading. By 1910, according to Uebelacker (1978:84), all land attractive to homesteading was settled. This rapid settlement was facilitated by the creation of roads and settlements by miners in the region. Lumber harvesting became more prevalent as mining and homesteading increased. Portable sawmills were common and could be moved to locations that were advantageous for both harvesting wood and milling lumber (Uebelacker 1978:93-95).

### **The Colville Reservation**

The Colville Reservation was established in 1872. The tribes of the territory were originally provided with property north of Spokane on April 9, 1872. The reservation was bounded, generally, by the Columbia, Spokane, and Pend Oreille rivers. This property was soon "exchanged" for property west of the original reservation which is bounded by the Columbia River on the south and east and by the Okanogan River on the west. The north boundary was the "British possession." This included 2.9 million acres of property. Twenty years later, the north half of the Colville Reservation (totaling 1.5 million acres) was "restored" to public domain and opened for settlement by non-Indians in 1892. At the time of "restoration" to public use, hundreds of allotments were provided to those Indians that had settled. In 1896 mineral rights in the northern half were opened to the general public, and in 1900 it was opened to settlement under the Homestead Act.

Meanwhile, the Moses Reservation was established in 1879 west of the Colville Reservation. The reservation initially extended from the northern margins of Lake Chelan north to the Canadian border, and east from the Cascade Range crest to the Okanogan River. A year later this area was expanded to include Lake Chelan. In 1883 an agreement was made between the United States Government and the people of the Moses reservation, and the Moses band and others moved to the Colville Reservation which was, as stated above, subsequently reduced in 1892.

When these properties were removed from the reservation system, and land was opened for use by all non-Indians, hundreds of 80-acre allotments were granted to Indian people. According to Uebelacker (1978:76) 697 allotments had been granted. Boswell (2000:41) places the number of allotments at 660. Indian allotments are lands that have been granted to an individual for their own benefit, and are held in legal trust by the United States for the named Indian as a trust patent. The procedures for land allotment were left, generally, to the discretion of the allotting agency. Typically, the land being allotted needed to show some improvements. Family groups were allotted adjacent properties to help improve success and to aggregate property (Boswell 2000:43).

Following conveyance of the property as an allotment, it is subject to state laws and taxes. It is then possible to transfer an allotment to an individual via a fee patent in either an unrestricted or restricted manner. Allotments transferred to the individual via an unrestricted patent are then indistinguishable from other privately owned property. Restricted patents may vary in their restrictions from use, transferability, mineral rights, etcetera. Thus, allotments in the former north half of the Colville Reservation may remain as trust patents or may have been conveyed to fee patents and either type of patent may have restrictions.

As of 1978, about 100 of the original 697 allotments remained in Indian ownership (Uebelacker 1978:76). Allotments are not typically marked on USGS topographic maps. In the former north half of the Colville Reservation, however, numerous parcels are marked as "Indian Allotment." According to Ron Scherler of the BLM Cadastral Survey in Portland, Oregon, these parcels were allotted prior to the establishment of the Rectangular Survey System and have since been granted fee simple patents.

### **Chelan and the Project Area**

Non-Indian settlement to the Chelan area began in the 1860s, although permanent settlement came much later. The U.S. Army maintained Camp Chelan for a brief time at the southern end of the lake (the post was commissioned and decommissioned in 1880). William Sanders and William Dumke crossed over the Cascade Mountain range, and reached Lake Chelan in 1886, becoming the first white settlers to the lake.

In 1880, the Chelan Military Road was constructed, which led from Camp Chelan to connect with the White Bluffs wagon road (McNeil Canyon Road). The U.S. Army operated a cable ferry in the general location where the State Highway 97 bridge crosses the Columbia River, shown on a 1882 map of the region (Washington State University 2008). The ferry operated from 1880 to 1919, at which time the Beebe toll bridge was constructed. This suspension bridge was replaced with the present-day State Highway 97 bridge in 1963. Observations taken during the cadastral survey note that Indians sometimes camped at the ferry landing for two or three weeks at a time.

The 1887 cadastral map shows no homesteads in Sections 03 and 04 of Township 27 North, Range 23 East (Brichisief 887). The map does show a trail that leads from Lake Chelan and skirts to the south and east of the knob and north of the present-day airport. The cadastral map shows several structures in Section 20, directly south of the Chelan Military Road, possibly representing the Indian camps noted above. This campsite was used until the 1920s during their migration from the hop fields in Yakima Valley to the huckleberry picking grounds in the Cascades (Boreson 1985).

According to the Bureau of Land Management (2010), there were three land patent claims in the NW $\frac{1}{4}$  of Section 03 and two in SE $\frac{1}{4}$  of Section 04. Jacob W. Easley (1911 claim date), Richard Linquist (1912 claim date), and Frank D. Walsch (1892 claim date) all held claim to approximately 160-acres in Section 03. David H. Carroll (1893 claim date) and John F. Livingston (1911 claim date) both held 160-acre claims in Section 04.

The Jameson USGS (1918) map shows no development in Sections 03 and 04 of Township 27 North, Range 23 East. It does show a road leading from Lake Chelan (generally following U.S. Highway 97) and continue north through Section 04 (generally following Apple Acres Road), and the Great Northern Railroad.

