

Cultural Resources

Coachella Canal operation and maintenance often require management actions that involve surface disturbance. Federal historic preservation legislation requires consideration of any impacts to cultural resources before implementing any Federal project or action, including any activities on Federal lands, such as construction, land use, or recreational development. Three survey levels are used to obtain the required information for compliance. Class I literature searches provide an historical overview of the area and the framework for evaluating its significance; these searches are adequate if no ground disturbances or operational changes are proposed. Class II and III surveys are, respectively, predictive sampling and intensive on-the-ground surveys and must be completed prior to any land disturbance. Inventories may result in the identification and evaluation of previously undiscovered cultural resources, which Reclamation would then manage accordingly.

Any land use activity that would disturb the ground surface or subsurface has the potential to adversely affect cultural resources present in the area. Management actions involving surface disturbance also could potentially impair management of cultural resources. Unmitigated disturbance of cultural resources could occur if onsite inventories were not completed before surface-disturbing activities began, or if completed inventories failed to identify all resources, such as buried sites.

Affected Environment

Geological History

An understanding of ancient Lake Cahuilla's evolution is helpful in understanding the development of Coachella Valley human prehistory. Centuries of sediment deposits from the Colorado River created a barrier that separated the Imperial and Coachella Valleys from the Gulf of California. Because of silt buildup of the riverbed, the natural course of the river fluctuated to either side of this barrier, alternately creating Lake Cahuilla. During each filling, water was impounded north of the barrier created by the Colorado River Delta. The freshwater lake continued to fill until the water level reached the minimum crest height of the delta at Cerro Prieto and then would overflow the delta and flow south to the Gulf of California.

The lake's level was constant enough to support a fishery similar to that of the muddy conditions of the Colorado River. The dominant species included striped mullet (*Mugil cephalis*), a small pupfish (*Cyprinodon macularius*), Colorado River squawfish (*Pteichocheilus lucius*), razorback (humpback) sucker (*Xyrauchen texanus*), and Colorado River bonytail (*Gila elegans*). A freshwater marsh plant community was present at the shallow waters at the northeast end of Lake Cahuilla. Archeological evidence indicates the importance of bulrushes (*Scirpus spp.*), cattails (*Typha*), and mussels (*Anodonta dejecta*), which were

abundant in the shallow waters. Waterfowl also were abundant; many species of geese, ducks, and shore birds took advantage of the rich marsh life of the lake. Eventually, the Colorado River would redirect its flow back to the Gulf of California, causing ancient Lake Cahuilla to evaporate slowly. It would take approximately 60 years to become totally desiccated.

Within the last 2,000 years, there have been at least three or four lacustral intervals (i.e., periods of stable lake levels), during which the lake reached the minimum crest of the delta. Archeological evidence, combined with geological data, appear to indicate four Lake Cahuilla occupations between around 700 and 1600 A.D. No lacustral intervals have been identified for the period between 1 and 700 A.D. An unknown number of lacustral stands occurred before 1 A.D.; however, the archeological data does not extend to that period.

Cultural History

The known prehistory of the Coachella Valley does not seem to go beyond the last stand of ancient Lake Cahuilla, at about 1300 A.D., probably because very little archeological evidence of earlier occupations has been found or identified.

Preprojectile Period (Pre 10,000 B.C.) A preprojectile period dating prior to 10,000 B.C. has been postulated. Little or no hard archeological data, however, has been found to either prove or disprove humans dwelled in this area during this period. The type of sites attributed to this period would be sparse, shallow surface sites; and, therefore, these rare finds would be difficult to date.

San Dieguito (c. 10,000-5,000 B.C.) The San Dieguito people are the oldest documented inhabitants of the Colorado Desert region. This culture was a generalized hunting economy with habitation sites located predominantly along beaches and lake shores and other such relict hydrological features. Other sites have been cleared circles in the desert pavement and large geoglyphs.

Desert Archaic (5,000 B.C.-900 A.D.) In other chronologies, this period has been broken into two separate cultural periods: the Pinto Period (5,000 B.C.-1,500 B.C.) and the Amargosa Period (1,500 B.C.-900 A.D.) There was a general warming of the climate; inland lakes evaporated and eventually disappeared, leaving the surrounding areas as desert. Originally, this period of time was considered to be a hiatus in desert occupation. Although there was a general movement of the populations to the coastal areas, there was still settlement in the desert areas, but mostly sparse due to small populations and nomadism. A trend from generalized hunting to generalized foraging occurred during this period. To date, there is no evidence for the above occupations in the Coachella Valley. Evidence of these occupations would be under the lake sediment, if they exist at all. The occupations for which there is archeological evidence in the Coachella Valley stem from the late prehistoric continuing to the present.

