4.7 CULTURAL RESOURCES

The affected environment section for cultural resources was divided into the San Joaquin River Region and Sacramento-San Joaquin Delta in order to best describe the prehistoric and historic conditions of the project area and vicinity. This cultural resources impact section focuses specifically on the project reservoirs and rivers in order to determine whether or not there are any existing cultural resources that could potentially be impacted by the proposed and alternative actions. The reservoirs evaluated are New Melones, New Don Pedro, and Lake McClure. The rivers assessed are the San Joaquin, Stanislaus, Tuolumne, and Merced rivers.

4.7.1 Impact Issues and Evaluation Criteria

In this section cultural resource impact issues are assessed for both reservoirs and rivers that could be affected by the proposed project. The main effect relates to the protection or exposure of cultural resources due to altered reservoir levels or river flows. There are no construction or land altering activities associated with the proposed and alternative actions, which are typically the activities that could potentially impact cultural resources. No key issues regarding cultural resources were identified during the public scoping phase of this project.

4.7.1.1 Reservoirs

Cultural resources could potentially be affected only if the water level in the reservoirs due to the project fluctuates above or below the levels due to normal operations. This would happen under the proposed project. Changes in reservoir elevation can both protect and expose cultural resources. Depending on the type of resource and where it is located in the pool, a reservoir level which covers the resource may be considered beneficial. Alternately, a reservoir level which exposes a cultural resource may subject the resource to damage from erosion, wave action, wet/dry cycles, or destruction from vandalism.

Reservoir levels also affect recreation use, which can, in turn, affect cultural resources. Changes in the reservoir levels which increase recreation use may potentially impact cultural resources. Higher water levels tend to attract more visitors, and the potential for vandalism to cultural sites is increased. However, lower reservoir levels may not protect cultural resources because some recreationists, such as off-highway vehicle (OHV) users, may damage exposed resources.

Recreation opportunity thresholds are based on water depths (or water elevation levels) of the reservoirs. Critical depths occur when boat ramps are no longer operational, causing marinas to close, or when campgrounds or picnic areas are limited by the small surface area of the reservoir available for recreation. These critical levels were established for each reservoir in the CVPIA Draft PEIS (1997a) and were based on information provided by the operators of the reservoirs. Elevation

levels (water depths) were calculated for this EIS/EIR from the area and capacity tables for each reservoir and the Reclamation model storage capacity output.

For cultural resources identified in the affected environment (see sections 3.7.1, 3.7.2, and 3.7.3), reservoir elevations calculated from reservoir storage levels in the Reclamation model have a level of uncertainty. Due to the nature of the hydrological input data and the use of average monthly operations, the model results may be expected to have a margin of error of 10 to 20 percent. Therefore, frequencies which differ less than 10 percent from the base case are considered insignificant for the purposes of cultural resources impact evaluations.

4.7.1.2 Rivers

Cultural resources could potentially be affected by the flows in the rivers. Any cultural resources identified in the affected environment would occur at a known elevation. These elevations could be calculated from rating tables for each river based on the Reclamation model.

Streamflows also affect recreation use, which can, in turn, affect cultural resources. Changes in the streamflows which increase recreation use may potentially impact cultural resources by increasing vandalism to cultural sites. Streamflows determine the recreation opportunity thresholds in the rivers. Critical flows occur when either boating or swimming activities are either optimal or are not available (due to too little water or too rapidly flowing water). These critical flows were established for each river in the CVPIA Draft PEIS (1997a) and were based on information provided by the operators of recreational facilities along the rivers, rafting guides, and fishing guides. As with the reservoir analyses, the river flow analyses are based on the Reclamation model output.

For any cultural resources identified in the affected environment (see sections 3.7.1, 3.7.2, and 3.7.3), the river flows calculated from the Reclamation model have a level of uncertainty. Due to the nature of the hydrological input data and the use of average monthly operations, the model results may be expected to have a margin of error of 10 to 20 percent. Therefore, frequencies which differ less than 10 percent from the base case are considered insignificant for purposes of cultural resources evaluation.

