3.3.8 Cultural Resources

The discussion of cultural resources is broken into four sections. The affected environment is discussed in Section 3.3.8.1, environmental effects of the Project are addressed in Section 3.3.8.2. Proposed conditions are listed in Section 3.3.8.3. Unavoidable adverse effects are addressed in Section 3.3.8.4.

Where existing, relevant, and reasonably available information from YCWA's PAD was not sufficient to determine the potential effects of the Project on historic properties, YCWA conducted two studies: 1) Study 12.1, *Historic Properties*; and 2) Study 13.1, *Native American Traditional Cultural Properties*. These studies are complete and technical memoranda providing the study results are included in Attachment E6 (Table 1.4-3).

3.3.8.1 Affected Environment

This section describes existing cultural resources within the Project Area of Potential Effects (APE), and is divided into the following five parts: 1) Cultural Overview; 2) Prehistoric and Historic Archeological Resources; 3) Traditional Cultural Properties; 4) Historic Buildings and Structures; and 5) Proposed APE for the Project under the New License.[1]

3.3.8.1.1 Cultural Overview

Archival research conducted as part of the relicensing effort provided background information relevant to understanding past Native American lifeways and cultural sequences, and historic period developments within and adjacent to the Project. Based on this gathered background information, a cultural overview is provided below.

Prehistoric Overview

The following is a summary of the prehistoric context for the Project Area from the Paleoindian through the Emergent Period.[2]

<u>Late Pleistocene/Younger Dryas/Recess Peak Advance – Paleoindian (15,000 to 10,000 before present)</u>
The Clovis culture currently is identified in North America as occurring between approximately 13,500 to 13,000 years ago. The acquisition of date ranges for the Clovis culture from current literature is fraught with confusion due to a plethora of alternative dating schemes and dating methods. The cultural pattern is distinguished by "fluted" projectile points, percussion blades, and other distinctive artifacts. Very few Clovis sites have been identified in North America. The Clovis culture, which is the earliest well documented cultural expression in the Americas, is

[1] Refer to Section 1.3.6 for a discussion of the cultural resources regulatory context, including National Historic Preservation Act, Section 106, consultation and APE.
[2] The Emergent Period marks the clear appearance of the modern ethnographic cultures and the transition from the prehistoric to the historic period.

linked to the medial part of this time period, circa (ca.) 13,500 to 13,000 before present[3] (B.P.). No diagnostic Clovis artifacts, which are distinguished by "fluting" of the proximal portion of both faces of projectile points and possibly other tools, have been found in the Project Area. However, a fluted point was found at Lake Almanor, located approximately 100 mi north in Plumas County (Kowta 1988:57). Fluted point fragments and complete specimens, typically found in isolated occurrences, are, however, known from scattered locations throughout much of the Sierra Nevada (Rondeau and Dougherty 2009). Unfortunately, few are from dated contexts.

Terminal Pleistocene/Initial Holocene (ca. 10,000 B.P.)

The transition between the Pleistocene and Holocene occurred 10,000 years ago during a climatic warming period that peaked 9,000 years ago. The Holocene represents the latest interglacial event, marked by the retreat of Pleistocene glaciers (West et al. 2007:15-17). Complete glacial retreat had likely occurred in the Sierra Nevada by 12,000 – 13,000 years ago, leading to increased aridity and lower lake levels. Climatic conditions led to a change in the vegetative composition of the area, with incense cedar and oak species dominating the forests previously composed of pines (West et al. 2007:27). Cultural evidence from this era in the Sierra Nevada is scant, but comparatively well established. Lindstrom et al. (2007:6) note the "Pre-Archaic/Tahoe Reach phase," marked by large stemmed points resembling weapons from the Great Basin from this era, occurred in the Truckee vicinity. Recently obtained obsidian hydration readings from throughout the Truckee vicinity provide evidence of human occupation during the Late Pleistocene to Early Holocene (Waechter and Bloomer 2009:3-6).

Early Holocene-Late Paleoindian (ca. 10,000 to 8,000 B.P.)

By the Early Holocene, evidence from numerous archaeological sites throughout the state show that California was fully explored by this time and supported a significant population. The regional climate was distinguished by a steady warming and drying trend, or a period of "relative warming..." (Lindstrom et al. 2007). In the Truckee area, the Alder Hill basalt quarry was active. McGuire et al. (2006) recovered Great Basin stemmed points, datable carbon and obsidian that indicate the area was being visited by the Early Holocene for the procurement of toolstone.

Lindstrom et al. (2007:5) also note that at site CA-ELD-180, Great Basin stemmed points, some of which likely had their origins in the western Sierra foothills, were recovered, manufactured from a broad range of materials, and indicate considerable mobility of at least portions of the human population. In yet other areas, such as the western Sierra foothills in Calaveras County, there is evidence of extremely stable land use. For example, evidence shows continued use of the Skyrocket site over a span of approximately 2,500 years during the Early Holocene (Fagan 2003:88). It is possible that similar remains may be present near the Project Area at lower elevations.

Middle Holocene – Early Archaic (ca. 8,000 to 5,000 B.P.)

The Middle Holocene is poorly represented archaeologically throughout California. Lindstrom et al. (2007:8) remark on this issue, speculating that several factors may obscure middle

[3] Before present (B.P.) is a time scale used in archaeology, geology, and other scientific disciplines to specify when events in the past occurred. Because the "present" time changes, standard practice is to use the year 1950 as the arbitrary origin of the age scale.

Holocene contexts. Warming conditions arising during the early Holocene evidently continued into the mid-Holocene. In the Tahoe region, Lindstrom et al. (2007:7) cite an extensive list of studies, all of which have concluded that the mid-Holocene was the warmest period in recent geological history and, at least in North America, one of the driest periods. Levels in Lake Tahoe may at times have fallen sufficiently low to isolate the lake from the Truckee River. Lindstrom et al. (2007) note evidence of a drought period estimated to have lasted approximately 350 years between about 6,300 and 4,850 B.P. Effects of these changes farther west are not well documented.

At the Skyrocket site in Calaveras County, evidence of occupation diminishes but is never fully interrupted (cf., La Jeunesse and Pryor 2000, 2001, 2002, 2003). Of particular interest is the presence of large rock features dated between 9400 and 7000 B.P. consistently used by hunter-gatherers who possibly were central-based foragers focusing upon marsh resources. McGuire (2007: 171) notes that Early Archaic deposits may be more difficult to recognize, due to a large degree of variability in local traits and the lack of a single projectile point chronology that can be used to identify temporally diagnostic artifacts.

Late Holocene – Middle Archaic (5,000 to 2,000 B.P.)

The beginning of the Late Holocene is marked by climatic shifts toward a more temperate regime and the first well documented archaeological cultures in central and northern California. In the Sacramento-San Joaquin Delta region, the Windmiller culture emerged with unique traits, including an unusual mortuary pattern marked by prone interments with crania oriented in a westerly direction (Moratto 2004:201-207). In the Truckee vicinity and portions of the neighboring western High Sierra, the Martis Complex, marked by typological affiliations with the Great Basin and a preference for locally abundant basalt, was identified by Heizer and Elsasser (1953), Elsasser (1960), and Moratto (2004). The Martis complex is visible primarily through a proliferation of large basalt bifacial tools, as well as a large distribution of lithic reduction debris (Kowta 1988:72; McGuire 2007:172). Sierran basalt was also being used further west in the Central Valley, suggesting an east-west oriented settlement system that took advantage of lowland and upland resources (McGuire 2007:171-172). Less prolifically utilized materials include local metamorphic rock, chert, slate and schist. Several Sierran sites have also yielded obsidian materials that have been sourced to a wide range of areas including North Coast Range and Bodie Hills obsidians (Justice 2002: 221-222). The Martis complex is well-represented near the Project Area at sites such as CA-NEV-15, CA-NEV-67, CA-PLA-6 and CA-SIE-20 (Elsasser 1960). To the west and north of the Project, the Messilla Complex was defined at three sites in Butte County (Moratto 2004:297-299). Moratto (2004), following arguments of earlier investigators (Elsasser 1978; Ritter 1970a, b; Ritter [ed.] 1970; Ritter and Matson 1972), including studies for the proposed Auburn Dam and Bullards Bar reservoirs, suggests that Martis may reflect ancestral Maiduan prehistory.