## TRADITIONAL CULTURAL PROPERTIES

Traditional Cultural Properties (TCP) are important for the “role the property plays in a community’s historically rooted beliefs, customs and practices” as stated in the *National Register Bulletin 38* (U.S. Department of the Interior 1990). Although these properties can be difficult to identify and evaluate, an initial search of pertinent publications can be helpful toward identifying the types of properties that may be expected. The *National Register Bulletin 38* goes on to state that “examples of properties possessing such significance include:

- a location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world;
- a rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents;
- an urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices;
- a location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; and
- a location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity.”

The Lake Chelan Airport falls within the lands traditionally occupied by the Chelan, one of eight groups creating the Middle Columbia Salish (Sinkayuse, Wentachee, Entiat, Chelan, Methow, Okanogan, Nespelem, and Sanpoil) (Miller 1998). This area included land bounded by the Columbia River to the west, the Methow River to the north, the Entiat River to the south, and extended to the northern reaches of Lake Chelan. The airport also lies within the boundaries of the Moses Reservation. Chief Moses was the leader of the Sinkayuse, and attracted followers from the Wenatchi, Entiat, and Chelan tribes.

Ray (1936:119, 141) lists four Chelan villages. A winter village, *ntiá'tk'* (“weedy river”) sat at the mouth of the Entiat River (19 mi [31.7 km] southwest of the airport), and held a population of 100 or more. A few families lived at *ni'yá'qəən* (“basin in which creek meanders”), located at the mouth of Maple Creek (11 mi [18.3 km] southwest of the APE). Another village, *xantci'n* (“little rocky gate”) sat along the south banks of the Methow River, south of Pateros. The fourth village identified is *yənmusi'tsá* (“rainbow robe”), located at the southern terminus of Lake Chelan, south of present-day Chelan. The village was an important goat hunting base. Ray (1936:122) states that the Chelan and the Wenatchee mixed freely, sharing at least one village, *ntiá'tk'*. The Chelan traveled in traditional Wenatchee territory, using the upper Wenatchee River for salmon fishing.

Table 2. Ethnographic Chelan Villages (after Miller 1998).

Traditional Name	Translation	General Location
<i>nayárp</i>		South of the community of Starr, along the western bank of the Columbia River
<i>katék</i>	brush on the flat	Near Azwell, along the western banks of the Columbia River
<i>sxátk<sup>w</sup></i>	water pouring out	Chelan Falls
<i>scúpa?st</i>	shale rock	City of Chelan
<i>ktám</i>	narrow land	west of Chelan, along the northern banks of Lake Chelan
<i>pi?pi?kùlax<sup>w</sup></i>	sunflower-like plant	west of Chelan, along the northern banks of Lake Chelan
<i>naq<sup>w</sup>ást</i>	deep water	near Washington Flat, north of Lake Chelan
<i>qatq'át</i>	long narrow flat	north of Manson, along the northern banks of Lake Chelan
<i>k<sup>w</sup>əx<sup>w</sup>cin</i>	pine tree	near Greens Landing, along the northern banks of Lake Chelan
<i>ləq<sup>w</sup>cin</i>	broken nose of the mountain	near Deer Point, along the northern banks of Lake Chelan
<i>sq<sup>w</sup>ətnat?itx<sup>w</sup></i>	big creek	near Box Canyon, along the southern shores of Lake Chelan
<i>nləq<sup>w</sup>pánk</i>	rock wall breaks off	near Slide Ridge near the mouth of Granite Falls Creek, along the southern banks of Lake Chelan
<i>naxəlq</i>		south of Chelan, at the southern terminus of the lake south of the mouth of the Chelan River
<i>ni?yálqŋ</i>	basin where creek meanders	near Knapp Coulee, along the western banks of the Columbia River
<i>q<sup>w</sup>iyq<sup>w</sup>iyt</i>	greener place	near Crystal Rock, along the western banks of the Columbia River

Miller (1998:254) identifies 17 Chelan villages along the Columbia River and Lake Chelan (Table 2). Ray (1974) notes a small village south of the mouth of the Chelan River called *nahu'llach*, near to or the same as *naxəlq* (Miller 1998). Another medium-sized village, *sxa 'tgu*, was located at Chelan Landing near the present railroad station (Ray 1974:419). This summer village consisted

of 4 to 10 households. Schalk and Mierendorf (1983) estimate that there were approximately 1,435 Chelan living along the Columbia River and Lake Chelan in the 1850s.

While Indian allotments were offered to tribal members residing on the Moses Reservation, very few acquired allotments. Chief Long Jim had an allotment near the present town of Chelan, in the Spaders Bay area (McCavanaugh 1889; Ray 1974). The 1889 cadastral map shows Long Jim's homestead in Section 13 of Township 27 North, Range 22 East, north of the mouth of Lake Chelan. The Indian allotments of *Ma-kai* (No. 17) and *Us-tah* (No. 9) are shown in Section 05 in the same township and range (Kingslury 1906; McCavanaugh 1889). Cultus Jim and Chelan Bob had allotments along the Columbia River north of the mouth of the Chelan River (Ray 1974). Two Indian allotments (No. 18 and 19) are located 4.0 to 5.0 mi (6.7 to 8.3 km) north of the airport.