4.7.2 Environmental Consequences

4.7.2.1 Reservoirs

If a cultural resource is identified, elevations of the reservoir resulting from the proposed action can be calculated using the area and capacity tables for each reservoir. The proposed reservoir storage is based on the Reclamation model storage capacity output. Again, if a cultural resource is identified in the affected environment, the Water Right Priority System alternative also would be compared to the base case. The Water Right Priority System alternative is compared to the proposed project

qualitatively for each reservoir because this alternative was not modeled using Reclamation's modeling system. Rather the basis for analyses of this other alternative is the SWRCB's hydrologic modeling included in their recent Draft EIR (SWRCB 1997, 1998). Output from the two modeling systems are not directly comparable, and the base cases rely on different assumptions. Of concern to the cultural resources impact analyses is the fact that the Reclamation model alternatives include the New Melones Interim Plan of Operation (USBR 1997) which has been in effect for over a year, while the SWRCB/DWR modeling of the base case does not.

New Melones Reservoir

No Action. The New Melones Reservoir area was an area used extensively by prehistoric people. The reservoir was subject to an extensive program of inventory, evaluation, and mitigation before it was filled (USBR 1997d). Any cultural resources in the reservoir area were previously impacted by the construction of the dam and reservoir.

Proposed Action. During the peak recreation season, the proposed project does not have any significant impacts on reservoir levels except during the critical water years at the lowest reservoir elevations. The proposed action benefits recreation by increasing the levels of the reservoir in the critical water years. Cultural resources potentially could be impacted with this increase in recreation use associated with the proposed action, but the effect is less-than-significant because it occurs only in critical water years with the lowest reservoir levels.

Alternative Action. During the peak recreation season, the Water Right Priority System alternative for New Melones Reservoir does decrease the frequency of occurrences with which the elevation exceeds critical thresholds, but the impact is not significant. In a critical period (represented in the modeling for the period 1928 through 1934), the Water Rights System Priority alternative is significantly different from Alternative 2 by decreasing the frequencies for the most extreme thresholds. This action could increase recreation use and thus increase the potential for impacts to cultural resources.

New Don Pedro Reservoir

No Action. The New Don Pedro Reservoir area was an area used extensively by prehistoric people. Any cultural resources in the reservoir area were previously impacted by the construction of the dam and reservoir. Construction of the New Don Pedro Dam was completed in 1971, and it is unlikely that there were any surveys for cultural resources performed prior to construction.

Proposed Action. During the peak recreation season and in all water years, the proposed project does not have any significant impacts on reservoir levels. The proposed project would affect the

reservoir levels, but these levels are not out of the range that could occur during normal operation of the reservoir. There is no impact to cultural resources (that could be present) from any change in recreation use.

Alternative Action. During the peak recreation season, the Water Right Priority System alternative for New Don Pedro Reservoir does not differ significantly from Alternative 2 during the entire period of record, but in the critical years, the alternative has a negative impact at both 720 ft. and 780 ft. MSL. The lower reservoir levels could increase recreation use by OHV users and possibly expose cultural resources (that could be present). The increase in potential for impacts to cultural resources, however, is considered less than significant because it only occurs in critical years.

Lake McClure

No Action. The Lake McClure area was an area used extensively by prehistoric people. Any cultural resources in the reservoir area were previously impacted by the construction of the dam and reservoir. Construction of the New Exchequer Dam was completed in 1967, and it is unlikely that there were any surveys for cultural resources performed prior to construction.

Proposed Action. During the peak recreation season, the proposed project does not have any significant impacts on reservoir levels during all water years. The proposed action would not impact cultural resources.

Alternative Action. During the peak recreation season, the Water Right Priority System alternative for Lake McClure does not differ significantly from Alternative 2 during the entire period of record and in the critical years. There would be no impact to cultural resources.

4.7.2.2 Rivers

Cultural resources could potentially be affected by the flows in the rivers. Any cultural resources identified in the affected environment would occur at a known elevation. These elevations could be calculated from rating tables for each river based on the Reclamation model. Again, if a cultural resource is identified in the affected environment, the Water Right Priority System alternative also would be compared to the base case.