A three-stage Bullards Bar cultural complex was identified by Humphreys (1969), that appears to follow the same typological progression as the Martis to Kings Beach and Mesilla to Sweetwater cultural phases from Lake Tahoe and Lake Oroville respectively. The Bullards Bar I-III phases are characterized by a shift from large to small projectile points (Moratto 2004:300-301). The earliest period, Bullards Bar I, dates from approximately 2450 B.P. to 1949 B.P. This phase likely represents seasonal occupation sites with a diverse subsistence base, characterized by large basalt and chert projectiles as well as millingstones and mortars. What is evident from the available archaeological information is that by the Middle Archaic, people of the Sierra Nevada show clear influences from both the Great Basin and central California.

Late Holocene – Late Archaic through Emergent Period (2,000-200 B.P.)

The Late Archaic is represented by the lack of discernible relations between archaeological complexes and the known material cultures of ethnographic Californian populations end. In the High Sierra, the Martis Complex gives way to the Kings Beach Complex, and in the west analogous changes occur as the Middle Horizon is replaced by early Augustine Pattern settlements. In the west, important subsistence changes take place, as the acorn emerges as a clearly important staple; a process marked by a proliferation of the use of bedrock mortars. The bow appears as the preeminent weapon, marked archaeologically by an abrupt reduction in projectile point size and a significant increase in numbers of points in use. In the high Sierra, the bow also appears in the Kings Beach Complex, and preferred materials for weapon tips change from basalt to microcrystalline silicate materials, typically taking the form of Rose Spring and Gunther barbed arrow points (Moratto 2004:302-303; McGuire 2007:174). The Sierra Contracting Stem cluster is another Martis Complex point variant that emerges in the Late Archaic. This type is typically formed of local basalt sources, with a wide distribution throughout central California that is concentrated in the Sierras around Lake Tahoe (Justice 2002:277-283).

Typologically, the projectile points of the western slope differentiate themselves from the east. To the west, the arrow tip is characteristically dominated by a small contracting-stemmed or corner-notched point, manufactured of local materials and harking typologically back in time to Martis contracting-stemmed points and perhaps west and north to the Gunther Series points of northwest California (Dougherty 1990; Jackson and Ballard 1999; Ritter 1970a). In contrast, the functionally equivalent chipped stone artifacts of the Kings Beach Complex associate typologically with Great Basin forms, including Eastgate and Rose Springs (Moratto 2004:295-298).

Both cultural patterns shared the bedrock mortar. The Bullards Bar II phase, dating from approximately 1450 to 500 B.P., shares the characteristics of surrounding complexes and is represented by Eastgate, Rose Springs and Gunther Barbed projectile point types (Humphreys 1969).

The Emergent Period marks the clear appearance of historically-encountered ethnographic cultures. In the Sierra, the Late Kings Beach and Phase II Augustine pattern societies continue their development, now readily associated with Washoe and Nisenan respectively. The ancestral Nisenan are likely represented by the Bullards Bar III phase, which dates from approximately 500 B.P. to the historic period. Permanent villages appear archaeologically during this period, as well as continued use of bedrock mortar acorn processing and arrow points for hunting (Jones 1982; Kowta 1988; Moratto 1984).

Ethnography and Ethnohistory

Provided below is a summary of the ethnographic context for the Project. These include geography and demography, subsistence and trade, social and political organization, religious beliefs and ethnohistory.

Geography and Demography

At the time of the earliest historic contact, the Nisenan occupied a portion of northeastern California that since Euro-American times has traditionally been known as the "Gold Country," an area bordering the Sacramento River to the west and the Sierra Nevada to the east. The region includes parts of the modern California counties of Yuba, Nevada, Placer, Sacramento and El Dorado. From north to south, the Nisenan territory encompassed an area from either the North Yuba River or the southern fork of the Feather River down to the Cosumnes River (Wilson and Towne 1978:388; Littlejohn 1928:23). The northern boundary has traditionally been difficult to define as it appears to have been a zone where the Nisenan's northern neighbors, the Konkow, mingled linguistically and culturally with the Nisenan. On the southern bank of the Cosumnes River lived the eastern branch of the Miwok; while just to the west were the Patwin.

Ecologically, Nisenan territory encompassed a region characterized by flat river bottomland along the Sacramento River to the 10,000 and 12,000-ft elevation Sierra Nevada divide. Between these two extremes were the gradually ascending Sierra foothills, an environment consisting of, among others, scattered oaks (especially interior live oak and blue oak) and California buckeye. These species are eventually superseded by gray pine and *Ceanothus* sp. in the higher elevations. At even higher elevations, sugar pines and yellow pine are the dominant hardwood species. This region experienced dramatic fluctuations in climate and temperature. Summer months along the Sacramento River, for example, routinely reach into the high 90s and even 100s (degrees Fahrenheit), while the winter months in the high elevations experience snow, frost and below-freezing temperatures.

Estimates of pre-contact Nisenan population size have been notoriously difficult to define (Beals 1933; Kroeber 1925), as much of their population had been decimated prior to the 20th century. Kroeber (1925) argues for a total pre-contact Maidu population of 9,000, though he admitted the figure was decidedly liberal. However, by the time Kroeber and other ethnographers began to study the Nisenan in the early 20th century, there were only a reported 1,100 Nisenan and those of mixed-Nisenan heritage. This dramatic decline in population was largely the result of events unleashed primarily due to the California Gold Rush. The discovery of gold in the lands of the Nisenan and the subsequent contact between whites and Indians, much of which was of a violent nature, played a significant role not only in reducing overall Nisenan population numbers, but also destroying the Nisenan as a viable culture. By the latter half of the 19th century, Nisenan population numbers were in dramatic decline, so much so that Powers (**1876**:317[1877]) observed:

> They [the Nisenan] had the misfortune to occupy the heart of the Sierra mining region, in consequence of which they have been miserably corrupted and destroyed. Indians in the mining districts, for reasons not

> necessary to specify, are always worse debauched than those in the agricultural regions.

Subsistence and Trade

The Nisenan were year-round hunters and gatherers with access to varied biotic zones distributed across the western slope of the Sierra Nevada (Hull 2007:180). Hunting was done communally, by conducting drives and burning, with the best marksman doing the killing. Deer, antelope, elk, black bear, wildcats, mountain lions and other small game were caught and roasted, baked or dried. Gathering was also a communal activity, organized around seasonal ripening of specific resources including roots, wild onion, wild sweet potato, Indian potato and a variety of nuts. Acorns were a major staple of the Nisenan diet; these were shelled, ground into flour and stored for year-round use.

Some fishing holes or territories for deer drives were utilized by certain grouped families; however, individual hunters crossed family and political boundaries with impunity (Wilson and Towne 1978; Kroeber 1925).