A review of ethnographies was undertaken to help identify any known Traditional Cultural Properties (TCPs) within or near the Project Area. The works of Archaeological Frontiers (2002), Angelo Anastasio (1972), Richard Hart (2002), Camas Consulting (2002), Amelia Marchand (2007), Catheryn Miller (1984), Jay Miller (1998), Verne F. Ray (1936, 1939, 1942, 1974), Robert Ruby and John Brown (1965), Allan Smith (1988), and Leslie Spier (1936, 1938) were consulted. There were no TCPs specific to the Lake Chelan Airport.

Smith (1988) notes a number of important trails through this region, most notably a trail that led over the Cascade Range and passed through the Lake Chelan area. Another trail led from the mouth of the Chelan River and followed the western bank of the Columbia River, and led to the Methow Valley and south to the Entiat and Wenatchee tribes.

There have been four TCP studies conducted in the area. Camas Consulting (2002) and Archaeological Frontiers (2002) conducted TCP studies along Lake Chelan for the Chelan County Public Utility District No. 1, on behalf of the Confederated Tribes of the Colville Reservation and the Yakama Nation, respectively. The Confederated Tribes of the Colville Reservation report recommended that the entire lake be designated as a TCP district (ethnographic landscape). By using the lake in its entirety all of the identified prehistoric and historic-period cultural sites, along with important natural features and resources. The Yakama Nation report identifies several potential TCPs along the lake.

A TCP study was conducted in connection with the sewer line project along State Route 150 between Manson and Chelan. Hart (2002) recommended several historically documented Chelan Indian villages, homesteads, and allotments along the northern shore of Lake Chelan as resources contributing to a TCP for the area between Wapato Point and the City of Chelan. The contributing resources include historic-period Indian village locations and Long Jim's allotment (MA-40) in the Spaders Bay area, and Indian villages and Wapato John family allotments in the Manson area.

The most recent review of TCPs was completed by the Colville Confederated Tribe for the Beebe Springs Natural Area project (Marchand 2007). This study included a synthesis of oral history transcripts, with recollections of Lake Chelan and Chelan Falls areas reaching into the 1880s to the

late 1960s. Based on the richness of information regarding the Beebe Springs project, located approximately 3.0 mi (4.8 km) southwest of the airport, Marchand (2007:53) stated that the lands involved with the project have traditional value, and designated the area the Beebe Springs Traditional Cultural Property. Marchand (2007:53) defines the boundaries of the TCP as being within Section 20 of Township 27 North, Range 23 East, Government Lots 1-3 (Chelan Bob) and Lot 4 (Cultus Jim). The property is potentially eligible for the National Register of Historic Places under Criterion A, B, and D (Marchand 2007; Stevens 2008).

Numerous collections of published legends were consulted to identify points of mythological significance near the Lake Chelan Airport. These include publications by Franz Boas (1917), Ella Clark (1969), Margot Edmonds and Ella Clark (1989), Richard Erdoes and Alfonso Ortiz (1984), Jay Miller (1990), Mourning Dove (1990), Verne Ray (1933), and M. Terry Thompson and Steven Egesdal (2008).

Given the lengthy Native American occupation, it is no wonder that the lake is steeped in legend and lore. Take the Monster of the Lake, for instance. The monster is reported to live in the deepest part of the lake, the Lucerne Basin, which reaches a depth of 1,486 ft (453 m). The Monster of the Lake appears in Chelan legend *The Monster and Lake Chelan* (Clark 1969:70-72). In this legend the lake monster is defeated by the Great Spirit. The Great Spirit killed the monster, threw him into the bottom of a deep gorge, filled it with water, thus sealing the monster's fate and creating Lake Chelan. Though rarely seen, the Monster of the Lake has been known to make lake conditions very rough by thrashing its tail when irritated.

## **EXPECTED PROPERTIES**

This area has a high potential for Native American archaeological resources given its proximity to water, abundance of natural resources, terrace landforms, and high density of previously recorded archaeological resources. Sites that might be encountered would represent a range of hunting, plant gathering, and ceremonial activities. One might expect to find small hunting or gathering camps that may have dotted the area, as was indicated in the background review. These campsites may contain low to moderate densities of stone tools which are concentrated in one or more loci, hearths, and middens.

Several important trails ran through this region, one leading over the Cascade Range creating passage to the Pacific coast, and another followed the western banks of the Columbia River, and led travelers to the Methow Valley (to the north) and to the traditional lands of the Entiat and Wenatchee to the south. Trails are shown on the late 19<sup>th</sup> century maps of the area. A river crossing to the southwest of the airport encouraged traffic to move through a particular locale, promoting settlement. This is where a Native American campsite was established and continued into the 1920s.

## FIELD METHODS AND PROJECT RESULTS

Survey work was completed in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716, September 29, 1993) and under the supervision of Principal Investigator, David Harder. In October 2009, Plateau archaeologist, Michelle Hannum, met with Mr. Ken Nichols and Terri Kristoff, USKH, to discuss the project. Plateau archaeologists, Ms. Hannum and Christopher Noll, returned to the Project Area to complete the cultural resource survey on April 1, 2010. Mr. Nichols met with Plateau to discuss any changes to the original project designs during the second field visit. Survey conditions were favorable; sunny with temperatures in the low 40s.

