

5.3.7 Cultural Resources

The cultural resources that could potentially be affected by the Proposed Action include prehistoric period sites, historical period sites, areas of sacred and traditional concern to Native American tribes, and other ethnic groups in the UARP area. This section first describes the affected environment, detailing the various sites in the UARP area, which forms the baseline for the discussion of the effects of the Proposed Action.

This section also analyzes the environmental effects of the Proposed Action and concludes that operations, maintenance, and recreation will have a less-than-significant effect on the cultural resources with the implementation of a Historic Properties Management Plan (HPMP). The goal of the plan is avoidance of all unevaluated or significant sites within the UARP. With the implementation of the HPMP the effects of the Proposed Action will be less-than-significant.

5.3.7.1 Pertinent Technical Reports

For the purpose of the UARP Relicensing, SMUD prepared three technical reports relative to cultural resources. These are:

- *Archaeological Resources Inventory Report* (DTA and EDAW 2004a) – This report¹⁴ documents the methods and findings of the archaeological inventory of the UARP, providing information on known archaeological and historic sites within the Area of Potential Effect (APE). Development of the general APE was in consultation with the Washoe Tribe of Nevada and California, the Shingle Springs Rancheria, the El Dorado County Indian Council, SHPO and the ENF. The APE was considered to be the area that the UARP could directly or indirectly affect resources that are listed on, or are eligible for listing on, the National Register of Historic Places (36 CFR 800.16(d)). The APE established for the archaeological resources inventory includes the area within the UARP FERC Project Boundary, including reservoirs, dams, switchyards, access roads and transmission lines. Since no ground-disturbing activities are associated with areas above project tunnels, the APE does not include these areas. Field surveys, in conformance with the *Framework for Archaeological Research and Management* (FARM) and the *Secretary of Interior Guidelines*, including the affirmation of previously recorded cultural sites within the APE, were conducted between 1999 and 2004.
- *Ethnographic and Ethnohistoric Resources Technical Report* (DTA and EDAW 2004b) – This report¹⁵ includes information gathered from archival research, published and unpublished ethnographic literature, oral interviews, and meetings with

¹⁴ The *Archaeological Resources Inventory Report* and *Archaeological Resources Inventory Report for the Iowa Hill Pumped-storage Facility* contains information on the nature and location of cultural resources. In accordance with Section 9 of the Archaeological Resources Protection Act of 1979 (16 USC § 470hh) and Section 304 of the National Historic Preservation Act of 1966 (16 USC §470w-3), this information is privileged and is intended for limited distribution only and is not available to the general public. The report will be filed with FERC when SMUD files its application for a new license.

¹⁵ This report does not contain confidential information, and is available to the public.

Native American representatives on resources and areas that are of continued traditional importance to these groups. A broader APE than the one used for the *Archaeological Resources Inventory Report* (DTA and EDAW 2004a) was used during the ethnographic and ethnohistoric resources inventory, since areas of traditional and sacred use are more likely to be affected by visual and auditory factors that can extend, in some cases, for several miles, and because the solicitation of information from tribal members and other ethnic groups must often be more comprehensive. The consideration of ethnographic and ethnohistoric resources that could be affected by the UARP, however, is still based on the description of an APE provided in the federal regulations (36 CFR 800.16(d)).

- *Archaeological Resources Inventory Report for the Iowa Hill Pumped-storage Facility* (DTA and EDAW, 2004c) – This report¹⁴ includes information gathered from the proposed Iowa Hill Development area. Methods and results of the archaeological inventory are similar as those for the UARP. This document provides information on known archaeological and historic sites within the APE, which was developed based on the Iowa Hill Development project boundary, which includes the proposed reservoir, switchyard, access roads, transmission lines, and staging/setup areas.

In a letter dated December 12, 2001, FERC designated SMUD as the non-federal representative for Section 106 consultation. SMUD has conducted informal meetings with representatives of the Shingle Springs Rancheria, El Dorado County Indian Council, and the Washoe Tribe of Nevada and California,, the ENF and the SHPO to discuss the archaeological inventory study plan, the APE, and the technical reports. All parties have approved the technical reports.