The Nisenan used many tools including stone knives, arrow and spear points, scrapers, pestles and mortars. Weirs, nets, harpoons, traps and gorgehooks were used for fishing from tule balsas and log canoes. Baskets were woven from willow and redbud and were used for storage, cooking and processing (Hull 2007; Wilson and Towne 1978; Kroeber 1925). Materials for most tools and ornaments were obtained locally. However, a network of trails crossed Nisenan territory allowing for access and trade with other areas. The same trade networks moved north and south along the west face of the Sierra and along the crest of the range, allowing access to non-local goods to supplement local resources.

Social and Political Organization

Like many native groups in California, the Nisenan were organized into what has been termed the tribelet. The term and concept were derived from the writings of A.L. Kroeber, who in 1932, observed that the dizzying array of different social and political groupings in native California was far different from other parts of North America. The concept of the tribe, used with ubiquity elsewhere in North America, was simply not an adequate description of the many and varied social groupings in California. As a result, Kroeber coined the term “tribelet” to explain the basic social and political organization of a majority of California’s native peoples, including the Nisenan. The tribelet was defined as a social aggregation consisting of one or more household groups that included immediate family members (parents and children) and any associated relatives (either collateral, lineal or affinal) living together in a village or community. Sometimes, however, the tribelet included two or more villages. These households were gathered together on the basis of a shared language, culture and identity. Typically, tribelets defined communal territorial boundaries and engaged in regularized intergroup relations such as hunting and gathering and ritual observances. The tribelet, moreover, was autonomous, self-governing and independent.

In the mountains and foothills, villages were generally located on a knoll or on a bench on high ground between rivers. In the valleys, villages were built on low, natural rises along streams or rivers. Small villages contained between 15 to 25 people, while large villages could contain over

500 people (Kroeber 1925:831). Dwellings were dome-shaped and made of brush or bark lashed over an oak pole frame. They were between 10 and 15 ft in diameter, and any village might contain between 7 or 50 houses. The floors of the dwelling were sunk a few feet into the ground and covered over with pine needles or leaves. Hearths were situated in the center of the room. In larger villages, dances houses (*k'um*) and acorn granaries were constructed. The former were relatively elaborate, semi-subterranean structures built with heavy beams and between two or four main posts depending on size of the house. These houses were used for ceremonies, gatherings, feasts and various assemblies (Beals 1933:344).

Religious Beliefs

Although Beals (1933:379) stressed a certain lack of uniformity in the religious beliefs of his Nisenan informants, they were nonetheless united in their belief that there existed a supernatural realm peopled by spiritual beings, some of whom possessed great powers. They also believed that all natural objects were endowed with supernatural powers. Beals writes:

> To the Nisenan the world is a place where every object is endowed with potential supernatural powers. These powers may sometimes be taken advantage of or propitiated to bring "luck," or the possession of "medicines" may enable an individual to have "luck," which amounts to giving him more than natural powers in certain pursuits (1933:379).

Like other native Californian groups, the Nisenan placed great importance on shamans. There were two main types of shamans in Nisenan society, those that were specialists in native medicine and curing, and those who had direct contact with the supernatural realm. The first of these were called *yo'muse*, and were called upon to relieve illness and disease. They worked with a number of different shamanistic items to bring about cures, such as charm stones, roots, seeds, leaves and various herbs. Many shamans were skilled in sucking foreign objects out of a patient's body; such obstructions were believed to be the primary cause of illnesses. Some shamans, however, were greatly feared because of their poisoning skills. In fact, poisoning was a major concern in Nisenan society, and one that was painstakingly guarded against. A *yo'muse* could be either a man or woman. The second type of shaman, always a man, was called an *oshpe*, and acted as an intermediary between the natural and spiritual worlds. He had the ability to conjure spirits and was the repository of ancient lore.

Ethnohistory

Although Spain claimed Alta California as part of its New World possessions, the area north of what today is the Bay Area witnessed little overt Spanish influence. The 21 missions, which were intended to demonstrate the claim of the Spanish empire to what is now modern-day California, only extended as far north as modern Sonoma County. In fact, Spain only had a tenuous hold on northern California, though at least a few researchers have surmised that some native inhabitants of the region, including some Nisenan, were likely forced into the Spanish mission system (see Forbes 1969:32; Wilson and Towne 1978:396). The three colonialist nations, Russia, Great Britain and the United States, vied with Spain, and each other, over possession of the region. Fort Ross, in modern-day Mendocino County, for example, was established by the Russians in 1812, and was considered its farthest-flung New World outpost.

One of the few Spanish expeditions into the region was led by Gabriel Moraga, who in 1808 marched north from Mission San Jose in order to scout locations for possible mission sites. He reportedly located 12 Indian villages along the Cosumnes River, 11 Nisenan villages along the American River, and seven Nisenan villages along the Feather River (Peterson 1977:3). Fray Narcisco Duran led a later Spanish expedition into Nisenan territory in 1817. The expedition traveled up the Sacramento River and encountered numerous Native Californians, several groups of which were hostile (Peterson 1977:3-4).

As a consequence of these expeditions, virulent epidemics were unleashed among the native populations of the region. Perhaps the most devastating of these occurred in 1833, and was apparently a result of either smallpox or malaria (Peterson 1977:6; Cook 1955:308). By one estimate, this epidemic may have wiped out perhaps as much as 75 percent of the valley Nisenan population (Cook 1976). Several explorers of the time recorded the devastation these diseases wrought on the natives and their villages (Peterson 1977:5-6).

The first Euro-American immigrant to settle in Nisenan territory was John Sutter, who had been granted permission to settle there by the Mexican Governor Juan Bautista Alvarado. Sutter established a fort, ranch and mill near present-day Sacramento. He recruited numerous Nisenan in his enterprises and used them as laborers on many of his various projects. His relations with the Nisenan, as well as other native groups, were complex; while he could at times be generous and benevolent, he could also be harsh and brutal (Peterson 1977:9-11).

The annexation of California by the United States in 1849-1850 resulted in continued woes for the Nisenan and neighboring groups in the area. In fact, the ensuing years were tumultuous for the Indians of the region. Not only did disease take a massive toll on their population but the violence unleashed by miners and settlers who entered their territory in the 1840s and 1850s also had a significant and devastating effect on their population. After the discovery of gold at Sutter's Mill in 1848, miners and settlers flooded into northern California, gradually expropriating native lands. Many of the streams and creeks the various Indian groups had used and relied upon for generations became polluted and befouled as the prospectors overran the area in their mad search to find the elusive mineral. This prompted angry responses from the region's native inhabitants, and hostilities between the two groups became commonplace. Many of the miners, for their part, viewed the Indians as little better than wild beasts (calling them "Diggers"), and thus dealt with them harshly. There were numerous violent incidents – raids, retaliatory killings, rapes and outright massacres – between the two opposing groups during this time.

Despite resistance on the part of the Nisenan, the eventual outcome of this clash between white and native culture was inevitable. The Nisenan were simply no match for the superior numbers, technology and organization of the American invaders. During the latter half of the nineteenth century, the native groups that had occupied the area were gradually and inexorably displaced, killed off by disease or violence, or forced into hiding and seclusion. As whites settled on their lands, the few surviving Nisenan were gradually pushed to the margins of society, where many of them were eventually absorbed into the dominant economic system. Many Nisenan found work in agriculture, logging, ranching and domestic pursuits (Wilson and Towne 1978:396).

