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6.2 ARCHAEOLOGICAL RESOURCES INVENTORY AND ASSESSMENT (CUL 2)

6.2.1 Study Objectives

Archaeological sites have been identified in each of the 4 project study areas, and all of the sites except one have been evaluated for their National Register eligibility in terms of their research value. The Cowlitz Tribe and the Yakama Nation have been asked to provide information about which sites are eligible for listing in the National Register based on their cultural heritage importance.

The Archaeological Resources Inventory and Assessment will focus on the area of potential effect (APE). The objective of this study is to inventory and evaluate the eligibility of prehistoric and historic archaeological resources for listing in the National Register of Historic Places. Results will be used to determine impacts and the need for mitigation and management measures.

6.2.2 Study Area

The study area for the Archaeological Resources Inventory and Assessment consists of the primary APEs for each of the 4 projects. The primary APE consists of the project lands that immediately encompass the project facilities, as well as other areas where project-related activities may adversely affect archaeological resources (e.g., the river access points downstream of Merwin Dam). Survey and inventory in the secondary APE, which includes Merwin Wildlife Habitat Management Program lands, will be conducted on a case-by-case basis whenever activities are identified that may affect archaeological resources.

6.2.3 Methods

Archaeological inventory surveys have been completed for Yale Lake, the Swift bypass reach, the Merwin-Yale Transmission Line (2,500 acres), and the Swift Reservoir drawdown zone (1,500 acres). Surveys need to be completed for Lake Merwin and vegetated area around Swift Reservoir in areas that may be impacted by project operations. The Archaeological Resources Inventory and Assessment will consist of the following 3 tasks to inventory and evaluate the archaeological resources:

6.2.3.1 Compile Background Information

The study team has already compiled much of the information on archaeological surveys and resources in the APE for the 4 project study areas. Staff members will review this information in comparison with data held by the OAHF and collect supplemental materials to fill gaps for information needed for relicensing.

6.2.3.2 Conduct Field Survey and Site Testing

The second sub-task will consist of implementing the fieldwork for inventory surveys and site testing. Surveys may include limited portions of Merwin and Swift reservoirs.

Systematic pedestrian surveys will be used to locate and record information on sites and isolates using OAHF-approved forms. The tribal organizations will participate in the archaeological field studies. Results will be used to evaluate the eligibility of the archaeological sites for listing in the National Register. The work will address the 3 unevaluated sites in the Lake Merwin drawdown zone.

6.2.3.3 Analyze Data and Prepare Technical Report

Cultural resource specialists will analyze the information to form an opinion about which archaeological sites appear to be eligible for listing in the National Register. The analysis will be based on the technological, functional, and chronological information available for the sites and on their integrity. In addition, the views of the tribal organizations about the importance of the sites will figure importantly in the evaluation of their National Register eligibility under National Register Criteria (A) and (B).

(Note: a very detailed methodology was prepared, in consultation with the CRG, as part of the relicensing studies for the Lewis River Projects. This document is titled *A Research Design for Archaeological Inventory and Evaluation Studies Associated with the Federal Energy Regulatory Commission Relicensing of Hydroelectric Projects on the Lewis River, Washington* (Wessen and Hess 1999). Due to the sensitive nature of archaeological resources, site-specific information included in that document is not presented in this study plan. Copies of the Research Design report are available to appropriate agencies and tribes upon request to PacifiCorp.)

6.2.4 Key Questions

The study is designed to address the following key watershed questions as they relate to project relicensing:

- Where are the areas that need protection?

Archaeological sites that need protection within the drawdown zones of the reservoirs and some areas outside the drawdown zones have been identified. This information appears in 3 confidential technical reports (Goetz 1998; Historical Research Associates, Inc. 2001; PacifiCorp 1999).

- What evidence is available for the existence of previously undocumented and/or unknown sites?

Previously undocumented and/or unknown prehistoric and historic-period archaeological sites were identified. Most occur in the Lake Merwin area, although some also are present in the Yale Lake area, and 2 sites are present in the Swift Reservoir area. Information on the archaeological survey work and the sites appears in 3 technical reports (Goetz 1998; Historical Research Associates, Inc. 2001; PacifiCorp 1999).

- What are the conditions of known or newly identified sites of cultural, historical, or archaeological importance?

Conditions of the National Register-eligible sites vary. Most of the sites were affected by logging during the past. In the Lake Merwin area, 3 prehistoric lithic sites have been affected by reservoir erosion; one site has been affected by both erosion and unauthorized artifact collection; and one site has been affected by erosion, off-road vehicle traffic, and the burning of reservoir flotsam. One historic site has been affected by erosion.