5.3.7.2 Affected Environment

Cultural resources may include prehistoric period sites, historical period sites, areas of sacred and traditional concern to Native American tribes, and other ethnic groups. Each of these is discussed below.

Prehistoric Period Resources

Within the combined UARP and Iowa Hill Development Area of Potential Effect (APE), archaeological inventories conducted by staff from the ENF, and supplemented by studies conducted for the UARP, resulted in the recordation of 87 distinct archaeological sites. Of this total, 47 sites contain evidence of use during the prehistoric period (Table 5.3.7-1). Three of the 47 sites with prehistoric components also contain historic-period materials. These prehistoric sites range from isolated bedrock milling (BRM) features and small, sparse lithic scatters, to complex sites containing midden deposits and a wide range of flaked and ground stone artifacts (DTA and EDAW 2004a).

Table 5.3.7-1. Prehistoric Period Resources within the UARP.					
Trinomial	Primary No	FS Site No.	NRHP Evaluation	Site Type	Development
CA-ELD-0355	P-9-0443	05-03-55-024	Unevaluated	BRM/lithic scatter/camp	Robbs Peak
CA-ELD-0366	P-9-0454	05-03-55-038	Ineligible	BRM/lithic scatter	Union Valley
CA-ELD-0367	P-9-0455	05-03-55-039	Unevaluated	BRM	Union Valley
CA-ELD-0370	P-9-0458	05-03-55-042	Unevaluated	BRM/lithic scatter/camp	Union Valley
CA-ELD-0372	P-9-0460	05-03-55-044	Unevaluated	BRM/lithic scatter/camp	Union Valley
CA-ELD-0373	P-9-0461	05-03-55-045	Unevaluated	BRM/lithic scatter/camp	Union Valley
CA-ELD-0568	P-9-0657-H	N/A	Unevaluated	BRM	Slab Creek
CA-ELD-0662	P-9-0750	05-03-55-158	Unevaluated	BRM/lithic scatter	Union Valley
CA-ELD-0663	P-9-0751	05-03-55-128	Ineligible	Lithic scatter/BRMs	Union Valley
CA-ELD-0672	P-9-0760	05-03-55-113	Unevaluated	BRM/lithic scatter	Robbs Peak
CA-ELD-0815	P-9-0903	05-03-55-140	Unevaluated	Lithic scatter/Ground stone	Jones Fork
CA-ELD-1405	P-9-1976	Private land (SMUD 22)	Unevaluated	Midden/BRMs/beads/lithic scatter	Slab Creek
CA-ELD-1624	P-9-2438	05-03-55-348	Unevaluated	Lithic scatter	Loon Lake
CA-ELD-1625	P-9-2442	05-03-55-615	Unevaluated	Milling and lithic scatter	Loon Lake
CA-ELD-1626	P-9-2443	05-03-55-619	Unevaluated	Lithic scatter	Loon Lake
CA-ELD-1627	P-9-2444	05-03-55-620	Unevaluated	Lithic scatter	Loon Lake
CA-ELD-1628	P-9-2445	05-03-55-621	Unevaluated	Lithic scatter	Loon Lake
CA-ELD-1629	P-9-2447	05-03-55-623	Unevaluated	Lithic scatter	Loon Lake
CA-ELD-1630	P-9-2449	05-03-55-631	Unevaluated	BRMs	Loon Lake
CA-ELD-1631	P-9-2446	05-03-55-625	Unevaluated	Lithic scatter	Loon Lake
CA-ELD-1632	P-9-2467	05-03-55-626	Unevaluated	Lithic scatter	Loon Lake
CA-ELD-1633	P-9-2468	05-03-55-627	Unevaluated	Lithic scatter	Loon Lake
CA-ELD-1635	P-9-2470	05-03-55-146	Unevaluated	Lithic scatter	Robbs Peak
CA-ELD-1639	P-9-2475	05-03-55-427	Ineligible	Lithic scatter	Robbs Peak
CA-ELD-1640	P-9-2476	05-03-55-462	Unevaluated	Lithic scatter	Robbs Peak
CA-ELD-1641	P-9-2478	05-03-55-426	Unevaluated	BRM	Jones Fork
CA-ELD-1650	P-9-2506	05-03-55-424	Unevaluated	BRM/lithic scatter/ground stone	Union Valley
CA-ELD-1651	P-9-2507	05-03-55-422	Unevaluated	Lithic scatter	Union Valley
CA-ELD-1652/H	P-9-2508/H	05-03-55-421	Unevaluated	BRM/occupation/historics	Union Valley
CA-ELD-1653/H	P-9-2509/H	05-03-55-415	Unevaluated	BRM/occupation/historics	Union Valley
CA-ELD-1655/H	P-9-2511/H	05-03-55-413	Unevaluated	Lithic scatter/historics	Union Valley
CA-ELD-1660	P-9-2516	05-03-55-319	Ineligible	BRM/lithic scatter	Union Valley
CA-ELD-1662	P-9-2518	05-03-55-117	Unevaluated	BRM/lithic scatter	Union Valley
CA-ELD-1663	P-9-2519	05-03-55-091	Unevaluated	BRM/lithic scatter	Union Valley
CA-ELD-1664	P-9-2520	05-03-55-090	Unevaluated	Lithic scatter	Union Valley
CA-ELD-1672	P-9-2528	05-03-55-088	Unevaluated	BRM/lithic scatter	Union Valley
CA-ELD-1681/H	P-9-2538/H	05-03-55-195	Ineligible	BRM	Union Valley
CA-ELD-1682	P-9-2539	05-03-55-153	Unevaluated	Multi-constituent	Union Valley
	P-9-0062	05-03-55-060	Unevaluated	Occupation	Robbs Peak
	P-9-0063	05-03-55-061	Unevaluated	BRM/lithic scatter	Robbs Peak
	P-9-2446	05-03-55-622	Unevaluated	Grinding slick	Loon Lake
	P-9-2448	05-03-55-624	Unevaluated	Lithic scatter	Loon Lake