Late Prehistoric (900-1500) This period is distinguished by the concentration of archeological sites found on or below the 40-foot above mean sea level (msl) shoreline of ancient Lake Cahuilla, with evidence of adaptation to and reliance of the lake and its resources. The marshy shallows at the northern end of the lake supported heavy growth of aquatic plants, fish, mussels, and various shore birds, all used by the area's occupants. At least two episodes of fillings and desiccation of the lake occurred during this period. As the lake slowly dried up, over a period of less than 100 years, the native population shifted to the nearby mountains and areas to the east. Many Desert Cahuilla lineages claim origin in the mountains, although oral traditions speak of life around the lake, which would appear to indicate movement to the mountains after the lake dried up.

Early Historic (1500-1920) Early historic contact in this area was due to exploration and travel for the purpose of locating new routes between the Colorado River and the California coast. Most of the early travel in the area was through the Imperial Valley to the south, primarily because of the scarcity of permanent water sources in the Coachella Valley. The first European contacts with the Cahuillas were the exploration parties of Garces and de Anza through the southern portion of the Colorado Desert from 1769-76. The earliest documented Euroamerican contact with Coachella Valley inhabitants was from 1823-26, when Jose Romero's expedition traveled into the Colorado Desert to explore the potential of utilizing the prehistoric Cocomaricopa Trail as the main travel and mail route from San Gorgonio Pass to the Colorado River. Because of the hazards of this route and lack of forage for horses, however, the idea was quickly abandoned. The Cocomaricopa Trail was an important prehistoric trade and travel route, roughly paralleling (present day) Interstate 10 from the Colorado River at Blythe west and northwestward to the Palm Springs area and then west to the coast. Jose Maria Estudillo, a member of this expedition, wrote an account describing the Cahuillas and their planting of melons, pumpkins, and corn, along with their practice of digging wells.

Modern developments in the Imperial and Coachella Valleys began after the United States annexed California in 1846 and acquired New Mexico Territory in 1848. Initially limited to military surveys and travel routes to the north and south, settlement accelerated when stage lines began to carry mail and supplies between Los Angeles and the Colorado River mining districts. The Bradshaw Route, developed in 1862 by William D. Bradshaw, was a major cross-Colorado desert trail that may have paralleled the old Cocomaricopa Trail. This route served mining camps near La Paz, Arizona, until 1877, when the Southern Pacific Railroad opened lines eastward from San Bernardino.

Wagon roads through Coachella and Imperial Valleys were developed to provide mail and supply routes from Los Angeles via San Gorgonio Pass to the Yuma region and mining camps along the Colorado River. Travel was restricted by the

lack of water and forage for stock animals along the way, and travelers depended on military outposts and later on railroad maintenance camps for water and assistance.

In 1853, the U.S. Corps of Topographical Engineers surveyed this area to establish a major southern railroad route through California. Geologist William Blake described the Coachella Valley and its inhabitants. Blake first recognized the extinct Lake Cahuilla from the evidence of the ancient shorelines and gave valuable information concerning the Cahuilla.

The Southern Pacific Railroad's main line through the Coachella Valley was completed in 1877, enabling Anglo-American settlers to move into the Coachella Valley. These settlers quickly realized that artesian water could be obtained by drilling shallow wells, which led to the development of a nascent agriculture industry. Yet by 1918, the ground water was in danger of depletion. Consequently, the Coachella Valley Water District was formed and joined with the Imperial Irrigation District to promote the development of the All-American and Coachella Canals.

Contemporary Historic (1920-present)

The assurance of a steady supply of water from the Colorado River guaranteed the expansion of area agriculture and promoted increased recreational tourism. The All-American Canal system itself is a technical and engineering achievement that has had profound and lasting effects on socioeconomic developments in southeastern California.

Although CVWD was formed in 1918, it was not until nearly 30 years later that the Coachella Canal—then seen as a branch of the All-American Canal system—was constructed and operational. One major issue was excluding the proposed canal from the various Swing-Johnson bill(s) that eventually authorized the construction of Boulder Canyon and the All-American Canal Projects.

Ultimately, however, on December 21, 1928, the final Swing-Johnson bill, known as the “Boulder Canyon Project Act,” was signed by President Herbert Hoover. It authorized the construction of Boulder (Hoover) Dam, the Imperial Dam and desilting works, and the All-American Canal System—including the extension from Imperial Valley northwest to Coachella Valley.

Delayed a decade by the Great Depression and expenditures to other large public works projects like Washington's Grand Coulee Dam, construction on the Coachella branch of the All-American Canal began August 11, 1938. Material and labor shortages during World War II slowed canal construction even further; work was halted at mile 86 in 1942, then resumed 2 years later under the War Foods Program. In December 1948, workers completed the Coachella Canal's final reach, with water delivery to the Coachella Valley via the 123.5-mile-long canal following soon afterward.