In the Yale Lake area, 2 sites have been affected by unauthorized artifact collection and 3 sites may have been affected by erosion. In the Swift Reservoir area, one site may have been affected by erosion.

- Do sites identified in the reservoir areas meet the significance criteria for inclusion on the National Register of Historic Places?

In the Lake Merwin area, 5 prehistoric sites and one historic site appear to meet the criteria for National Register eligibility based on research considerations (Historical Research Associates, Inc. 2001). In the Yale Lake area, 5 prehistoric sites and no historic sites appear to meet the National Register criteria (PacifiCorp 1999). One of the sites in Swift Reservoir may meet the National Register criteria (Goetz 1999). The Cowlitz Tribe and the Yakama Nation have been asked to provide information about which sites are eligible for listing in the National Register based on their cultural heritage importance.

- Are there 19th or 20th century sites of historical significance that need protection?

One historic-period cemetery site in the Merwin project area needs protection (Historical Research Associates, Inc. 2001).

6.2.5 Results

The following sections do not contain detailed information on archaeological sites, particularly on their locations, to protect the sites from illegal relic collecting. Withholding such information is provided for under Section 304 of the National Historic Preservation Act of 1966, as amended. Detailed, site-specific information is presented in a separate report (HRA 2001), distributed to appropriate parties for review.

Archaeological Resource Inventory and Assessment tasks within the Yale and Swift reservoirs were conducted between 1996 and 1998. PacifiCorp surveyed the drawdown zone around Yale Lake and other project-related facilities in 1996-97 as part of the Yale Project relicensing (PacifiCorp 1999). Archaeologists identified 8 prehistoric archaeological sites, 5 historic-period archaeological sites, and 9 prehistoric isolated finds (Oetting 1998). Of these, 5 prehistoric sites were determined to be eligible for listing in the National Register (letter from Greg Griffith, OAHP, to Russ Howison, PacifiCorp April 13, 1998) based on their capability of containing information important in prehistory. A 1998 archaeological survey of the Swift No. 1 drawdown zone recorded 2 archaeological sites and 9 isolated finds; one of the sites was considered not to be National Register eligible, and testing is needed to determine the eligibility of the other site (Goetz 1998).

Investigations in 1999 focused on Lake Merwin, with additional surveys above the drawdown zone at Swift Reservoir. A crew of 6 archaeologists surveyed the Merwin primary APE and portions of the Swift primary APE from October 4 through October 18, 1999. Their methods included walking transects spaced at 20 meters or less, with periodic checks of level areas above the drawdown zone, particularly dispersed campsites, and making shovel and boot scrapes in vegetated areas to check for artifacts in mineral soil.

The survey of the Lake Merwin APE covered 722 of 926 acres, consisting of 100 percent (86 acres) of land with a high potential for archaeological sites, 100 percent (187 acres) of moderate potential land, and 50 percent (204 acres) of low potential land. Surveyed areas included the following:

- Almost the entire Merwin drawdown zone was surveyed, including 100 percent of the high potential zones, 100 percent of the moderate potential zones, and over 50 percent of the low potential zones. The original goal was to survey much less of the low potential zones, but transportation logistics made it easier for crews to walk from one location to the next, often covering ground that was considered low potential.
- All of the developed campgrounds, dispersed campsites, hatcheries, and boat launches associated with Lake Merwin, including the Speelyai Bay day use area and boat launch, the Cresap Bay Campground, the Speelyai Hatchery, the Merwin trapping facility, the Lewis River Hatchery, and the downstream river access locations. Access roads leading to these locations were also checked.
- Within the Swift primary APE, surveys encompassed the PacifiCorp-managed lands surrounding Swift Forest Park, the Swift canal and the surrounding project lands, the area just below Swift Dam, all of the dispersed campsites, and the Devil's Backbone formation.

6.2.5.1 Results of the Survey

The 1999 survey revisited and re-recorded 2 sites (45CW100 and 45CL403) to document changes in conditions between 1991 and 1999. Archaeologists recorded 17 prehistoric and 4 historic-period sites. All of the prehistoric sites consisted of lithic scatters without ground stone, although they varied considerably in the number of artifacts visible on the surface and the diversity of tool types. The historic-period sites included a campsite with a cleared tent platform, a former cemetery, a dense scatter of historic-period refuse, and an abandoned railroad grade.

The survey located 56 isolated artifacts, including 53 prehistoric isolates and 3 historic-period isolates. The majority of the prehistoric isolates were groupings of 1 to 9 flaked cobble tools, occasionally associated with a few flakes or other prehistoric artifacts. The 3 historic-period isolates included 2 small scatters of historic-period debris and a cut down and abandoned orchard that has been inundated.