Trinomial	Primary No	FS Site No.	NRHP Evaluation	Site Type	Development
	P-9-2450	05-03-55-657	Unevaluated	Grinding slicks	Loon Lake
	P-9-2465	05-03-55-658	Unevaluated	Lithic scatter	Loon Lake
	P-9-2474	05-03-55-391	Unevaluated	BRM	Robbs Peak
	P-9-2480	05-03-53-146	Unevaluated	Lithic scatter	Camino
	P-9-2484	Private land (SMUD 3)	Unevaluated	BRM	Slab Creek

Historic Period Resources

The archaeological inventories conducted within the APE for the UARP led to the identification and recording of 43 sites containing evidence of use during the historic period (Table 5.3.7-2). Three of these 43 sites also contain prehistoric-period materials. The historic sites include ditches and ditch segments, remains from previous mining activities, old road and railroad grades, occupation sites, and other historic-era features. Two of the recorded archaeological sites (USFS Nos. 05-03-53-521 and -522) are structures – the Buck Island Dam and the Rubicon Dam, respectively (DTA and EDAW 2004a). The 43 sites containing evidence of historic period use are listed in the following table.

Trinomial	Primary No	FS Site No.	NRHP Eligibility	Site Type	Development
CA-ELD-0516/H	P-9-604-H	Private land (IH1)	Unevaluated	Historic railroad grade	Iowa Hill
CA-ELD-0516/H	P-9-604-H	05-03-56-213 – P6	Unevaluated	Historic railroad grade	Iowa Hill
CA-ELD-0516/H	P-9-604-H	05-03-56-213 – P7	Unevaluated	Historic railroad grade	Iowa Hill
CA-ELD-0569-H	P-9-656	Private land (NA)	Unevaluated	Stone Cabin remains	Slab Creek
CA-ELD-1146-H	P-9-1533	05-03-56-663	Unevaluated	Historic placer mining and occupation	Slab Creek
CA-ELD-1188-H	P-9-1575-H	05-03-56-215/ Private land (SMUD 8A-D)	Unevaluated	Iowa Ditch/Canal	Slab Creek
CA-ELD-1322/H	P-9-1767/H	05-03-55-154	Ineligible	Historic ranch/ditch	Union Valley
CA-ELD-1638-H	P-9-2473-H	05-03-55-183	Ineligible	Little South Fork Ditch	Robbs Peak
CA-ELD-1642-H	P-9-2481-H	Private land (SMUD 1)	Unevaluated	Prospect pits	Slab Creek
CA-ELD-1644-H	P-9-2485-H	Private land (SMUD 5)	Unevaluated	Ditch and foundations	Slab Creek
CA-ELD-1645-H	P-9-2488-H	Private land (SMUD 12)	Unevaluated	Historic and modern dump	Slab Creek
CA-ELD-1646-H	P-9-2490-H	Private land (SMUD 14)	Unevaluated	Trench and pits	Slab Creek
CA-ELD-1652/H	P-9-2508/H	05-03-55-421	Unevaluated	BRM/occupation/historics	Union Valley