With this new water, soon came new growth. Since the first delivery of Colorado River water via the Coachella Canal and its underground distribution system to the Russell-Alexander ranch near Thermal, California, on March 29, 1949, agricultural growth in the Coachella Valley has skyrocketed. Furthermore, the availability of more water sparked the exponential growth of tourism and recreational opportunities, especially in the construction of golf courses and resorts in and around Palm Springs and Palm Desert in Coachella Valley's western reaches, and, in general, population increases in major valley cities like Indio and La Quinta. More than any other factor, the canal changed the Coachella Valley's socioeconomic and cultural landscape in a remarkably short period of time.

Ethnohistoric

Sometime around the end of the 15th century, the Colorado River changed its river course to enter directly into the Gulf of California, eliminating the supply of water to ancient Lake Cahuilla. Lake Cahuilla began to evaporate until it was reduced to a dry, salt bed, a process that may have taken as few as six decades to complete. The lake's elimination resulted in the gradual loss of the heavily relied upon aquatic resources and the establishment of desert vegetation, such as mesquite, on the lakebed.

The Coachella Valley lies within the historic territory of the Shoshonean-speaking Cahuilla culture. Traditional Cahuilla territory extended south from the San Bernardino Mountains to the northern Borrego Desert, east across the Colorado Desert, and west to the vicinity of present-day Riverside. Exactly how long Cahuilla people dwelled in this region is unknown. Tribal oral traditions, however, reminisce about life around the lake, the fishing and hunting, and the eventual dissipation of ancient Lake Cahuilla. These oral traditions show the historic residents of the Coachella Valley to be the logical descendants of the prehistoric people that resided there until the evaporation of ancient Lake Cahuilla disrupted their livelihood. Oral traditions also support movement of valley inhabitants into the mountains, and then the return to the Coachella Valley after mesquite and other vegetation became established on the dry lakebed. Mesquite was a main staple of the Cahuilla, with agave, pinon nuts, and acorns gathered in the nearby mountains to the west, all supplemented by hunting and agriculture. The Cahuilla also gathered several hundred species of plants for use as foods, medicines, manufacture, and dyes.

William Blake, geologist for the 1853 Pacific Railway Survey Expedition, produced the first detailed documentation of the Cahuilla and their settlements.

Other early historical accounts took note of the extensive agriculture, the maintained wells, and the densely populated villages, which were usually located in canyons or on alluvial fans near sources of water, such as springs, or where the water table could be reached by digging wells. The villages were connected by

trails. An extensive trade network connected the Cahuilla with the Gabrielino and the Chumash on the Pacific coast and with tribes in Arizona and along the Colorado River.

From 1855-56, the U.S. Land Office surveyed, reported, and mapped 14 Cahuilla villages. The survey estimated a native population of about 3,000. By the 1850s, many of the Cahuilla were working at white communities to the west. As for other Indian tribes in the American West, in the early 1860s, smallpox and measles epidemics decimated the Cahuilla population.

The disruption of the Cahuilla lifestyle continued with the 1877 completion of the main line of the Southern Pacific Railroad to Yuma, Arizona. With the railroad's establishment, the Coachella Valley became attractive to settlement by Euroamericans, who quickly realized that agriculture was economically feasible because of the availability of water from shallow wells.

Despite this disruption, the Cahuilla remain sensitive to the resources that reflect their cultural past, and they have taken an active interest in recording and preserving these resources.

Cultural Resource Surveys

A review of site data records and cultural resource reports pertinent to the study area reveals that previous cultural resource surveys in the study area were associated with such undertakings as BLM resource management plans, transmission line(s) or highway construction, contracts for proposed developments, and assorted explorations by private individuals or educational institutions. The level of intensity, area coverage, and data presentation reported in the literature is uneven.

From the 1920s to the early 1950s, Malcolm Rogers of the San Diego Museum of Man conducted the first research-oriented archeological surveys in the southern Colorado Desert area. His major interest was in the relationship between lower Colorado River and California Peninsular mountain peoples with the numerous campsites he found along ancient Lake Cahuilla shorelines. He left a considerable collection of published and unpublished manuscripts, site records, and field notes. Much of his research centered on the ancient Lake Cahuilla area.

Archeologist A.E. Treganza of the University of California, Berkeley, conducted some surveys in the early 1940s and recorded the fish traps. These traps have only been found on the west side of ancient Lake Cahuilla and were constructed with small boulders set in V-shaped formations with the open end upslope onto the shore. These weirs would trap the fish during the period of the recession of ancient Lake Cahuilla. This site is currently the Fish Traps National Register District.

Parts of the ancient Lake Cahuilla beachline were surveyed in the early 1950s by B.E. McCown and members of the Archeological Survey Association of Southern California, an avocational group. Unfortunately, much of this work remains unpublished. Jay von Werlhof, Director of the Imperial Valley College Museum, has compiled an extensive database on the archeology of the study area through both contract projects and student field work.

Much of the recordation work in the northern Coachella Valley since the 1960s has been performed by the University of California, Riverside. P.J. Wilke, under the university's auspices, conducted several inventories and excavation work at the Wadi and Beadmaker sites and the Myoma Dunes. Wilke's inventories have been the definitive work for this area. It was Wilke's conclusion that the historic Cahuilla are probable descendants of the prehistoric occupants of the northern perimeter of ancient Lake Cahuilla.