Streamflows also affect recreation use, which can, in turn, affect cultural resources. Changes in the streamflows which increase recreation use may potentially impact cultural resources by increasing vandalism to cultural sites.

San Joaquin River

No Action. The San Joaquin River was an area used extensively by prehistoric people. The river crosses through Fresno, Madera, San Joaquin, and Stanislaus counties. These counties have over 5,000 recorded prehistoric sites, and the counties range from 2 to 5 percent surveyed for cultural resources. In addition, historic resources related to early agricultural activities may exist in the proximity of the river.

Proposed Action. During the peak recreation season and in all water years, the proposed project does not have any significant impacts on critical river flows or optimal ranges of flows. Thus, the project would not have an impact on cultural resources.

Alternative Action. During the peak recreation season, the Water Right Priority System alternative for the San Joaquin River has adverse impacts when compared to Alternative 2 for both the critical flows and for the optimal ranges. These impacts to recreation are insignificant for all except the 500 cfs critical flow when the frequency of occurrence of flows above the threshold is increased. It is unknown how recreation use would be affected above this infrequent flow; therefore, the impact of this short-term event on cultural resources is considered to be less-than-significant.

During critical periods, the Water Right Priority System alternative has a significant beneficial effect for recreation on the San Joaquin River by increasing the frequency of flows in the optimal boating range and decreasing the frequency of occurrences of flows below the critical threshold for swimming. In addition, the alternative action decreases the frequency of occurrences of flows in the optimal range for canoeing during critical periods, which is a significant adverse impact. Increasing or decreasing recreation opportunities has the potential to adversely impact cultural resources but only during infrequent critical periods. The impact is less-than-significant.

Stanislaus River

No Action. The Stanislaus River also was an area used by prehistoric people. The river crosses through Calaveras, Tuolumne, and Stanislaus counties. These counties have well over 1,200 recorded prehistoric sites, and the counties range from 3 to 15 percent surveyed for cultural resources. In addition, historical resources, such as mining-related structures, railroad grades, dams, and other structures, may exist in the proximity of the river.

Proposed Action. During the peak recreation season and in all water years, the proposed project does not have any significant impacts on critical river flows or optimal ranges of flows. Thus, the project would not have any significant impact on recreation use and, consequently, would not have any impacts on cultural resources.

Alternative Action. During the peak recreation season for both the entire period and the critical period, the Water Right Priority System alternative for the Stanislaus River is no different than Alternative 2 for the critical flows. For the entire period the frequency of occurrences of flows in the optimal range for the upper reach would be significantly beneficial with the Water Right Priority System alternative and would be beneficial, but not significant, in the lower reach. During critical periods the frequency of occurrences of flows is increased significantly in the optimal range for the lower reach and is decreased, but not significantly, in the upper reach. Increasing recreation use in most years on the Stanislaus River has the potential to adversely impact cultural resources, a potentially significant impact.

Tuolumne River

No Action. The Tuolumne River also was an area used by prehistoric people. The river crosses through Tuolumne and Stanislaus counties. These counties have over 280 recorded prehistoric sites, and the counties range from 3 to 10 percent surveyed for cultural resources. In addition, there may be historical resources, such as mining-related structures, railroad grades, dams, and other structures, in the proximity of the river.

Proposed Action. During the peak recreation season and in all water years, the proposed project does not have any significant impacts on critical river flows or optimal ranges of flows. Thus, the project would not have any significant impacts on recreation use and, consequently, would not have any impact on cultural resources.

Alternative Action. During the peak recreation season for both the entire period and the critical period, the Water Right Priority System alternative for the Tuolumne River is not significantly different than Alternative 2 for both the critical flows and for the optimal ranges. Thus, the alternative action would not have any significant impacts on recreation use and, consequently, would not have any impact on cultural resources.

Merced River

No Action. The Merced River also was an area used by prehistoric people. The river crosses through Mariposa and Merced counties. These counties have well over 1,100 recorded prehistoric sites, and the counties range from 2 to 5 percent surveyed for cultural resources. In addition, historical resources, such as mining-related structures, railroad grades, dams, and other structures, may exist in the proximity of the river.