CA-ELD-1653/H	P-9-2509/H	05-03-55-415	Unevaluated	BRM/occupation/historics	Union Valley
CA-ELD-1655/H	P-9-2511/H	05-03-55-413	Unevaluated	Lithic scatter/historics	Union Valley
CA-ELD-1667-H	P-9-2523-H	05-03-55-089	Unevaluated	Historic dairy, Palmer house	Union Valley

Table 5.3.7-2. Historic Period Resources within the UARP.					
Trinomial	Primary No	FS Site No.	NRHP Eligibility	Site Type	Development
	P-9-0051-H	Private land (SMUD 6)	Unevaluated	Pyramid Mine	Slab Creek
	P-9-1141-H	Private land (SMUD 4)	Unevaluated	Green Valley Road	Slab Creek
	P-9-1861-H	Private land (SMUD 9)	Unevaluated	Farmer's Free Ditch	Slab Creek
	P-9-2479-H	05-03-55-532	Unevaluated	Gobbi homestead	Jones Fork
	P-9-2483-H	Private land (SMUD 2)	Unevaluated	Fence	Slab Creek
	P-9-2486-H	Private land (SMUD 10)	Unevaluated	Ditch	Slab Creek
	P-9-2487-H	Private land (SMUD 11A/B)	Unevaluated	Ditch	Slab Creek
	P-9-2489-H	Private land (SMUD 13)	Unevaluated	Irrigation Ditch	Slab Creek
	P-9-2491-H	Private land (SMUD 15)	Unevaluated	Ditch	Slab Creek
	P-9-2492-H	Private land (SMUD 16)	Unevaluated	Hydraulic mining features	Slab Creek
	P-9-2493-H	Private land (SMUD 21)	Unevaluated	Mining cut	Slab Creek
	P-9-2495-H	Private land (SMUD 23)	Unevaluated	South Fork Ditch	Slab Creek
	P-9-2496-H	Private land (SMUD 18)	Unevaluated	Logging grade	Slab Creek
	P-9-2497-H	Private land (SMUD 19)	Unevaluated	Logging grade	Slab Creek
	P-9-2498-H	Private land (SC 1)	Unevaluated	Cable and carriage remains	Iowa Hill
	P-9-2499-H	Private land (SC 2)	Unevaluated	Trail w/ rock walls	Iowa Hill
	P-9-2500-H	Private land (SC-3)	Unevaluated	Log chute	Iowa Hill
	P-9-2501-H	05-03-56-890	Unevaluated	Chute Camp Road	Iowa Hill
	P-9-2504-H	05-03-55-576	Unevaluated	Wagner's House	Union Valley
	P-9-2505-H	05-03-55-549	Unevaluated	Bassi dairy ranch	Union Valley
	P-9-2537-H	05-03-55-547	Unevaluated	Rafetto homestead	Union Valley
	P-9-2541-H	05-03-55-473	Unevaluated	Wickander cabin	Loon Lake
	P-9-2542-H	05-03-55-520	Unevaluated	Haughy Memorial (modern)	Loon Lake
	P-9-2543-H	05-03-55-521	Unevaluated	Buck Island Dam	Loon Lake
	P-9-2544-H	05-03-55-522	Unevaluated	Rubicon Dam	Loon Lake
	P-9-2545-H	05-03-56-749	Unevaluated	Bladed road	Slab Creek
	P-9-2576-H	05-03-55-005	Unevaluated	Loon Lake dam boulders, 1882	Loon Lake