The issue of landless Indians (i.e., those not living on reservations) in California soon became a problem that aroused the interest of the Federal government at the turn-of-the-century. In order to ascertain the number of Native Americans living outside the reservation system, a San Jose attorney named Charles E. Kelsey was appointed by the Bureau of Indian Affairs to conduct a comprehensive survey. He was tasked with enumerating the numbers of landless Indians in California and investigating their need for land. Between 1905 and 1906, Kelsey traveled throughout California, gathering a long list of names, ages and locations or residences of living Native Californians (Kelsey 1971). Kelsey's work in Yuba County yielded a depressingly small number of Native Californians living in the region. Altogether, he counted a total of 50 landless Indians and three mixed-blood Indians (Kelsey 1971:2).

Historic Overview

Principal historical themes applicable to the Project Area include: early European settlement of California; migration and transportation; mining development; development of agriculture; cattle ranching; recreation; tourism; hydroelectric systems; water control and distribution; and formation of the water districts. Each of these themes is discussed below.

<u>Early Regional History</u>

The principal historical themes operating within the Project Area include early Euro-American colonization of California; migration and transportation; mining development; early settlement and development of agriculture, cattle ranching, sheep herding and logging; the Forest Reserve system, formation of the TNF and PNF, and forest management practices; hydroelectric systems, water control and distribution; and the formation of the water districts. Each of these themes is discussed briefly below.

Prior to 1848 and the discovery of gold in California, the central Sierra Nevada remained largely unpopulated and unexplored by Euro-Americans. Beginning in 1769, the Spanish settled along the California coast and established their chain of 21 missions between San Diego and Sonoma; however, they rarely ventured into the interior except to pursue runaway mission Indians or escaped livestock, or to scout for future mission sites.

Hudson's Bay Company trappers began taking beaver in the local rivers during the 1820s. After Mexico won its independence from Spain in 1822, the mission lands and other territories in California were divided into large privately owned ranches, and sheep and cattle ranching became the primary economic activities. In 1839, the first large landholdings in the region were granted to John Marsh near Mt. Diablo and John Sutter at the confluence of the American and Sacramento rivers (Jackson et al. 1982; Pittman 1995).

Soon, American explorers and traders were probing the Sierran interior, discovering passes and routes across the mountains that are still used today. In 1841, Lieutenant Charles Wilkes led the first explorers into the region from the Pacific Northwest. A group of Wilkes' men journeyed down the Sacramento River to the San Francisco Bay. In 1844, the Stevens-Townsend Party ascended the Truckee River from the Nevada desert, came over Donner Pass, and camped at Cold Creek, south of Donner Lake. In 1845-1846, Charles Fremont, on his first of four ventures into the Sierra, followed the same path as the Stevens-Townsend Party. Subsequent forays into the region discovered additional routes that facilitated the movement of a steady stream of settlers into the area (Jackson et al. 1982).

Conflicts between the *Californios* and the central government in Mexico City led to a series of uprisings culminating in the Bear Flag Revolt of June 1846. In November of 1846, Juan Bautista Alvarado named himself Provisional Governor and declared Alta California an independent state until Mexico restored the principles of federalism. However, Mexican control of California had effectively ended the year before, when the *Californios* expelled Manuel Micheltorena, the last Mexican governor.

As Jedediah Smith, John C. Fremont and other American trappers and explorers brought news of California's favorable climate and bountiful natural resources eastward, the American government began to view California as part of its Manifest Destiny. Although the Mexican government decreed that *Californios* could not trade with foreigners, a thriving trade had developed between the California ranchos and New England; California sent tallow, hides, furs, and other local goods eastward in exchange for the manufactured wares of the east. The Mexican government, in a state of almost perpetual civil war, was powerless to stop the steady stream of immigrants from the east. Embroiled in the war for Texan independence, Mexico was in no position to defend California (Pittman 1995).

In the east, President Polk and the American news reporters saw this as an opportune time to take control of California. Polk's attempt to purchase the territory was unsuccessful; therefore, he was ultimately forced to declare war with Mexico. With the signing of the Treaty of Guadalupe Hidalgo on February 2, 1848, California formally became an American territory. Two years later, on September 9, 1850, California became the 31st state in the Union.

James Marshall's discovery of gold in January of 1848 at Sutter's Mill, near the Nisenan village of *Colluma* (present day Coloma southeast of the Project), triggered the California Gold Rush. By the end of that year, four-fifths of California's able-bodied men were mining in the gold fields (Robinson 1948). Initially, placer gold could be extracted by individual miners or small groups using simple hand techniques. Within a few short years, however, the easily mined placer deposits had been depleted and more complex, mechanized methods came into use.

The Gold Rush was in full swing along the Yuba River and other rivers in the region by 1849 (Kyle 1990). The outlying areas also felt the impacts of the estimated 90,000 individuals who had made their way to the California mines by the end of 1849 (Holliday 1981). The streams flowing into the Sacramento River from the northern Sierra attracted hundreds of gold seekers. Additionally, many of the miners who failed to locate productive claims, or who chose to enter the trades supplying materials and provisions, were attracted to the area's many other resources. Agriculture, ranching, and logging industries soon developed. Dry farming methods were used to grow wheat, and cattle grazed the open range.

Nearly all settlements sprang up around gold strike locations in the earliest years of the Gold Rush in the Sierra Nevada foothills. Following the discovery of gold on the Yuba River at Rose's Bar in June 1848, small communities like Fosters Bar and Bullards Bar began to line the Yuba drainage (Nadeau 1965:140). With placer mining as the major industry in the initial years of the Gold Rush, most of the towns became established along the streams and rivers where the gold could be mined in the river gravel bars that built up at creek confluences, trapping the placer gold. Many of the settlements also occurred at river crossings, where high waters required the construction of ferries to carry passengers, livestock and freight. These communities provided lodging, sustenance, and services to travelers.

Toll roads, ferries and other transportation systems developed simultaneously to facilitate the movement of people and products. Early trails and tracks used to access the gold mines in the mountains turned to maintained, permanent roads traveled regularly by stagecoaches, while steamships plied the navigable waterways. Towns were established along the network of roads and river systems on the west face of the Sierra Nevada and the adjacent valley floor. During the 1850s, John Butterfield developed an extensive system of overland routes providing mail and transportation services connecting the north, south and western United States. In 1860-1861, the Pony Express was formed as a faster and more efficient delivery system (Pittman 1995). By 1869, the transcontinental railroad system had been completed.

Early miners panned for gold in stream beds, but within decades, large-scale mining operations were organized and replaced individual miners. In 1853, hydraulic mining was introduced to California (Greenland 2001; Kelley 1959, 1989; May 1970), and rapid advances in technology provided greater flexibility and movement of hoses and efficiency for displacing dirt. Hydraulic mining became more common by the 1860s and was a process whereby water is delivered to a site through a high pressure hose and sprayed onto hillsides, washing away tons of boulders, gravel, dirt, and ounces of gold. After extracting gold from long wooden sluices, miners dumped remaining gravel and debris into the mountain valleys. The Yuba and other northern rivers and streams carried the resulting flood of sediment (slickens) down into the Sacramento Valley.