Proposed Action. During the peak recreation season, the proposed project does have significant impacts on streamflows in critical, dry, and below normal years. The proposed action beneficially impacts recreation by decreasing the frequency of critical low flows for boating. Cultural resources

potentially could be impacted indirectly with the increase in recreation use, but the effect of the project on cultural resources would be less-than-significant with higher flows offsetting impacts from increased use.

Alternative Action. During the peak recreation season for both the entire period and the critical period, the Water Right Priority System alternative for the Merced River is not significantly different than Alternative 2 for both the critical flows and for the optimal range. Thus, the alternative action would not have any significant impacts on recreation use and, consequently, would not have any impact on cultural resources.

4.7.3 Impact Summary and Mitigation of Impacts

4.7.3.1 Proposed Action

Reservoirs

- Recreation use at New Melones Reservoir may increase in critical water years at the lowest reservoir elevations as a result of the proposed action. This increase in recreational use could potentially impact cultural resources by increasing artifact collection or vandalism. This potential impact is considered less than significant, and no mitigation is necessary.

- At both New Don Pedro Reservoir and Lake McClure, reservoir levels do not change significantly; therefore, recreation use is not affected. There is no indirect impact on cultural resources. No mitigation is necessary.

Rivers

- There are no adverse impacts to cultural resources at the San Joaquin, Stanislaus, or Tuolumne rivers. No mitigation is necessary.

- As a result of the proposed action, the frequency of streamflows below the critical threshold are significantly decreased on the Merced River in critical, dry, and below normal years. This could potentially increase recreation use, which may potentially impact cultural resources: however, the potential impacts are considered to be less than significant. No mitigation is necessary.

4.7.3.2 Alternative Action

Reservoirs

- Recreation use at New Melones Reservoir may increase in critical water years at the lowest reservoir elevations. This action could potentially impact cultural resources by increasing artifact collection or vandalism. This potential impact is considered less than significant, and no mitigation is necessary.

- As a result of the alternative action, frequency of occurrences of lower reservoir levels at New Don Pedro Reservoir during critical water years at the lowest elevations is increased. More area of the reservoir pool would be exposed, which could potentially increase recreational use of these exposed areas and adversely impact cultural resources. The impact is less than significant because it would occur only in critical years.

Rivers

- As a result of the alternative action, the frequency of occurrence of flows for recreation on the San Joaquin River above the 500 cfs threshold is increased, which is an infrequent adverse impact. It is unknown how recreation use would be affected above this flow, a short term effect; therefore the impact on cultural resources is considered to be less than significant.

- During critical periods, the alternative action has a significant beneficial effect for recreation on the San Joaquin River by increasing the frequency of flows in the optimal boating range and decreasing the frequency of occurrences of flows below the critical threshold for swimming. In addition, the alternative action decreases the frequency of occurrences of flows in the optimal range for canoeing during critical periods, which is a significant adverse impact. Increasing or decreasing recreation opportunities has the potential to impact cultural resources. The impact is less than significant, since it could occur infrequently.

- As a result of the alternative action, flows for recreation during the entire period on the Stanislaus River are beneficially impacted in the optimum range in the upper reach. During critical water years, the flows for recreation in the optimum range of the lower reach are beneficially impacted. Increasing recreation opportunities in most years has the potential to impact cultural resources. The impact is potentially significant. Mitigation may include surveying for the location of sensitive resources and implementing controls on recreation use if this use threatens identified resources.

Mitigation measures will vary according to ownership of the reservoirs. CEQA provides the principal state policy for the protection of prehistoric and historic archeological resources. A public agency

following the Federal clearance process under the NHPA or NEPA may use the documentation prepared under the federal guidelines in place of documentation necessary for CEQA. For the CVP reservoirs, any cultural resource research will need to meet federal standards, which will in turn satisfy the CEQA guidelines.

The federal agency responsible for operation of the reservoir should ensure that NRHP-eligible resources potentially affected by the proposed action will be treated. Preservation, rehabilitation, restoration, and stabilization are common treatments for architectural properties.