Archaeologists completed four east/west transects along the proposed Howard Flat Road reroute; two east/west transects along both the proposed runway and taxiway; six northwest/southeast trending transects along the proposed southern RPZ; and 20 northeast/northwest trending transects along the proposed northern RPZ. Transects were spaced between 5 m apart along the runway, taxiway, and road; and 15 m apart within the RPZs.

With the exception of a 40-m (131-ft) section, the proposed runway and taxiway extensions, the proposed Howard Flat Road, and northern RPZ will be located into an existing orchard located east of Howard Flats Road (Figure 3). The one residential structure located in this portion of the project dates to the 1970s, and was not inventoried. The terrain is gently rolling. Ground surface visibility varied between 0%, in the grassy areas, to 100%, along the tree rows. Rodent spoils offered the best ground surface visibility within the section west of Howard Flats Road. It was noted that there is angular basalt lying on the surface in this later location, and that it was transported to this location



Figure 3. Overview of the apple orchard.

for construction of both the existing runway/taxiway and road. The southern RPZ area is a mix of manicured lawn (between the existing runway and Highway 97), sagebrush and sand dunes (directly west of Highway 97), orchard, and gravel. Ground surface visibility varied between 0% and 100%. No Native American or historic-era cultural materials or features were observed.

Plateau excavated nine shovel probes along the proposed runway extension (Figure 4). Shovel probes were excavated as 50-cm-by-50-cm squares. Archaeologists removed sediment by arbitrary 10-cm levels and screened through ¼ inch wire mesh. Sediment characteristics were recorded on standardized forms with the color, composition, and degree of compaction noted.

Shovel probes reached depths between 30 and 92 centimeters (cm) below surface, and averaged 63.5 cm below surface (Table 3). The soil profile consisted of three fill episodes; dark yellowish brown (10YR4/4) poorly sorted silty sand with few cobbles, brown (10Y/R4/3) well sorted fine sand, and dark brown (10YR3/3) fine to coarse sand. Below these layers was a yellowish brown (10YR5/4) poorly sorted coarse sand and silt with 30% cobbles (Figure 5). Shovel probes terminated in this stratum. None of the shovel probes contained Native American cultural materials or features.

Table 3. Results of Subsurface Investigations

Shovel Probe #	UTM Coordinates (NAD27)			Depth	Comments
	Zone	Easting	Northing		
1	11	0280331 m	5305983 m	82 cm	One wire nail and one shotgun shell
2	11	0280347 m	5306000 m		Not excavated, within Howard Flats Road
3	11	0280360 m	5306016 m	92 cm	Negative
4	11	0280375 m	5306028 m	90 cm	Negative
5	11	0280384 m	5306035 m	84 cm	Negative
6	11	0280403 m	5306054 m	36 cm	Negative
7	11	0280420 m	5306068 m	30 cm	Negative
8	11	0280426 m	5306060 m	60 cm	Negative
9	11	0280444 m	5306101 m	53 cm	Negative
10	11	0280458 m	5306105 m	34 cm	Negative