Six-hundred eighty-five million cubic feet of debris were deposited in the Yuba River and mine waste carried by the river subsequently raised the riverbed up to 100 ft in some areas (Gilbert 1917). This raised the riverbeds of the Feather and Yuba rivers so that, by 1874, at a point 12.0 miles above the city of Marysville, the Yuba River was reportedly flowing 60 ft above its original bed. Resultant floods buried farms near Marysville under gravel and mud. Lawsuits by farmers curtailed hydraulic mining in 1884 with the Sawyer Decision, considered one of the seminal environmental laws in the United States (Baumgart 2002; Greenland 2001; Kelley 1959, 1989; Mount 1995). However, the Caminetti Act, enacted by the U.S. Congress in 1893, allowed hydraulic mining to continue if mine operators constructed debris dams, regulated under the newly formed California Debris Commission.

Though large-scale hydraulic mining in the Sierra Nevada was severely curtailed in 1884, it resumed on a limited basis until the 1930s following establishment of the Caminetti Act. The Daguerre Point Dam, located along the Yuba River approximately nine miles northwest of Marysville, California, was constructed by the California Debris Commission in 1906 (Gilbert 1917). The dam was rebuilt in 1964, following damage from floods, to prevent hydraulic mining debris from the Yuba River watershed from flowing into the Feather and Sacramento rivers. During the 1920s, the California Debris Commission undertook studies that determined hydraulic mining could take place if well-placed debris dams (hydraulic mining had continued unabated in the Klamath Mountains) were constructed. In 1923-1924, the Bullards Bar Dam with a debris capacity of 40,000,000 cubic yards was constructed by the Yuba Development Company, which was backed by private investors (Delay 1924:91-99). The dam was 175 ft high. It was initially built for debris storage on the site of an inadequate debris dam (Pagenhart 1969:179). A 7,000-kilowatt capacity power plant was also built and was leased to PG&E (Pagenhart 1969:179). By 1928, both the dam and power plant were sold to PG&E. When the New Bullards Bar Dam was built in the 1960s, just downstream from the older dam, the older system was abandoned in place. The Englebright Dam (Narrows) on the Yuba River was constructed from 1935 to 1941, at a cost of $7,000,000, by the USACE (Greenland 2001; JRP and Caltrans 2000:49-50; Kelley 1959). It was also constructed for the purposes of debris storage with no controlled outlet.

<u>Hydroelectric Facilities in the Project Area</u>

Both mining and hydroelectric power generation in California have had a symbiotic relationship from the beginning. During the Gold Rush, California placer miners harnessed water power to turn large water wheels used for washing river gravels. As California mining shifted from placer to hard rock gold mining at the end of the nineteenth century, engineers searched for new sources of water power to hoist elevators and drive machinery. In the Sierra Nevada foothills, where water flowed in a number of larger rivers and tributaries, water power was a lower-cost energy source than coal and fire wood.

Eugene J. de Sabla, Jr. was the principal man behind the Nevada Power Plant on the South Yuba River and can really be called one of the fathers of hydroelectric power development in California. The Nevada Power Plant, put into operation in 1896, is arguably one of the first hydroelectric power plants in the Sierra Nevada. Following that endeavor, de Sabla, in partnership with John Martin (both of San Francisco) and R.R. Colgate of New York City, incorporated the Yuba Power Company in September 1897 for the primary purpose of building the Yuba power plant on the Yuba River.

The power plant also supplied electricity to the mines and agricultural fields in the Browns Valley region, located in the foothills along lower Dry Creek, near Smartsville (Fowler 1923:114). It was in April 1898 that the power plant began operation with the original installation of 300 kW Stanley generators. The powerhouse used a ditch system that diverted water from the North Yuba River to Browns Valley. Due to the shallow soils of the area an agricultural industry was not possible and, even after the irrigation network was brought to the valley; the primary crop was hay (Pagenhart 1969:173).

By 1910 one generator had been removed, leaving the plant with only one (Rice 1910:409). One year after the completion of the Yuba power plant business had so increased and electric prospectors so expanded that the promotors of the Yuba Power Company were able to raise $1,000,000 in capital to buy out the Yuba Power Company, reorganizing the holdings under a new company called Yuba Electric Power Company.

The new company selected a place farther up the river from the Yuba power plant, where they could get twice the fall as the Yuba power plant. This new endeavor would soon become the Colgate power plant, completed by 1899 and named after Romulus Riggs Colgate. The Colgate Powerhouse was built on the Middle Yuba River at the crossing of the historic Missouri Bar Trail, an access route to the gold country for early miners (Coleman 1952:140). The original Colgate Powerhouse, which over the years helped provide counties north and south of Oakland and San Francisco with power for street railways, manufacturing, and agriculture, suffered major fire damage in 1946 and was shut down. It was rebuilt in 1949. The new facilities built at Colgate were constructed 600 ft downstream from the location of the older power plant and included a state-of-the-art single generator unit (JRP and Caltrans 2000:67; Pagenhart 1969:195).

The original Colgate Powerhouse system, constructed in 1899 had trestle wood flumes, and wood stave, cast iron, and riveted steel pipes. The majority of California hydroelectric facilities of this period had pipes of lap-riveted steel. The system ran for a total of 10 mi, bringing water from the Browns Valley Irrigation District flume to the powerhouse (Coleman 1952:140; JRP and Caltrans 2000:61-62). The new, larger Colgate Powerhouse flume was constructed above the old Browns Valley flume and operated from 1899 to 1941 (Coleman 1952:208). Although the Colgate Powerhouse was located on the Middle Yuba River, its water supply came from the North Yuba River. The original timber crib head dam was washed out in 1904, and a stone and mortar dam was constructed to replace it in December of that same year (Fowler 1923:156). An auxiliary water supply was provided to the Colgate Powerhouse forebay by a flume of wood stave pipe connected to Lake Francis, a reservoir formed by a dam on nearby Dobbins Creek. The water was brought to the powerhouse from the forebay through two 30-in. penstocks, which were later increased to five penstocks (JRP and Caltrans 2000:59).

A drought lasting from 1897 to 1898 lowered the flow of the American River, resulting in the Sacramento Electric Power and Light Company, owners of the Folsom Powerhouse, contracting with the Yuba Power Company to receive power from the partially completed Colgate Powerhouse. When the plant began operation in 1899, it supplied electricity to local mines in the vicinity of Nevada City, as originally intended, and also sent power to Sacramento, where the energy shortage was in particular impacting the street railway system (Coleman 1952:140; JRP and Caltrans 2000). The transmission line from the Colgate Powerhouse to Sacramento was constructed over a distance of 61 mi. This was just one of 41 total transmission lines that were built to transmit power from the Colgate Powerhouse to surrounding counties and the Bay Area (Low 1901). The Colgate Powerhouse was unusual in that it provided power to multiple transmission lines of varying types and voltages and because it serviced a wide area (Hancock 1904:251).

In addition to the Yuba Power Company, de Sabla and Martin created the Bay Counties Power Company, which became part of California Gas and Electric Company in 1903 in a company merger. California Gas and Electric Company became a main component of PG&E when it was incorporated in 1905 (JRP and Caltrans 2000:62).

In 1901, a transmission line was built from Colgate Powerhouse to provide electricity to the City of Oakland. At 142 mi in length and a long section spanning 4,427 ft across the Carquinez Strait, this transmission line was the longest in the world at the time (Coleman 1952:146-147; Fowler 1923:270; JRP and Caltrans 2000:60). The transmission line consisted of paired cedar poles carrying a circuit of hard-drawn copper on one side of the line and a circuit of seven-stranded aluminum cable on the other side of the line (Coleman 1952:146; Fowler 1923:270). This was a pioneering effort as there was little knowledge available about the long distance transmission of high voltage at the time. Most of the work was completed by hand, with assistance from dynamite and teams of horses (Coleman 1952:145). The line transmitted 60,000 volts, an unprecedented high amount for the time. In fact, that was double the voltage recommended by General Electric and Westinghouse (Hughes 1983:274). This set the precedent for high-voltage transmission lines, which were widespread across the Western states by 1912 (Rose 1987:5).