6.2.5.2 Evaluation

Limited testing of 11 prehistoric sites and one historic-period site was conducted in the primary APE during October 1999. An additional site had been tested during a previous investigation. The work sampled each site with 2 to 4 1-by-1 meter test pits, excavating 29 test pits—representing a total volume 12.98 cubic meters. The average tested volume per site was 1.08 cubic meters.

6.2.5.3 Prehistoric Sites

No *in situ* cultural features were observed, but apparently intact prehistoric cultural deposits were encountered at 7 of the 11 tested sites. At least 6 of these 7 appear to be multi-component sites. Prehistoric cultural materials recovered from the test excavations include chipped stone artifacts, fragments of animal bone, botanical materials, and charcoal.

Chipped stone artifacts were collected from 9 sites. Individual site samples ranged from 2 to greater than 800 specimens. In total, 1,850 chipped stone samples were recovered. The highest observed density of chipped stone in a single depositional unit was about 1,140 specimens per cubic meter. Most of the chipped stone objects are flakes from the manufacture of stone tools, although a number of flaked cobbles are present and some cores, from which the stone flakes were struck. Formed tools include projectile points, bifacial blanks for tool production, and unifacial scrapers and utilized flakes that may have been used for cutting.

Stone raw materials, which primarily include cryptocrystalline and mafic volcanics, appear to be consistent with local river cobbles. A few pieces of obsidian came by trade from the eastern Oregon sources of Obsidian Cliffs and Newberry Volcano.

The work recovered animal bone from 4 components (the upper and lower components of 45CW111, and the lower components of CW116 and CW118). All specimens are very small fragments of friable burned bone. The condition of the bone makes specimen counts moot, but the total number of complete bones represented is probably less than 25. None of the specimens are complete enough to identify either skeletal element or represented taxon, but it is likely that nearly all specimens represent mammals. Some of the fragments clearly represent bones of at least moderately large animals, of which deer and/or elk are the most likely candidates. One bird bone and one fish bone may also be present. The very small numbers of bone in these sites is not surprising because of poor preservation of organic materials, although the use of water screening in the excavations may have enhanced the recovery of some bone fragments.

Projectile point styles and radiocarbon analysis of charcoal samples at 8 of the prehistoric sites date specimens to at least 3,750 years Before Present (BP) and probably much longer. Lanceolate and large-stemmed projectile points appear to indicate early to mid-Holocene occupation at 4 sites, while small-stemmed points are associated with 4 late Holocene sites. Table 6.2-1 shows the radiocarbon dates.

Table 6.2-1. Radiocarbon Dates from Prehistoric Sites (in radiocarbon years Before Present [BP]).

| Site Number | Upper ("A") Soil Horizon | Lower ("B") Soil Horizon |
|-------------|--------------------------|--------------------------|
| 45CW111 | 3,080 ± 50 | 3,750 ± 70 |
| 45CL519 | 250 ± 40 | 2,210 ± 70 |
| 45CW118 | 860 ± 50 | - |
| 45CW116 | 280 ± 60 | - |

The archaeologists collected bulk samples of cultural sediments for floatation analysis at 8 sites, including those from more than one cultural component at 3 sites. Botanical samples were found at only 2 sites, the 45CW118 lower component and the 45CW112 upper component, consisting of small fragments of friable burnt nut shell, which appear to be hazelnut (*Corylus* sp.). While no information on age is available from CW112, CW118's upper component dates to 860+/-50 years BP (Table 6.2-1). The Cowlitz Indians used hazelnuts, probably collecting them in the fall and storing them underground for winter use (Gunther 1945).

The prehistoric sites are strongly associated with the terrace/bench type of landform, and many occur near the former Lewis River channel or at confluences of larger tributary streams. Chipped stone artifacts characterize the sites, which include some fire-cracked rocks, charcoal, and food residues such as fragments of burned bone and/or nutshell. Most of the sites have relatively shallow deposits, although a number contain more than one stratigraphic component. Erosion and artifact collection have disturbed the sites.

At least 3 types of prehistoric components are present in the APE. One is characterized by a large size, large numbers of chipped stone debitage from the later stages of tool production, some formed tools, large numbers of cryptocrystalline raw material with some obsidian pieces, and some charcoal and burned bone. This component type tends to have more recent radiocarbon dates or small-stemmed projectile points (associated with the use of bows and arrows). This type probably represents relatively late settlements such as residential camps or small villages that also included specialized activities.