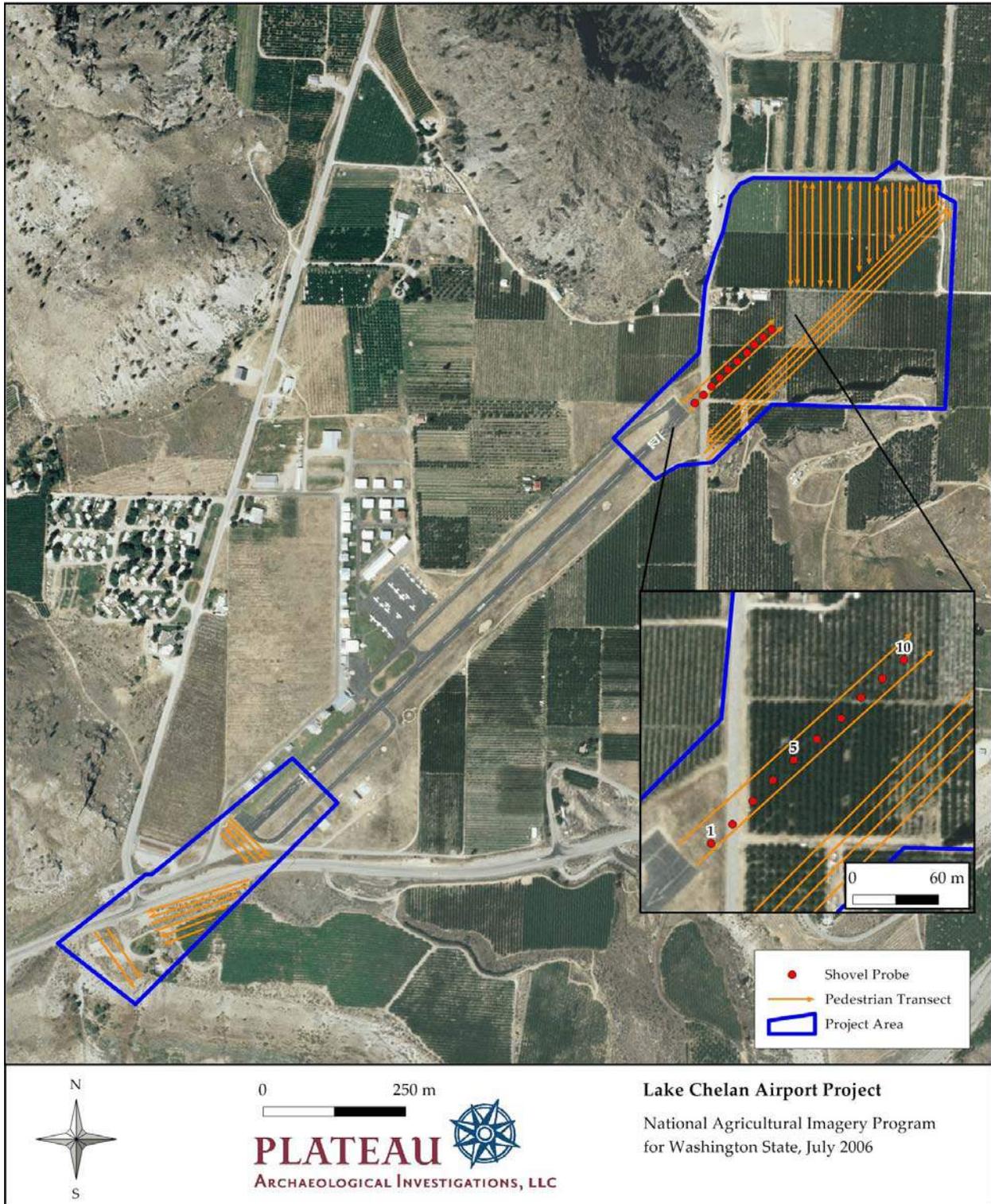


Figure 4. The Project Area, transects, and shovel probes shown on a 2006 aerial.



Figure 5. Typical soil profile.

## **RECOMMENDATIONS AND MANAGEMENT PLAN**

The cultural resource survey and minimal subsurface investigations within the Lake Chelan Airport Project provided no evidence of Native American or historic-era land-use within the Project Area. No further archaeological investigations are recommended prior to or during execution of this project.

Should ground disturbing activities of these remaining areas reveal any cultural materials (e.g., structural remains, Euroamerican artifacts, or Native American artifacts), activity will cease and the Washington State Historic Preservation Officer should be notified immediately. The results and recommendations in this document concern the specified area of potential effect. The proponent is advised that the results and recommendations reported herein do not apply to areas of potential effect altered or expanded post the cultural resource survey. A supplementary cultural resource review will be necessary should the area of potential effect be altered or changed, as per 36 CFR 800.4.

If human remains, suspected human remains, or any items suspected to be related to a human burial (i.e., funerary items, sacred objects, or objects of cultural patrimony) are encountered during any aspect of the project, it is imperative that operations cease immediately within 200 ft (61 m) of the find. The area around the discovery will be secured and the Chelan County Sheriff and the State Historic Preservation Officer will be contacted at once.

## WORKS CITED

Aikens, C. Melvin

- 1993 *Archaeology of Oregon*. U.S. Department of the Interior, Bureau of Land Management. Portland, Oregon.

Alt, David D., and Donald W. Hyndman

- 1984 *Roadside Geology of Washington*. Mountain Press Publishing Company, Missoula, Montana. Reprinted in 1992.

Amara, Mark

- 2009 *NRCS Brownfield Orchards LLC Cultural Resources Site Identification Survey in Chelan County, Washington*. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Ames, Kenneth M., James P. Green, and Margaret Pfoertner

- 1980 *Hatwai (10NP143): Interim Report*. Archaeological Reports Number 9, Boise State University, Boise, Idaho.

Ames, Kenneth M., and Alan G. Marshall

- 1980 Villages, Demography, and Subsistence Intensification on the Southern Columbia Plateau. *North American Archaeologist* 2:25-52.

Anastasio, Angelo

- 1972 The Southern Plateau: An Ecological Analysis of Intergroup Relations. *Northwest Anthropological Research Notes* 6:109-202.

Archaeological Frontiers

- 2002 *Traditional Cultural Property Study: Lake Chelan Hydroelectric Project, Rocky Reach Hydroelectric Project*. Archaeological Frontiers, Eugene, Oregon.

Arthur, Ed and Glenn Hartmann

- 2009 *Cultural Resources Assessment for the Ridge at Haystack McNeil Canyon Project, Douglas County*. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Bacon, C.R.

- 1983 Eruptive History of Mount Mazama and Crater Lake Caldera, Cascade Range, U.S.A. *Journal of Volcanology and Geothermal Research* 18(14):57-115.

Beckham, Stephen D.

- 1998 History Since 1846. In *Handbook of North American Indians: Plateau*, v.12, edited by Deward E. Walker, Jr., pp.149-173. Smithsonian Institution, Washington D.C.

Bense, Judith A.

- 1972 *The Cascade Phase: A Study in the Effect of the Altithermal on a Cultural System*. Unpublished Ph.D. dissertation, Department of Anthropology, Washington State University, Pullman, Washington.