Existing Sites Approximately 3,900 acres of Reclamation withdrawn or fee lands are involved in this RMP/EA. Of this, about 580 acres (15 percent) have received some level of inventory work since the early 1970s. None of these surveys were sponsored by Reclamation but were a result of being surveyed for compliance under the California Environmental Quality Act (CEQA). There are over 300 recorded sites in the Coachella Valley, indicating that a fairly high density of sites is to be expected. Sensitive site-specific information on cultural resources is classified and excluded from the Freedom of Information Act and will be made available only to qualified individuals with legitimate research interests. For this reason, this document does not reveal precise site locations.

The majority of reported sites (98 percent) are located in the western section of the Coachella Valley. The eastern side of the Salton Sea has not been surveyed as thoroughly as the western side. Consequently, the lack of site-type diversity on the Coachella Valley's eastern side is probably a reflection of the paucity of intensive surveys, rather than actual occurrences of sites.

Cultural resources within the Coachella Valley generally can be divided into three site categories: (1) prehistoric archeological, (2) historic/historic archeological, and (3) traditional cultural and religious areas. Site types recorded in the Coachella Valley include, but are not restricted to, temporary camps; petroglyphs; village sites; fish traps; cremations; prehistoric and historic trails; hot spring spas; mining roads and railroad spurs that serviced the mines, stage roads and through highways, and the Coachella Canal proper with possible remains of the construction period work camps and its auxiliary material facilities.

There is research potential for archeological remains that probably still lie undiscovered in the eastern part of the Coachella Valley. Subsurface deposits have been reported for some campsites that may yield data not offered by surface

remains. Aboriginal trails have been reported, and these may connect to ceramic clay sources in the hills to the north, which can aid in the finer classification of pottery collections.

Elevation is a general indicator of site density, with the greatest density lying between minus 40- and plus 42-foot msl elevation contours. This lakefront zone has been dated by radiocarbon and geological techniques to infilling episodes from the 10th to 17th centuries. All of the study area parcels, however, lie in areas that could contain additional undiscovered cultural resources.

The location of the canal across a portion of the East Mesa and along the beach terraces of ancient Lake Cahuilla places it directly within a recognized archaeologically sensitive region. The canal, itself a potential candidate for listing to the Register, was excavated through the culturally sensitive minus 40- to plus 42-foot elevation contour level, which consequently destroyed many sites. (The canal was excavated before the passage of legislation ensuring the protection of cultural properties.) Cultural resources in the immediate study area have received little systematic study. Small-scale, project-specific surveys and mitigation work performed since 1938, however, have produced data suggesting prehistoric and historic archeological potential for the study area. The area along portions of the ancient Lake Cahuilla shoreline, which was disturbed by the canal, is considered to be of high sensitivity. The canal itself is an important element in the region's contemporary (post-1920) history and should be recognized as a historical property, although not formally listed as such.

In summer 2004, Reclamation requested that the California State Historic Preservation Office's (SHPO) Eastern Information Center (EIC), located at the University of California, Riverside, research and compile survey information for all formally reported cultural resources (those with CA-RIV- trinomial designations) within a 200-yard corridor (100 yards on both sides of canal centerline) from the Torres-Martinez Indian Reservation (approximately 4 miles east of Mecca) to a few miles southeast of (new) Lake Cahuilla, including a 100-yard perimeter around the lake. Detailed cultural resource information also was sought for all Reclamation-owned parcels outside of the canal corridor.

After obtaining the most recent formal survey information from the EIC and incorporating information from the previous Coachella RMP, an Access database was created to help organize the list of resources based on elevation and location and to assist in the future generation of reports and other data. Information from this database, along with the maps that show the location of all recorded cultural resources in the study area, will eventually be GIS-layered to help Reclamation determine overall cultural resource sensitivity should any construction be proposed.

Furthermore, in compliance with CEQA, Reclamation requested that the Native American Heritage Commission, Sacramento, perform a Sacred Lands search

within the APE. Six (unspecified) locations within the Indio and Valerie USGS quad maps were identified as sacred sites. The commission listed contacts for these sites; however, they will only be consulted on a case-by-case basis should any potential for adverse effects arise.

Conclusions and Recommendations

Because the development of an RMP is considered a Federal undertaking under section 106 of the National Historic Preservation Act (NHPA), written and verbal consultations with SHPO, federally recognized American Indian tribal groups who may have an interest in the APE, and the Native American Heritage Commission (as per California Environmental Quality Act requirements) were initiated and are ongoing.

The relatively few archeological sites identified within the APE—especially along Coachella Canal’s eastern and northeastern reaches—do not indicate the number of sites or potential sites within Coachella Canal’s Riverside County stretch. Although many sites were undoubtedly unearthed and destroyed during the canal’s construction (section 106 of NHPA did not take effect until the mid-1960s), the number of recorded sites nearby, along with the region’s rich prehistory, suggest that additional sites are likely to exist within all 19 parcels identified within the APE.