Construction of the Old Bullards Bar Dam (currently inundated by New Bullards Bar Reservoir) by Harry Payne Whitney and the Yuba Development Company began in 1922 and was completed in 1924. Mr. Whitney and the company originally constructed the dam for local hydraulic mining interests. Mr. Whitney owned mining properties upstream of Bullards Bar in Sierra County and planned to impound mining debris in the lake created by the dam (Coleman 1952). The 273-ft-tall dam impounded 12,000 ac-ft of water and replaced a 40-ft earthen debris structure. The dam cost approximately $600,000 to build and included a $300,000 powerhouse with a 6,000-horsepower capacity. The Yuba Development Company worked with the county to reroute existing roads that would be flooded by construction of the new reservoir and subsequently spent approximately $40,000 on roads as well. PG&E leased the powerhouse from the Yuba Development Company until 1928 when PG&E purchased the dam and powerhouse (Hoover et al. 1966; Marysville Appeal 6/6/1922; Pagenhart 1969). Later descriptions of the dam vary with regards to the actual height of the dam. The Old Bullards Bar Dam served the community until the construction of the New Bullards Bar Dam in the 1960s.

The 1950s witnessed the culmination of earlier efforts to establish multi-purpose water systems in California. Dams no longer were only for supplying agricultural and domestic water-they became part of an integrated system. They embraced the earlier Progressive Era's (1890-1913) multiple-use ethic embodied by the Hetch-Hetchy Project approach of "the greatest good for the greatest number." Dams and watershed management evolved to provide flood control, irrigation and potable water, helped reclaim swampy land, delivered recreational opportunities, and generated hydroelectric power. The Central Valley Project (CVP) initiated in 1951 focused on the Shasta and Friant dams, with their associated Delta-Mendota and Friant-Kern canals. The subsequent State Water Project (SWP) (1957) included the California Aqueduct and Feather River Project (JRP and Caltrans, 2000: 73-75; 80-83).

In December 1955, excessive winter rain and snow in northern California resulted in devastating floods in the Central Valley that overpowered local levees and other flood control systems. Flooding inundated over 100,000 ac, resulted in 40 deaths, and cost millions of dollars in property damage. This resulted in both state and local initiatives to better manage flood control, resulting in the construction of numerous levees, canals, and reservoirs throughout the state.

In December 1951, the Yuba County Council created the Yuba County Water Resources Board. The board had been able to do little more than evolve preliminary plans, locate water rights and help the component water districts until after the 1955 flood. The first problem that had to be resolved was the creation of an effective water agency that could take firm action to develop the Yuba River Project. Over a 3-year period, a community battle raged over how to create the agency and how it should be governed (YCWA n.d.). During this time, the Yuba County Council began discussion for proposed expansion of the reservoir and hydroelectric facilities at Bullards Bar. In addition to flood control, an expanded reservoir was viewed as a means of increasing water availability for irrigation within Yuba and Sutter counties, providing electric power to the growing local population, and subsequently encouraging development within the area (Yuba County Council 1956). In November 1957, the Yuba County Council unanimously voted for the construction of a new dam at Bullards Bar to meet county flood control and water storage needs (Yuba County Council 1957).

Following the vote, Yuba County went to the State Legislature through Assemblyman Harold T. Sedgwick, with a bill to create YCWA, which was almost lost in committee. Then it was debated on the Assembly floor for longer than the state bond bill authorizing Governor Brown's big dream — the California Water Project. A similar battle took place in the Senate. Lobbying against the bill went on in the governor's office right up until the time Brown signed it on June 1, 1959 (YCWA n.d.).

The council just needed to appropriate the funds to pay for the new construction and subsequently put the issue into the hands of voters with a bonds initiative. In May 1961, Yuba County voters approved, by an 11-1 margin, $185 million in revenue bonds needed to fund the Yuba River Development Project. This system would replace the Old Colgate facilities.

After several more years of planning and negotiation, YCWA reached an agreement with PG&E (along with the contractor and engineer) to jointly purchase sufficient Series B subordinate lien revenue bonds to close the actual funding gap at completion of construction. Series A Bonds were sold to a single bidder on May 24, 1966, – Blyth & Co. and Smith-Barney Inc. of San Francisco (YCWA n.d.). To save money, a revised construction plan was created that eliminated the proposed New Bullards Bar Power Plant, and proposed replacing the Colgate Powerhouse and tunnel with larger facilities. To save additional money, an irrigation diversion dam and canals, the New Narrows afterbay, and other project amenities were also eliminated (YCWA n.d.). Irrigation diversions and the canals would be left for a later stage of construction.

By late 1969, workers completed construction on New Bullards Bar Dam and water was being stored in the new reservoir. In early 1970, workers completed the New Colgate Powerhouse and began trial tests to produce electricity. Workers installed two 18-ft Pelton water wheels in the powerhouse, which are among the largest in the world (YCWA 1996). Within a month, cracks in the stainless steel runner resulted in the need to shut down the number two unit. Crews working 24 hours a day made the repairs, and within 3 weeks, the powerhouse was once again in use. On June 30, 1970, YCWA's construction of the Project was complete, and the New Bullards Bar Reservoir was opened to the public (Mountain Messenger 1970).

In 2008, YCWA added to the Project the Narrows 2 Powerhouse Full Bypass (Full Bypass), which is composed of a branch off the Narrows 2 Powerhouse Penstock that can discharge up to 3,000 cfs of water at full head into the Yuba River immediately upstream of the Narrows 2 Powerhouse through a 72-in. diameter fixed-cone valve in a concrete structure. The purpose of the Full Bypass is to minimize the possibility that emergencies or other events that require the Narrows 2 Powerhouse be taken off-line cause violations of YCWA's flows requirements in the FERC license, which are measured at the Smartsville and Marysville streamflow gages.

3.3.8.1.2 Prehistoric and Historic Archeological Resources

YCWA conducted archaeological field surveys to identify cultural resources between 2011 and 2013. The archaeological study of the APE combined verification of data acquired during earlier, pre-relicensing surveys, with current, systematic field investigations to examine locations previously but inadequately surveyed, and to include locations not previously surveyed. All areas within the APE were included in the field survey, where safety considerations allowed for it, and which were not inundated by New Bullards Bar Reservoir. The results of the survey are summarized below.[4]

YCWA identified a total of 55 archaeological sites within the APE: 24 previously identified sites and 31 newly discovered sites. In addition, the Study recorded 13 isolated finds.[5] YCWA revisited six of the 24 previously identified sites. YCWA did not revisit the other 18 sites because three of the sites were recorded by PNF archaeologists in 2011 and considered adequately documented to current professional standards, and 15 of the sites could not be accessed due either to complete inundation by New Bullards Bar Reservoir, located in areas that were inaccessible due to safety concerns, or they could not be relocated as plotted on the original site record forms. Of the 37 sites visited by YCWA (i.e., 31 new sites and six previously recorded sites), nine sites are exclusive to Native American use and 28 sites contain solely historic period features and/or deposits. No new multi-component sites (e.g., sites containing both prehistoric and historic cultural resources) were encountered during the survey.