Ethnographic and Ethnohistoric Resources

The *Ethnographic and Ethnohistoric Resources Technical Report* identifies general interests in the UARP area, particularly with traditional plant gathering among the Native American community. Specific sites of traditional cultural importance within the UARP area were not identified, however. Specific concern with the treatment of human remains, which could be located within some of the prehistoric sites identified within the UARP, was expressed – but not on a site-specific basis. This lack of precise information may be, in part, related to stated Native American concerns about the potential damage to sensitive cultural sites when they are identified. No Traditional Cultural Properties (areas of traditional and/or sacred use) are known to exist within the UARP.

5.3.7.3 Environmental Effects of the Proposed Action

To determine the environmental effects of the Proposed Action on cultural resources, SMUD compared the effects of the Proposed Action on these resources with the baseline condition. The Proposed Action would be considered to have a significant effect if it changed the quantity or quality of cultural resources in the UARP area in such a way as to result in a significant adverse effect to these resources. Here, however, there was no such change and the Proposed Action will have a less-than-significant effect on cultural resources.

The Proposed Action includes the development and implementation of a HPMP. This measure is expected to ensure that the Proposed Action's effects on cultural resources is less-than-significant.

Proposed Measure - Historic Properties Management Plan

Within the combined UARP and Iowa Hill Development APE, no project-related effects have been identified at 33 of the 80 unevaluated sites, however there are several activities currently occurring within the project area that may directly affect the significance of unevaluated cultural resources within the APE during the term of the new license. Additionally, certain kinds of project-related activities may not have a direct affect on these properties but may create conditions by which they may result in indirect effects.

The Proposed Action includes developing and implementing a Historic Properties Management Plan (HPMP). The goal of the plan is avoidance of all unevaluated or significant sites within the APE. This avoidance will be accomplished by apprising a limited number of operating personnel of sensitive locations that need to be avoided and providing specific information on the nature and location of sites that could be affected by project activities on a need-to-know basis to management personnel. Maps showing all site locations as well as site records will be provided to the UARP Asset Owner, who is responsible for all operation and maintenance activities performed by SMUD staff. The HPMP coordinator will determine when the services of an archaeologist or other cultural resources professional are required. Access to site location information will be restricted to the Asset Owner, HPMP coordinator, and consultants and cultural resources professionals retained by SMUD. This plan will address:

- Normal and routine maintenance operations or other activities for the project that may require monitoring.
- Periodic monitoring conducted at regular intervals (e.g., once every three, five or ten years).
- Site-specific treatment plans for high-sensitivity sites with active effects.
- Designation of a HPMP coordinator that will be responsible for implementation of the plan.
- Incorporation of cultural aspects into the Annual Employee Environmental Awareness Program.

Periodic and Site Specific Archaeological Monitoring

Periodic monitoring will be applied to resources based on site composition and the potential effects of project related activities. Given current information, 67 known sites will be included in the monitoring program: 25 sites will be monitored on a three-year basis; nine sites will be monitored at a five-year interval; and those 33 sites that have no project-related effects identified will be monitored at a ten-year interval. Should any sites be evaluated as ineligible to the NRHP during the term of the new license, they will be removed from the monitoring list. Alternatively, previously unknown sites that may be encountered during the project may be included in the monitoring program unless they are evaluated and determined to be ineligible.

Within the context of the tiered monitoring program, SMUD will retain a certified archaeologist to review the condition of each site relative to its preliminary assessment as documented by SMUD. The physical condition and any existing effects noted at each monitored site will be documented on site forms and maps, site condition forms, and photographed. If after three years the condition of a site remains stable, periodic monitoring will occur once every five years thereafter or until that site is removed from the monitoring list altogether. Conversely, continuing degradation to a site may require the implementation of additional treatment measures.