Of the 101 identified sites within the APE, 19 are located within the land parcels listed for potential development; two prehistoric sites, CA-RIV-1715 and -7052 (as part of the Coral Mountain Regional Park) are eligible for the Register. Only parcels J, K, O, R, S, and T contain recorded cultural resources located within the parcels or immediately adjoining, with parcels S and T containing the majority of sites at (11). No recorded cultural resources have been identified within or immediately adjoining parcels A through I, L, M, and P. (Parcels N and U from the previous RMP/EA were returned to the Bureau of Land Management through the withdrawal review process.) Absence of recorded sites in these parcels, however, does not preclude any possibility that prehistoric and historic sites still exist.

Conversely, the lack of historic structures or buildings recorded within the APE does not indicate how many actually exist in the area, because a comprehensive survey of building and structures has not been conducted. As with archeological resources, an intensive survey of historic structures (defined by NHPA as 50 years or older), if any, would be required under section 106 before starting any ground-disturbing or potentially ground-disturbing activities.

Environmental Consequences

Historical buildings, objects, prehistoric sites, and engineering and architectural properties are the fabric of the Nation’s historical heritage. They are the tangible

link with the past and give understanding of where we have been, where we are, and they provide perspective for moving into the future. As a Federal agency, Reclamation is responsible for protecting and managing these properties, collectively known as cultural resources. It is also the responsibility of Reclamation to identify, evaluate, and nominate, when appropriate, these properties to the Register. In the event that physical development would substantially alter land use, Reclamation is required to mitigate any potential effects to significant cultural sites impacted by Reclamation's actions.

A class III on-the-ground survey would be required for the location, identification, and evaluation of cultural resources. Unlike class I, which is a literature search, and class II, which is a predictive survey based on random samples, a class III survey is defined by *Reclamation Instructions* as follows:

An intensive on-the-ground examination of all the areas to be affected by Reclamation action or on lands under Reclamation's administration. It is designed to locate and make a preliminary professional evaluation of all identified cultural resources. A class III survey may require test excavations or other specialized studies for the purpose of evaluating the significance of cultural resources.

Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties and seek comments from the California SHPO and an independent organization, the Advisory Council on Historic Preservation (Council). If mitigation is required, the extent and form would be decided during consultation between Reclamation, SHPO, and the Council.

Alternative A

Under the No Action Alternative, Reclamation's management of parcels would continue unchanged under applicable Federal and State historic preservation laws. Any land use activity that would disturb the ground surface or subsurface has the potential to adversely affect cultural resources present in the area of the disturbance, especially in the cultural resource intensive parcels J, K, and O through T. The type and degree of impact would vary with the type of cultural resource involved.

Other types of land use activities can result in restrictions that can protect cultural resources—for example, areas set aside for wildlife habitat and special management areas like parks or recreation areas. These designated land use activities can serve directly or indirectly to preserve the cultural resources within the protected area.

Cultural resources located within these types of land use areas would be indirectly protected by limiting allowable uses to those compatible with the values of these

areas. This restriction would reduce those activities—including most ground-disturbing activities—that could harm cultural resources. On the other hand, enhancement of parks, proposed parks, trails, access roads, and rest stations could affect cultural resources, recorded or undiscovered.

If cultural resources would be affected, either by land transfer or construction, a plan best suited for mitigating impacts to the individual resource or resources would be formulated in consultation with the appropriate agencies and implemented. (See “Mitigation.”)

Alternative B

Impacts to cultural resources under Alternative B would be the same as under Alternative A.

Alternative C

Under Alternative C, there would be greater deterioration of cultural resources resulting from a wider range of recreational projects and activities. Cultural sites would possibly undergo inadvertent and/or purposeful vandalism or theft without protection. Removal of artifacts, any rearrangements, destruction or disturbance of artifacts, or of any portion of a site, results in the loss of scientific knowledge, which is important to understand and reconstruct the past.

Before any ground-breaking or ground-disturbing activity is undertaken, all Reclamation lands would be subject to class II (sampling) or III (intensive) surveys in accordance with *Reclamation Instructions*. Although intensive identification would be undertaken, previously unknown or unrecorded resources could be encountered, especially in the cultural resource intensive west side of the Coachella Valley near Lake Cahuilla State Park (specifically parcels O through T.) If this situation were to occur, construction would cease until the resource has been evaluated for significance. If determined necessary, mitigation measures would be carried out before resuming construction or operation activities.

Transferring lands out of Federal ownership would result in loss of protection under various Federal laws and regulations for any cultural resources located on these lands. In accordance with *Reclamation Instructions*, these lands would be subject to class II (sampling) or III (intensive) surveys to identify any cultural resources prior to proposed land ownership adjustments, in addition to extensive mitigation measures.