YCWA evaluated previously and newly identified archeological sites for their eligibility for listing on the NRHP when field data were sufficient to allow evaluation at the inventory level. Fourteen sites were evaluated as ineligible because the sites lacked integrity and, based on archival and field research, they do not meet eligibility requirements for NRHP criteria A, B, C, or D. The evaluation determinations were submitted to the tribes and agencies for review on October 15, 2013 and to SHPO for review and concurrence on February 11, 2014 and YCWA received SHPO concurrence on March 27, 2014.

Forty-four of the 55 archaeological sites could not be evaluated at the survey level. Project-related effects were identified at 13 of the 44 unevaluated sites. No Project-related effects were observed at 17 sites. Although four of the 17 sites were not visited during the archaeological survey due to unsafe conditions, dense vegetation, or they could not be relocated, field observations indicated that there were no Project effects occurring in the vicinity of those locations.

Twelve of the 44 unevaluated sites were not accessible during the study and YCWA could not evaluate whether they are experiencing effects from the Project. Eleven of the sites were not accessible because they were inundated by New Bullards Bar Reservoir, and in fact, those sites are usually underwater. P-58-2732 could not be visited due to unsafe conditions based on water levels at the time of the survey.

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[4] Refer to Technical Memorandum 12-1, *Historic Properties,* in Appendix E6, for a full description of YCWA's study.
[5] Isolated finds, in and of themselves, do not constitute a site.

3.3.8.1.3 Traditional Cultural Properties

YCWA conducted a study to identify Traditional Cultural Properties (TCPs) within the APE. The study included contact with the California Native American Heritage Commission (NAHC) to obtain a list of tribes and individuals who might have an interest in the project, outreach to both recognized and non-recognized tribes and tribal members, and contacting those individuals and organizations. YCWA also requested that the NAHC review its Sacred Lands File for any potential resources in the Project APE and vicinity. No previously recorded TCPs or sacred lands are listed in their files.

YCWA contacted all tribes included on the NAHC list. The four tribal groups that expressed an interest in participating in the study were Enterprise Rancheria, Nevada City Rancheria, the United Auburn Indian Community and the Strawberry Valley Rancheria. After additional discussions with the tribes, only the United Auburn Indian Community and Nevada City Rancheria became formal tribal participants in the study, although individuals with ties to the Strawberry Valley Rancheria also participated.

Field and off-site interviews began in November 2011 and continued into September 2012. YCWA ethnographers also completed archival research, focusing on the notes and manuscripts of pioneering ethnographers, who worked with the Native American communities early in the 20th century. The study did not identify any TCPs within or near the APE.[6]

3.3.8.1.4 Historic Buildings and Structures

YCWA completed its study in 2013 of the Project's built environment, which included documentation and NRHP evaluation of the Project system features (e.g., powerhouses, dams, switchyards, etc.). Fourteen built environment resources were identified and recorded within the APE (Table 3.3.8-1). The resources are associated with either the current or older, decommissioned hydroelectric system.

Eleven of the 14 built resources over 50 years old are recommended as ineligible for listing in the NRHP as they do not meet eligibility requirements.

Three built environment resources were found to be eligible for listing on the NRHP. The Old Colgate Diversion Dam was constructed in 1904 and was part of the original Colgate hydropower system. It was found to be eligible under NRHP Criterion A due to its association with pioneering efforts in hydropower and power transmission in the United States. Two other built resources, the New Colgate Powerhouse and Penstock, though less than 50 years in age, were considered as exceptionally significant (NRHP Criterion Consideration G) and are recommended as eligible for listing on the NRHP under Criterion C because they represent the ultimate expression of the Pelton water wheel, a California-based hydropower design developed during the 19th century in nearby Camptonville. All three eligible resources are experiencing

[6] Refer to Technical Memorandum 13-1, *Native American Traditional Cultural Properties,* in Appendix E6, for a full description of YCWA's study.

effects from Project-related O&M activities; however they are not experiencing adverse effects.[7] Routine Project O&M, which includes operating the hydroelectric system, does not affect the qualities that make the Old Colgate Diversion Dam and the New Colgate Powerhouse and Penstock eligible for inclusion under Criteria A and C, respectively. YCWA concluded that the proposed undertaking will have no adverse effect on the three historic properties pursuant to 36 C.F.R. Part 800.5(b).

The Project includes a number of YCWA-managed recreation areas and Project facilities that were constructed after the current Project reservoir was built. YCWA will record and evaluate these resources when they become 50 years old.

Table 3.3.8-1. Project system features/facilities and NRHP eligibility.

Facility Type	Project Facility (date of construction)	NRHP Eligibility
Dam	Log Cabin Diversion Dam (1969)	Ineligible
	New Bullards Bar Dam (1970)	Ineligible
	Old Colgate Diversion Dam (1904)	Eligible under Criterion A
	Our House Diversion Dam (1969)	Ineligible
Powerhouse	Narrows II Powerhouse (1970)	Ineligible
	New Colgate Powerhouse (1970)	Considered under Criterion Consideration G as eligible under Criterion C, exceptionally significant on individual basis
	Old Colgate Powerhouse (1949)	Lacks sufficient integrity, not eligible
Water Conveyance	Camptonville Tunnel (1969)	Ineligible
	Lohman Ridge Tunnel (1969)	Ineligible
	New Bullards Bar Bypass Tunnel (1966)	Ineligible
	New Colgate Powerhouse Penstock (1970)	Considered under Criterion Consideration G as eligible under Criterion C, exceptionally significant on district basis in association with New Colgate Powerhouse
	Old Colgate Powerhouse Penstock (1899)	Ineligible
Construction	Bullards Bar Construction Crane (1966)	Ineligible
Reservoir	New Bullards Bar Reservoir (1970)	Ineligible

[1] Modern = less than 50 years of age.

3.3.8.1.5 The Project APE

YCWA, in consultation with the tribes, agencies, and the SHPO, reduced the APE as the cultural resources study found that much of the area within the APE is not experiencing Project-related effects and that there are no current or planned Project-related activities in the locations proposed for removal. The revised APE includes 6,098 ac, a reduction of 3,502 acres. A total of 18 archaeological sites and three built environment resources occur within the 3,502 ac slated for removal. Of these cultural resources proposed for removal, all were either experiencing no Project effects or were evaluated as ineligible for the NRHP. The proposed APE and the cultural resources proposed for removal were submitted to the SHPO for review and concurrence on February 11, 2014 and YCWA received SHPO concurrence on March 27, 2014. These sites will not be managed under the new license.

[7] Refer to Technical Memorandum 12-1, *Historic Properties*, in Appendix E6, for a full description of YCWA's study.

Within the APE there are 37 archaeological sites and 11 built environment resources. Nine of the 37 archeological sites were evaluated as ineligible for inclusion in the NRHP. Of the remaining 28 archeological sites, 13 are currently experiencing Project effects, 11 are inundated by New Bullards Bar Reservoir, one could not be accessed due to unsafe conditions, and three sites are not experiencing Project-related effects. Of the 11 built resources in the proposed APE, three resources are evaluated as eligible for inclusion in the NRHP; the remaining eight are evaluated as ineligible. Under the new license, 28 archeological sites and three built resources will be managed by YCWA.

3.3.8.2 Environmental Effects

Continued Project O&M and new construction could affect cultural resources listed in or eligible for inclusion in the NRHP. To address Project-related effects and provide appropriate management for the resources identified in the proposed APE, YCWA, as a PM&E, prepared and will implement a Historic Properties Management Plan (HPMP).

The purpose of YCWA's HPMP is to prescribe specific actions and processes to manage historic properties within the Project APE. It is intended to serve as a guide for YCWA's operating personnel when performing necessary O&M activities and to prescribe site treatments designed to address ongoing and future effects to historic properties.