Two other component types are smaller in size and contain relatively large numbers of flaked cobbles or debitage that results from chipping cobbles or the early stages of tool production. Few formed tools are present and no charcoal or burned bone has been recovered. Most of the raw materials consist of mafic volcanic materials such as basalt. Projectile points include larger lanceolate points that have been associated with the use of spears. The age range of these components is unclear, although some are likely to date to the early to mid-Holocene. While some of these components may represent specialized activities, such as woodworking associated with later residential components, others probably represent earlier foraging campsites and/or activity sites.

The archaeologists judged 5 sites (45CW100, CW111, CW116, CW118, and CL519) to be eligible for listing in the National Register of Historic Places based on their apparent capability of containing information important in prehistory. The criteria used to make

this judgment include a combination of intact cultural deposits, density and diversity of artifacts and other remains, and potential for remains that can be dated. The eligibility of one site (45CW119) is uncertain because it has not been tested.

6.2.5.4 Historic-Period Sites

Four historic-period archaeological sites include the Dart of Ariel cemetery site (45CW108), the West Speelyai Bay domestic site (45CW109), a railroad grade (45CW114), and the King's Castle domestic site (45CL520).

The Dart of Ariel or Old Lone Pine Cemetery site sits on a knoll exposed at a reservoir level of about 227 feet above sea level. The cemetery dates to the late 19th and early 20th centuries, when both Euroamericans and Native Americans were buried there. Project planners moved the burials before Lake Merwin flooded. Empty gravesites and some cemetery artifacts that have attracted artifact collectors mark the cemetery site.

The West Speelyai Bay site consists of 2 clusters of burned debris from a domestic dwelling that dates to the late 19th and early 20th centuries, including ceramics, glass, stove parts, nails, an axe, and bedsprings. The presence of porcelain insulators suggests that electricity of telephone lines came to the dwelling.

Site 45CW114 is a railroad grade located near the Speelyai boat ramp. It includes 2 road cuts blasted along basalt bedrock outcrops, areas where ballast fill is present, and an alignment of railroad ties. The Columbia National Forest Washington Map of 1924 shows a short section of railroad beginning about 2 miles (3.2 km) north of the site and meandering south to its intersection with the Lewis River, about 1 mile (1.6 km) west of this site, where 2 buildings, possibly part of a sawmill, lay. The inventoried railroad bed segment might have been a spur of this railroad or an earlier line that was abandoned by the time the 1924 map was made, perhaps after the fire of 1912.

The King's Castle Site (45CL520), which received archaeological testing, consists of a possible foundation or tent platform outlined by a cobble alignment, located on a bench along the south shore of the reservoir. Artifacts included nails, metal files, lead birdshot, canning jar and other glass, ceramics, a baby spoon, and a Native American stone pestle. The historic-period remains appear to date to the period between 1900 and 1920.

Archaeologists recommend that the Dart of Ariel cemetery site is eligible for listing in the National Register of Historic Places as a Euroamerican/Native American heritage site. None of the historic-period sites appear to be eligible for listing. None of the other historic-period sites appear to contain important historical information or to be of particular significance to the area's history.

6.2.6 Discussion

The archaeological inventory survey and site testing work revealed isolated artifacts and clusters of prehistoric and historic-period archaeological remains that provide evidence of previously undocumented and/or unknown sites. Some of these sites meet the scientific

criterion (Criterion D – having the capability to provide information important in pre-history or history) for National Register of Historic Places eligibility. One site holds cultural heritage significance to the Indian tribes and additional consultation with them may reveal other sites of such importance.

Archaeological sites within reservoir drawdown areas need protection from unauthorized artifact collection and erosion induced by fluctuating water levels. Sites above the reservoir shorelines need to be avoided during Project-related development activities, such as recreation improvements. One historic-period cemetery, located in a reservoir drawdown area, needs protection from unauthorized artifact collection. The Project's Cultural Resource Management Plan (CUL 6) will include measures for protecting the National Register-eligible archaeological sites.

6.2.7 Schedule

The Applicants completed analyses of the artifacts and other samples and prepared a draft report (HRA 2001) for review by the Cultural Resource Group, including the CIT, YN, the Gifford Pinchot National Forest, the State Office of Archaeology and Historic Preservation, and FERC. A limited amount of additional work will include test excavations at 45CL519, and a small number of shovel tests to clarify the boundaries of 45CW115, 118, and 119. The information on the inventory and evaluation of archaeological sites will form the basis for analyzing project impacts and preparing the Cultural Resource Management Plan (CRMP).

6.2.8 References

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