Alternative D

Impacts to cultural resources would be the same as under Alternative A, with additional emphasis on the careful avoidance, protection, and mitigation of recorded and undiscovered cultural resources located in parcels J, K, and O

through T. Although parcels A through G in this updated RMP/EA contain no recorded cultural resources either within or adjoining the study area, this does not preclude the possibility they exist. Therefore, any partnership agreements must fully comply with applicable Federal, State, or local preservation laws.

Mitigation

Reclamation, working alone or in partnership with State and/or local government agencies or private entities, will continue to comply with section 106 of NHPA for Federal undertakings; and Reclamation will consult with the SHPO and area Indian tribes, as required by 36 CFR 800, as revised, to locate and identify any cultural resources within the study area's parcels before initiating any Federal undertaking.

Reclamation will do the following:

- In consultation with the SHPO and area Indian tribes—and on the basis of class I survey information—develop a research design for conducting class II or III surveys (1) to determine areas of high or low potential for cultural resources, including traditional cultural properties, (2) to determine sources of impacts, and (3) to define additional investigation or protective actions appropriate for each site. The plan would serve to support request for funding to implement necessary actions.
- Conduct intensive surveys of areas with high potential for cultural resources and/or any areas scheduled for ground-disturbing or potentially ground-disturbing activities to locate cultural resources. During ground-disturbing activities, Reclamation would make every effort to avoid significant cultural resources.
- During construction, if cultural resources are discovered, ensure that work in the immediate areas ceases until a qualified archeologist evaluates the site, takes appropriate measures, and consults with the SHPO.
- Ensure that any project-specific agreements regarding cultural resources are included as specifications in construction contracts and inform construction contractors about the presence of cultural resources within or near the study area and about their protection under Federal and State laws.
- When granting easements on or across Reclamation-owned lands, review the proposal for potential effects on cultural resources and ensure the entity receiving the easement complies with all applicable cultural resource laws for any activities within the boundaries of the easement.
- Specific mitigation cannot be identified until the intensive surveys are completed, to determine if Register-eligible cultural resources are present.

- When other entities prepare cultural resource surveys, or reports on Coachella Canal Area lands, Reclamation will ensure that it has an opportunity to review the survey and reports before they are finalized to ensure they are in compliance with the requirements of section 106 of the National Historic Preservation Act.

The following mitigation strategies presume that one or more cultural properties will be determined eligible for the Register and will be affected by the proposed action. The exact nature of mitigation would be determined in consultation with the SHPO and others, as appropriate, and documented in a memorandum of agreement with the consulting and interested parties.

- Periodically monitor Register-eligible or unevaluated sites to assess impacts and the need for investigative or protective action.
- Place protective materials over portions of sites affected by erosion or trail construction or use to prevent additional disturbance.
- Recover site data through systematic surface collection or excavation and provide resulting reports to the professional community and interested public.
- Consult further with area Indian tribes about appropriate actions to protect endangered traditional cultural property sites and implement those actions where reasonable and feasible.
- Incorporate information about cultural resources into brochures and other educational materials created for use in the study area.

Residual Impacts

No residual impacts have been identified.

Indian Trust Assets

Affected Environment

Indian trust assets are legal interests in property held in trust by the United States for Indian tribes or individuals. Examples of trust assets are lands, minerals, hunting and fishing rights, and water rights. The United States has an Indian trust responsibility to protect and maintain rights reserved by or granted to Indian tribes or Indian individuals by treaties, statutes, and Executive orders, which are sometimes further interpreted through court decisions and regulations. This trust responsibility requires Reclamation to take all actions reasonably necessary to protect trust assets.

Reclamation provided BIA and area tribes information about this study, including notice of scoping and associated public meetings and the draft alternatives and associated public meetings. In addition, Reclamation contacted BIA and area tribes about Indian trust assets within the study area (**attachment A**). In response, the Soboba Band of Luiseño Indians advised Reclamation the area covered by this RMP/EA is outside the Soboba Reservation territory as well as outside the traditional use area for the Soboba Band of Luiseño Indians. Because of the closeness of this proposed action to their traditional use area, they requested copies of cultural resource documents and reports and will be provided copies of the draft RMP/EA. No other potential trust assets in the Coachella Canal Area have been identified.

The draft RMP/EA was provided to BIA and area tribes for review and comment. In response, BIA provided Reclamation with a comment expressing concerns about ITAs and the limitations provided by an RMP/EA that is programmatic in nature. Refer to the “Comments and Responses Appendix” for a copy of the BIA letter and Reclamation’s response.

During implementation of the RMP, Reclamation will be in contact with BIA and local tribes. Should trust assets be identified, potential impacts will be identified and analyzed, and action will be taken to avoid adverse impacts. If adverse impacts cannot be avoided, mitigation will be implemented.

Environmental Consequences

Due to the programmatic nature of the RMP/EA, no effects on Indian trust assets have been identified under any of the alternatives.