The HPMP also describes a process of consultation with appropriate state and federal agencies, as well as with Native Americans who may have interests in historic properties within the APE. YCWA requirements detailed in the HPMP include: cultural resources management measures; training for all O&M staff; routine monitoring of known cultural resources, and periodic review and revision of the HPMP.

YCWA provided a draft of the HPMP to the Forest Service and tribes for review and comment on November 26, 2013 and received comments from the Forest Service on the review period due date of January 15, 2014. All relevant comments received from tribes[8] and agencies have been incorporated into the HPMP. The revised HPMP was submitted to the SHPO for a 30-day review and comment period on March 12, 2014. SHPO comments were due to YCWA on April 14, 2014. No comments from the SHPO have been received to date.[9] Implementation of the HPMP will assure that the effects of YCWA's Project on historic properties will be taken into account and the appropriate management measures emplaced prior to conducting O&M activities. YCWA anticipates that FERC will execute a Programmatic Agreement with the SHPO and the Advisory Council on Historic Preservation (should they choose to participate), to implement the final HPMP within one year of license issuance, as a condition of receiving a new license from FERC. At FERC's discretion, YCWA, tribes, the Forest Service, or other interested parties, will be invited to participate in the Programmatic Agreement as consulting parties.

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[8] The United Auburn Indian Community and the Nevada City Rancheria filed with FERC comments on the HPMP on March 2, 2014 as part of comments on the Project's DLA. YCWA reviewed the comments and incorporated relevant comments into the HPMP, as appropriate.

[9] If YCWA receives comments on the HPMP from the SHPO after this FLA is filed with FERC, YCWA will address comments, as appropriate, and file a revised HPMP with FERC.

3.3.8.3 Proposed Environmental Conditions

3.3.8.3.1 Conditions Recommended by YCWA

As described above, YCWA's proposed Project includes one condition specifically related to cultural resources:

- Proposed Condition CR1: Implement Historic Properties Management Plan

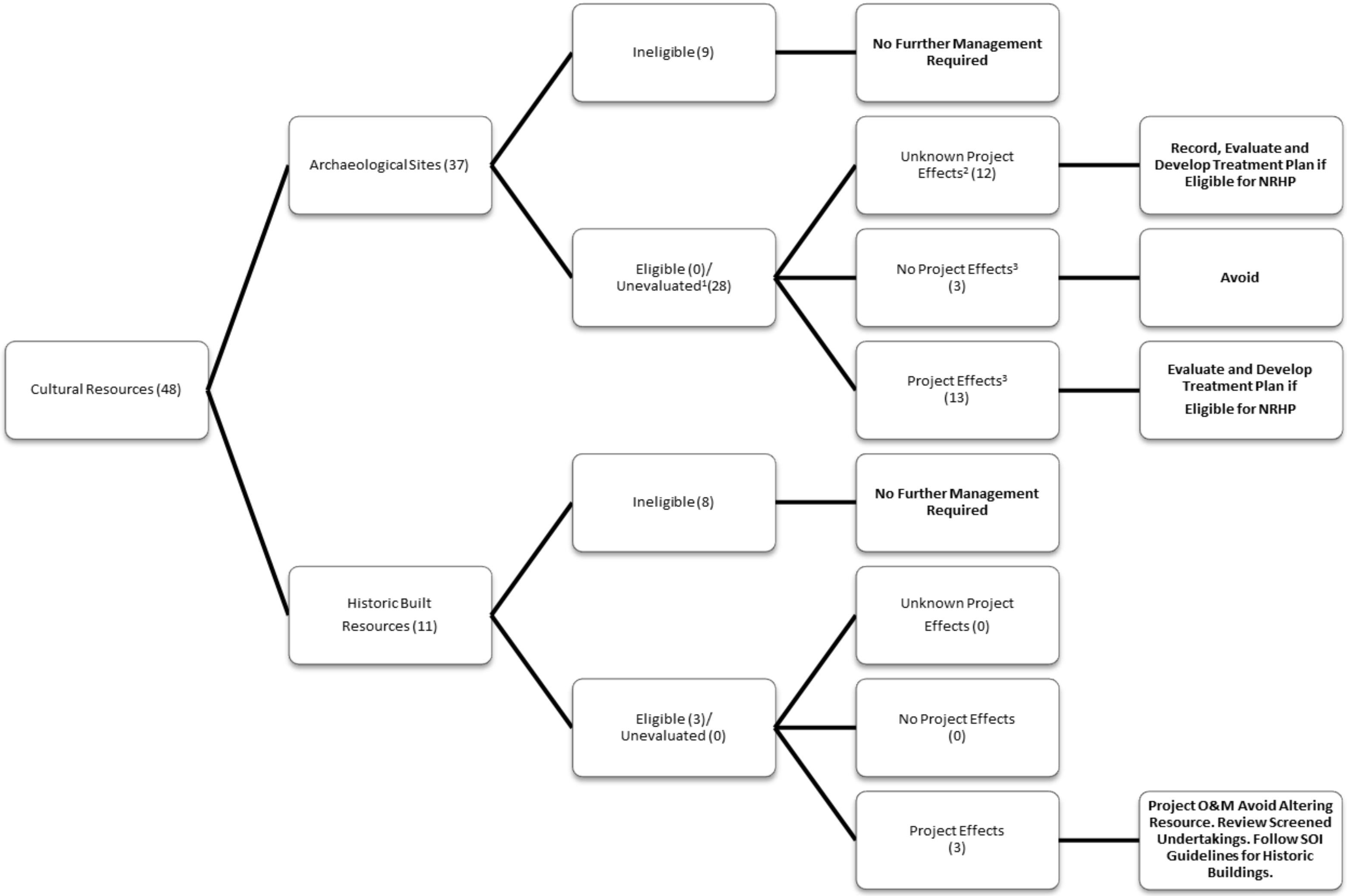
This condition is provided in full in Appendix E2. The HPMP is provided in Volume V of YCWA's Application for New License.

3.3.8.3.2 Proposed Measures Recommended by Agencies or Other Relicensing Participants That Were Not Adopted by YCWA

None of the comments that were filed on YCWA's DLA included proposed measures regarding Cultural resources.

3.3.8.4 Unavoidable Adverse Effects

To determine whether the existing Project and YCWA's proposed Project have the potential to impose unavoidable adverse effects on historic properties, YCWA has developed a NRHP Evaluation Plan, which is included in the HPMP. The purpose of the plan is to identify cultural resources documented during relicensing studies that are currently, or will potentially be, affected by the proposed Project. A schedule for evaluating these resources is included in the HPMP. The resources in this plan are those identified and documented within the proposed revised APE and will be managed under the HPMP (Figure 3.3.8-1). YCWA recommends 13 archaeological sites be evaluated for listing on the NRHP using additional field investigation and archival research. Additionally, 12 sites were either not relocated or were inaccessible at the time of the survey. Included in the HPMP are measures to address inaccessible resources, should they become available during the term of the new license. Three built environment resources were identified as eligible for listing on the NRHP and are experiencing effects from Project O&M activities, however they are not experiencing adverse effects at this time. These resources will be managed under the HPMP.



[1] All unevaluated sites are treated as if NRHP eligible.
[2] Project effects were documented during field survey.
[3] Sites could not be accessed at time of field survey for relicensing study. Project effects are unknown.

Figure 3.3.8-1. Cultural Resources, Project Effects and Management Measures.

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