Boas, Franz (editor)

- 1917 Folk-tales of the Salish and Sahaptin Tribes. Collected by James A. Teit, Marian K. Gould, Livingston Farrand, and Herbert J. Spinden. *Memoirs of the American Folk-Lore Society* 11. Lancaster, Pennsylvania.

Bohm, Fred C., and Craig E. Holstine

- 1983 *The People's History of Stevens County*. Stevens County Historical Society, Colville, Washington.

Boswell, Sharon A.

- 2000 *Allotments & Homesteads in the Grand Coulee Dam Project Area, Vol. II Maps & Databases*. Northwest Archaeological Associates, Inc., Seattle, Washington.

Boreson, Keo

- 1985 *The Burials at 45CH296, Chelan County, Washington*. Archaeological and Historical Services Report Number 100-40, Eastern Washington University, Cheney, Washington.
- 1992 *Cultural Resource Investigations Along the Rocky Reach Reservoir: The 1990 Test Excavations*. Reports in Archaeology and History 100-75, Archaeological and Historical Services, Eastern Washington University, Cheney, Washington.

Brichisief, J. Cabell

- 1887 Cadastral map of Township 27 North, Range 23 East, Willamette Meridian. Bureau of Land Management electronic document accessed at [http://www.blm.gov/or/landrecords/survey/yPlatView1\\_2.php?path=PWA&name=t270n230e\\_001.jpg](http://www.blm.gov/or/landrecords/survey/yPlatView1_2.php?path=PWA&name=t270n230e_001.jpg) on March 17, 2010.

Burt, William H., and Richard P. Grossenheider

- 1961 *A Field Guide to the Mammals*. The Peterson Field Guide Series, Houghton Mifflin Company, Boston, Massachusetts.

Bureau of Land Management

- 2010 Land Patent Search: Sections 03 and 04 of Township 27 North, Range 23 East. Electronic document accessed at <http://www.glorerecords.blm.gov/PatentSearch/Default.asp?> on March 30, 2010.

Camas Consulting

2002 *Traditional Cultural Property Study: Lake Chelan Hydroelectric Project*. Camas Consulting, Grand Coulee, Washington.

Clark, Ella E.

1969 *Indian Legends of the Pacific Northwest*. University of California Press, Berkeley, California.

Dalquest, Walter W.

1948 *Mammals of Washington*. Museum of Natural History, University of Kansas Press, Lawrence, Kansas.

Daugherty, Richard D.

1956a *An Archaeological Survey of the Rocky Reach Reservoir*. Research Studies of the State College of Washington, vol. IV, no. 1, pp. 1-16.

1956b *Archaeology of the Lind Coulee Site, Washington*. Proceedings of the American Philosophical Society, vol. 100, no. 3, pp. 223-278.

Department of Archaeology and Historic Preservation

2010 Washington Information System for Architectural and Archaeological Records Data (WISAARD). Electronic document accessed at <https://secureaccess.wa.gov/dahp/wisaard/> on March 17, 2010.

Edmonds, Margot and Ella E. Clark

1989 *Voices of the Winds : Native American Legends*. New York : Facts on File Publications.

Erdoes, Richard and Alfonso Ortiz

1984 *American Indian Myths and Legends*. Pantheon Books, New York, New York.

Fenneman, N.M.

1946 *Physical Descriptions of the United States*. U.S. Geological Survey, Washington, D.C.

Franklin, Jerry F., and C.T. Dyrness

1969 *Vegetation of Oregon and Washington*. U.S. Department of Agriculture, Pacific Northwest Forest and Range Experiment Station, Portland, Oregon.

Fredin

1990 Washington Archaeological Site Inventory Form: 45DO507. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Galm, Jerry R.

- 1990 *Cultural Resource Investigations in the Rocky Reach Reservoir: The 1990 Resurvey*. Short Report SR-228, Archaeological and Historical Services, Eastern Washington University, Cheney, Washington.

Galm, Jerry R., Glenn D. Hartmann, Ruth A. Masten, and Garry O. Stephenson

- 1981 *A Cultural Resources Overview of the Bonneville Power Administration's Mid-Columbia Project, Central Washington*. Eastern Washington University Reports in Archaeology and History, Eastern Washington University, Cheney, Washington.

Gramly, Richard M.

- 1993 *The Richey Clovis Cache: Earliest Americans Along the Columbia River*. Persimmon Press Monographs in Archaeology, Buffalo, New York.

Gunkel, Alexander

- 1961 *A Comparative Cultural Analysis of Four Archaeological Sites in the Rocky Reach Reservoir Region, Washington*. Washington State University, Pullman, Washington.

Harder, David A.

- 1998 *A Synthetic Overview of the Tucannon Phase in the Lower Snake River Region of Washington and Idaho*. Unpublished Master's thesis, Department of Anthropology, Washington State University, Pullman, Washington.

Hart, E. Richard

- 2002 *Traditional Cultural Property Associated with the Lake Chelan Reclamation District Northshore Interceptor Facility Plan*. Hart West & Associates, Winthrop, Washington.