Mitigation

If adverse impacts to Indian trust assets in the study area are occurring (Alternative A) or would occur from implementation of any action alternative, Reclamation would seek means to avoid these impacts through consultation and coordination with BIA and local area tribes. If adverse impacts cannot be avoided, Reclamation would provide appropriate mitigation or compensation.

Residual Impacts

No residual impacts have been identified.

Environmental Justice

Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” dated February 11, 1994, requires agencies to identify and address disproportionately high and adverse human health or environmental effects of their actions on minorities and low-income populations and communities, as well as the equity of the distribution of the benefits and risks of their decisions. Environmental justice addresses the fair treatment of people of all races and incomes with respect to actions affecting the environment. Fair treatment implies that no group of people should bear a disproportionate share of adverse effects from an environmental action.

To comply with the environmental justice policy established by the Secretary of the Interior, all Department of the Interior agencies are to identify and evaluate any anticipated effects, direct or indirect, from the proposed project, action, or decision on minority and low-income populations and communities, including the equity of the distribution of the benefits and risks. Accordingly, this section examines the anticipated distributional equity of alternative-associated impacts with respect to potentially affected minority and economically disadvantaged groups.

Affected Environment

This section provides baseline demographic information used to analyze environmental justice impacts.

Race and Ethnicity

Riverside County and the communities near the portion of the Coachella Canal addressed in this RMP/EA would potentially be most affected by implementation of the alternatives. Population data from the 2000 census for the State of California, the Torres-Martinez Reservation, the county, the Coachella Valley, and four communities are shown in table 5.14. The population is shown for seven racial categories: White, Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, Some Other Race, and Two or More Races. The percentages of total racial minority population and the Hispanic or Latino population, a minority ethnic group, are also shown.

All of the areas (except Riverside County and La Quinta) have a greater percentage of total racial minority populations than the State of California as a whole. All of the areas (except La Quinta) also have a greater percentage of ethnic (Hispanic or Latino) populations than the State. The ethnic population of three areas, the reservation, Coachella, and Mecca, is more than 90 percent.

Table 5.14 – Population, race, and ethnicity, 2000

Area	Total population	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races	Total racial minority population ¹ (percent)	Hispanic or Latino (of any race) (percent)
California	33,871,648	20,170,059	2,263,882	333,346	3,697,513	116,961	5,682,241	1,607,646	13,701,589 (40.5)	10,966,556 (32.4)
Torres-Martinez Reservation	4,146	1,466	8	195	40	8	2,275	154	2,680 (64.6)	3,821 (92.9)
Riverside County	1,545,387	1,013,478	96,421	18,168	56,954	3,902	288,868	67,596	531,909 (34.4)	559,575 (36.2)
Coachella Valley	118,932	59,444	1,782	1,176	1,552	76	50,717	4,185	59,488 (50.0)	88,154 (74.1)
Coachella	22,724	8,810	103	191	71	7	12,854	688	13,914 (61.2)	22,132 (97.4)
Indio	49,116	23,903	1,361	510	742	49	20,638	1,913	25,213 (51.3)	37,028 (75.4)
La Quinta	23,694	18,602	336	171	446	21	3,282	836	5,092 (21.5)	7,584 (32.0)
Mecca	5,402	1,302	6	55	40	0	3,817	182	4,100 (75.9)	5,295 (98.0)

¹ Includes Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, Some Other Race, Two or More Races.
Source: U.S. Census Bureau, 2000a.

Low-Income Populations

Low-income populations in the area are identified by several socioeconomic characteristics. As categorized by the 2000 census, specific characteristics used in this description of the existing environment are income (per capita and median family), the percentage of the population living below poverty level (all persons and families), substandard housing, and unemployment rates.

As shown in table 5.15, based on 1999 income as reported in the 2000 census, the per capita and median family incomes for all areas (except La Quinta) are less than the State per capita and family income, and all areas (except La Quinta) have an equal or greater percentage of persons and families living below the poverty level. For the reservation, Coachella, Indio, and Mecca, the percentages of persons living below the poverty level are more than double the State, with the levels for the reservation and Mecca nearly three times the State rate. The percentage of families below the poverty level for all of the areas (except La Quinta) is greater than the State level, with the levels for the reservation and Mecca more than three times the State level.

Other measures of low income, such as substandard housing and employment (shown in table 5.16), also characterize demographic data in relation to environmental justice. Substandard housing units are those overcrowded and those lacking complete plumbing facilities. The percentage of occupied housing units in the areas with 1.01 or more occupants per room for all but the county and

Table 5.15 – Income and poverty, 1999

Area	Income (dollars)		Percent below poverty level	
	Per capita	Median family	All persons	Families
California	22,711	53,025	14.2	10.6
Torres-Martinez Reservation	8,226	21,021	42.1	38.6
Riverside County	18,689	48,409	14.2	10.7
Coachella Valley	14,193	36,122	24.3	19.2
Coachella	7,416	28,320	28.9	29.1
Indio	13,525	35,564	31.5	16.8
La Quinta	27,284	56,848	7.8	5.0
Mecca	6,389	21,250	45.5	43.0

Source: U.S. Census Bureau, 2000b.