Evaluation

Nine of the known cultural resources identified within the APE have been formally evaluated³ and determined to be ineligible for listing in the NRHP. In two cases, portions of these sites that extend below the reservoir pool elevations were not evaluated, and these site areas are considered unevaluated relative to the NRHP criteria. For the remaining seven sites that have been fully evaluated, no further management is proposed. If future activities associated with the UARP have the potential to affect any recorded or unrecorded cultural resources that could be eligible for inclusion in the NRHP, and those activities are necessary and cannot be modified to

³ These sites are: CA-ELD-355, -366, -672, -1639, -1660, -1681/H, -1767/H, and -2473/H

avoid affects to the resources, then an evaluation program will be implemented to assess the NRHP eligibility of those resources. For the evaluation process, SMUD will apply the National Register criteria (36 CFR 60.4) and the FARM, and will consult with SHPO concerning determinations of NRHP eligibility per 36 CFR 800.4(c). If the resource is found to be eligible to the NRHP then SMUD will implement a treatment plan to mitigate any unavoidable adverse effects.

Site-Specific Treatment

At present, at least ten sites are included in the site-specific archaeological treatment plan (eight on federal land; two on private land). Adequate evaluation and treatment of cultural resources requires sufficient information regarding the boundaries, integrity, vertical and horizontal structure, and content of a site. Where effects to cultural resources are unavoidable, evaluation and treatment will be accomplished in phases.

In consultation with the SHPO, ENF, and Native American tribes, as appropriate, SMUD will apply a variety of measures to treat project effects. Such measures will be commensurate with the nature and extent of effects, and may include one or more of the following:

- Installation of barricades, vegetation, or similar physical obstructions to reduce or limit access to sites;
- Burial of sites beneath imported fill, rip-rap, boulders, or other materials to limit effects, obstruct access, discourage camping, or prevent vandalism and looting;
- Road closure or use restriction;
- Site monitoring and annual condition assessments;
- Site stabilization and erosion control;
- Additional analysis and management of existing archaeological collections and data from the study area; and/or
- Data recovery to retrieve significant and relevant information about the history and prehistory of the study area.

The adequacy of any such treatment measures will be assessed on a regular basis to ensure their effectiveness, the need for their continuance, or additional treatment measures.

SMUD will retain qualified professional personnel for all cultural resources investigations performed under the terms of this HPMP. At a minimum, supervisory personnel will meet specifications set forth in *Secretary of the Interior's Historic Preservation Professional Qualifications Standards* (USDI 1997) for the discipline(s) relevant to the particular study. SMUD also will obtain ARPA permits or other needed work permits for any work on federally administered lands.

The development and implementation of the Historic HPMP will reduce effects of the Proposed Action on cultural resources to a less-than-significant level.

5.3.7.4 Environmental Effects of the UARP-Only Alternative

Under the UARP-only Alternative, all components of the Proposed Action will be in place except those dealing with the addition of the 400 MW Iowa Hill Development. SMUD will operate the existing UARP facilities in a manner identical to the Proposed Action, with few exceptions. All project reservoirs, except Slab Creek Reservoir, will be operated in the same manner described in Exhibit B of the License Application; the seasonal changes in water levels of the three project storage reservoirs (e.g., Figures 5.3.1-11 through 5.3.1-25 of Section 5.3.1.3), will occur under the alternative. However, the increased frequency of water level fluctuation at Slab Creek Reservoir described under the Proposed Action will not occur under the UARP-only Alternative. Slab Creek Reservoir water level fluctuations, under this alternative, will be the same as baseline. Also, under the UARP-only alternative, the release schedule for the ten project dams will be the same as the Proposed Action. Thus, the quantity of water stored in project reservoirs (with seasonal and daily changes) and the volume of water passing through project reaches will be the same as the Proposed Action.

The effects of the UARP-only Alternative on cultural resources will be, in large measure, identical to those described for the Proposed Action in Section 5.3.7.3. This alternative, like the Proposed Action, will not significantly affect cultural resources. Because this alternative does not include the construction or operation of the Iowa Hill Development, the HPMP will not include evaluation of the sites located within the Iowa Hill Development boundary. Without the 400 MW of capacity from the Iowa Hill Development, SMUD will have to meet future peak generation needs with less efficient simple-cycle peaking plants rather than power purchased from the energy market, which would likely be produced by a more efficient mix of fossil fuel generation sources.

5.3.7.5 Unavoidable Adverse Effects

None.