Hartmann, Glenn

- 2003 *Cultural Resources Survey for the Washington State Department of Transportation's US 97A: Chelan Vicinity Paving Project, Chelan County, Washington*. Western Shores Heritages Services, Inc., Bainbridge Island, Washington. On file (1342768) at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Hartmann, Glenn D., and James Schumacher

- 2003 *Cultural Resources Investigations for the Rocky Reach Hydroelectric Relicensing Project, FERC No. 2145*. Western Shores Heritages Services, Inc., Bainbridge Island, Washington.

Hess, Sean

- 2007 *State of Washington Archaeological Site Inventory Form: 45CH225*. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Hollenbeck, Jan L., and Susan L. Carter

- 1986 *A Cultural Resource Overview: Prehistory and Ethnography of the Wenatchee National Forest*. U.S. Forest Service, Pacific Northwest Region.

Hunt, C.B

- 1967 *Physiography of the United States*. W. H. Freeman and Company, San Francisco, California.

Irwin, Ann M., and Ula Moody

- 1978 *The Lind Coulee Site (45GR97)*. Project Report No. 56. Washington Archaeological Research Center, Washington State University, Pullman, Washington.

Leonhardy, Frank C., and David G. Rice

- 1970 A Proposed Cultural Typology for the Lower Snake River Region, Southeastern Washington. *Northwest Anthropological Research Notes* 4:1-29.

Lohse, Ernest S., and Deborah Sammons-Lohse

- 1986 Sedentism on the Columbia Plateau: A Matter of Degree Related to the Easy and Efficient Procurement of Resources. *Northwest Anthropological Research Notes* 20:115-136.

Lothson, Gordon A.

- 1977 *Archaeological Reconnaissance and Phase II Testing of Oroville Urban Levees*. Washington Archaeological Research Center, Progress Report No. 52, Washington State University, Pullman, Washington.

Lyons, Kevin

- 1991 National Register of Historic Places Registration Form: 45DO507. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.  
1991 National Register of Historic Places Registration Form: 45DO508. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Marchand, Amelia AM

- 2007 *Traditional Cultural Property Component for the Beebe Springs Natural Area*. History/Archaeology Program, Confederated Tribes of the Colville Reservation, Nespeleem, Washington. On file (NADB OAHF 1349972) at the Department of Archaeology and Historic Preservation in Olympia, Washington.

McClure, Richard H.

- 1978 Master Site File: 45CH225. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Mehringner, Peter J., Jr.

- 1989 *Age of the Clovis Cache at East Wenatchee, Washington*. A Report to the Washington State Historic Preservation Office. Department of Anthropology, Washington State University. Pullman, Washington.

Mehringner, Peter J., and Franklin F. Foit, Jr.

- 1990 Volcanic Ash Dating of the Clovis Cache at East Wenatchee, Washington. *National Geographic Research* v.6 no.4, pp.495-503.

Meltzer, David J.

- 1993 Pleistocene Peopling of the Americas. *Evolutionary Anthropology* v.1 pp.157-169.

Miller, Cathryn S.

- 1984 *A History of the Native People of the Lake Chelan Area*. Prepared for the Lake Chelan National Recreation Area.

Miller, Jay

- 1990 *Mourning Dove: A Salishan Autobiography*. Bison Books, University of Nebraska Press, Lincoln, Nebraska.
- 1998 Middle Columbia River Salishans. In *Handbook of North American Indians: Plateau*, v.12, edited by Deward E. Walker Jr., pp. 253-270. Smithsonian Institution, Washington D.C.

Mourning Dove

- 1990 *Coyote Stories*. University of Nebraska Press, Lincoln, Nebraska.

National Park Service

- 2010 National Register of Historic Places: Chelan County. Electronic document accessed at <http://www.nationalregisterofhistoricplaces.com/wa/Chelan/state.html> on March 17, 2010.

Natural Resource Conservation Service

- 2010 Web Soil Survey for Chelan County (WA607). Electronic document accessed at <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx> on March 30, 2010.

Nelson, Charles M.

- 1969 *The Sunset Creek Site (45-KT-28) and its Place in Plateau Prehistory*. Reports of Investigations, No. 47. Laboratory of Anthropology, Washington State University, Pullman, Washington.
- 1973 Prehistoric Culture Change in the Intermontane Plateau of Western North America. In *Explanation of Culture Change: Models in Prehistory*. edited by C. C. Renfrew, pp. 371-390. Gerald Duckworth, London.

Ray, Verne F.

- 1933 Sanpoil Folk Tales. *Journal of American Folk-Lore* 46(180):129-187.
- 1936 Native Villages and Groupings of the Columbia Basin. *Pacific Northwest Quarterly*. 27(2):99-152.
- 1939 *Cultural Relations in the Plateau of Northwestern America*. AMS Press, New York, New York.
- 1942 *Cultural Element Distributions: XXII Plateau*. Anthropological Papers 8:2. University of California Press, Berkeley, California.
- 1974 Ethnohistorical Notes on the Columbia, Chelan, Entiat, and Wenatchee Tribes. In *American Indian Ethnohistory, Indians of the Northwest*, edited by David Agee Horr, pp. 419-426. Garland Publishing, Inc., New York, New York.

Reid, Kenneth C.