Table 5.16 – Housing, labor force, and employment, 2000

Area	Housing units				Labor force	
	Total occupied	Percent substandard ¹	Total	Percent substandard ²	Percent in labor force ³	Unemployment rate (percent)
California	11,502,870	15.2	12,214,549	0.9	62.4	7.0
Torres-Martinez Reservation	859	59.3	934	10.4	63.8	11.9
Riverside County	506,218	12.7	584,674	0.8	58.2	7.5
Coachella Valley	32,877	29.1	38,953	1.2	57.8	9.7
Coachella	4,777	50.8	4,982	1.7	58.3	11.7
Indio	13,888	27.0	16,899	0.8	58.3	8.2
La Quinta	8,455	6.3	11,763	0.2	61.6	3.7
Mecca	1,058	54.0	1,058	0.9	65.9	15.0

¹ 1.01 or more occupants per room.

² Lacking complete plumbing facilities.

³ Population 16 years and over in the labor force.

Source: U.S. Census Bureau, 2000c, 2000d, 2000e.

La Quinta was greater than for the State. The percentage of housing units lacking complete plumbing facilities for the reservation, the Coachella Valley, and Coachella was greater than for the State. The 2000 unemployment rates for the local areas ranged from 3.7 to 15.0 percent, compared to the State unemployment rate of 7.0 percent.

Environmental Consequences

This section addresses whether any group of people, including racial, ethnic, or socioeconomic group, would bear a disproportionate share of adverse impacts as a result of implementing an alternative.

The immediate Coachella Canal Area and other communities potentially affected by implementation of the RMP contain high percentages of racial and ethnic minorities and persons and families below the poverty level. Generally, unemployment is much higher than in other areas of the State. Consequently, the potential exists for low-income and minority populations to be disproportionately affected.

Alternative A

Effects on environmental justice under the No Action Alternative would be the same as under current conditions.

Alternative B

Effects on environmental justice would be the same as under the No Action Alternative.

Alternative C

Maximizing recreation facility development and providing increased recreational opportunities would provide greater potential for short-term employment for minority or low-income individuals. Balancing free public access and use of study area lands and facilities for recreation with those with fees for public access and use would enable and perhaps encourage low-income individuals to use them.

Alternative D

Limited development of recreation opportunities and facilities could provide limited short-term employment for minority or low-income individuals. Without a requirement to balance free public access and use of study area lands and facilities for recreation with those with fees, imposition of fees for access and use would likely preclude use by low-income individuals.

Mitigation

No mitigation has been identified.

Residual Impacts

No residual impacts have been identified.

Cumulative Impacts

Adverse cumulative impacts could result from continued urban encroachment and continued issuance of land use authorizations, resulting in increased administrative costs of operating and maintaining the Coachella Canal Area. Continued issuance of land use authorizations and urban encroachment also could adversely affect both the potential listing of the canal as a National Historic Place and the natural resource environment.

Unavoidable Adverse Impacts

Unavoidable adverse impacts are those environmental consequences that cannot be avoided, either by changing or mitigating the action. None of the alternatives are expected to have unavoidable adverse impacts.

Irreversible and Irretrievable Commitments of Resources

Irreversible commitments are decisions affecting renewable resources, such as soils, wetlands, and riparian areas. Such decisions are considered irreversible because their implementation would affect a resource that has deteriorated to the point that renewal can occur only over a long period of time or at a great expense, or because their implementation would cause the resource to be destroyed or removed.

Irretrievable commitments of natural resources occur when a decision causes a loss of production or use of resources. They represent opportunities foregone for the time that a resource cannot be used.

None of the alternatives would result in irreversible or irretrievable commitments of resources.

Relationship Between Short-Term Uses and Long-Term Productivity

For this Federal action, short term is defined as the 10-year planning life of the RMP, during which time the proposed management actions will be accomplished. Although rehabilitating and revegetating certain OHV areas to their natural state may require more than 10 years, the process will begin during this short-term, 10-year planning period.

Long term is defined as any time period beyond the 10-year planning life of the RMP and the remaining life of the Boulder Canyon Project Act. As long as the Boulder Canyon Project Act is used for its congressionally authorized purposes and other legal requirements, pressure on the natural resources within the Coachella Canal Area will continue. This long-term pressure can be attributed to (1) urbanization of the surrounding communities, (2) Reclamation's effort to accommodate visitor use through development of public use facilities, and (3) the use of Coachella Canal for Project beneficiaries.

The proposed management actions are intended to protect critical habitat and special status species and reverse the deterioration of the environment occurring under current conditions. It is assumed that the short-term and long-term goals and objectives for managing the study area would not change over time, and there would be no long-term loss of productivity of the natural and social environment.