- 1991 *An Overview of Cultural Resources in the Snake River Basin: Prehistory and Paleoenvironments*. Project Report No. 13, Center for Northwest Anthropology, Washington State University, Pullman, Washington.

Rice, David G.

- 1969 *Preliminary Report, Marmes Rockshelter Archaeological Site, Southern Columbia Plateau*. Report for the National Park Service, San Francisco. Laboratory of Anthropology, Washington State University, Pullman, Washington.

Ruby, Robert H. and John A. Brown

- 1965 *Half-Sun on the Columbia: A Biography of Chief Moses*. University of Oklahoma Press, Norman.

Schalk, Randall F., Robert R. Mierendorf, and Deborah L. Olson

- 1983 *The 1978 and 1979 Excavations at Strawberry Island in the McNary Reservoir*. Project Report Number 19, Laboratory of Archaeology and History, Washington State University, Pullman, Washington.

Schalk, Randall F., and Robert Mierendorf (editors)

- 1983 *Cultural Resources of the Rocky Reach of the Columbia Rivers, Volumes I and II*. Center for Northwest Anthropology, Washington State University, Pullman, Washington.

Schumacher, James

- 2004 *Cultural Resources Assessment for the Proposed Beebe A Subdivision, Douglas County, Washington*. Western Shore Heritage Services, Inc., Bainbridge Island, Washington. On file (NADB OAHP 1343774) at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- 2005 National Register of Historic Places Registration Form: 45DO407. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- 2008 *Cultural Resource Assessment for Beebe Ranch Community Docks Project, Douglas County, Washington*. Cultural Resource Consultants, Inc., Bainbridge Island, Washington. On file (NADB OAHP 1351632) at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- 2008 *Cultural Resources Survey for Corning Shoreline Permits*. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Schumacher, James, Lara C. Rooke, Glenn D. Hartmann, and Michelle M. Hannum

- 1999 *Cultural Resources Overview for the Lake Chelan Hydroelectric Relicensing Project, FERC No. 637*. Hemisphere Field Services, Bainbridge Island, Washington.

Simmons, Kim A.

- 1981 Master Site File: 45DO428. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- 1981 Master Site File: 45DO429. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Simmons, Kim A., and M. Comfort

- 1981 Master Site File: 45CH253. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- 1981 Master Site File: 45CH267. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- 1981 Master Site File: 45CH268. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- 1981 Master Site File: 45CH274. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- 1981 Master Site File: 45DO407. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Smith, Allan H.

- 1988 *Ethnography of the North Cascades*. Project Report No. 7, Center for Northwest Anthropology, Washington State University, Pullman.

Spier, Leslie

- 1936 *Tribal Distribution in Washington*. General Series in Anthropology, No. 2. George Banta Publishing Co., Menasha, Wisconsin.
- 1938 *The Sinkaietk of Southern Okanogan of Washington*. General Series in Anthropology, No. 6. George Banta Publishing Co., Menasha, Wisconsin.

Swanson, Earl H., Jr.

- 1962 *The Emergence of Plateau Culture*. *Occasional Papers of the Idaho State University Museum*, No. 8. Pocatello, Idaho.

Sweeney, Françoise M.

- 2009 *A Cultural Resources Survey on Bureau of Land Management Lands in the Howard Flats Project Area, Chelan County, Washington*. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Thompson, M. Terry and Steven M. Egesdal (editors)

- 2008 *Salish Myths and Legends: One People's Stories*. University of Nebraska Press, Lincoln, Nebraska.

Uebelacker, Morris L.

- 1978 *Cultural Resource Overviews of the Tonasket Planning Unit*. Report prepared for the Okanogan National Forest, Okanogan, Washington.

U.S. Department of the Interior

- 1990 *Guidelines for Evaluating and Documenting Traditional Cultural Properties in National Bulletin #38*. U.S. Dept. of the Interior, National Park Service, Interagency Resources Division.

U.S. Geological Survey

- 1918 Topographic Map: Jameson, Washington, 15' Series.
- 1968 Topographic Map: Chelan Falls, Washington, 7.5' Series (photo revised 1981).

Walker, Deward E., Jr. and Roderick Sprague

- 1998 *History Until 1846*. In *Handbook of North American Indians: Plateau*, v. 12, edited by Deward E. Walker, Jr., pp. 138-148. Smithsonian Institution, Washington, D.C.

Washington State University

- 2010 Map of military road to Camp Chelan. Manuscripts, Archives, and Special Collections electronic document accessed at <http://www.wsulibs.wsu.edu/holland/masc/masc.htm> on March 17, 2010.

Welch

- 1990 Washington Archaeological Site Inventory Form: 45CH406. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- 1990 Washington Archaeological Site Inventory Form: 45DO508. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.

Western Regional Climate Center

- 2010 Lakeside Weather Station (#454430). Electronic document accessed at <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?wa4430> on March 17, 2010.

Wilson, Bruce

- 1990 *Late Frontier: A History of Okanogan County, Washington*. Okanogan County Historical Society, Okanogan, Washington.

Wilson, Zachary W.

- 2008 *An Analysis of the Lind Coulee (45GR97) Faunal Assemblage*. Unpublished Master's thesis, Department of Anthropology, Washington State University, Pullman, Washington.