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STAFF REPORT: REGULAR CALENDAR

Consistency Determination No.: **CD-0006-17**

Federal Agency: **U.S. Army Corps of Engineers**

Location: Rindge Dam on Malibu Creek and nearshore waters downcoast of Malibu Pier, Los Angeles County (**Exhibits 1 and 2**)

Project Description: Removal of the Rindge Dam arch and spillway on Malibu Creek; excavation and removal of an estimated 780,000 cubic yards of sediment impounded behind the dam; transportation by truck of an estimated 278,000 cubic yards of clean sandy sediments to Ventura Harbor and then transport by barge for disposal in nearshore waters downcoast of Malibu Pier; transportation by truck of remaining excavated sediments to the Calabasas Landfill; and modification or removal of aquatic habitat barriers on Cold Creek and Las Virgenes Creek upstream of the dam.

Staff Recommendation: Concurrence

SUMMARY OF STAFF RECOMMENDATION

The U.S. Army Corps of Engineers has submitted a consistency determination for the Malibu Creek Ecosystem Restoration Project in Malibu Creek State Park, Los Angeles County. The central feature of the project is the removal of the Rindge Dam and spillway on Malibu Creek, three miles upstream from the Pacific Ocean, and the concurrent removal of an estimated 780,000 cubic yards of sediment currently impounded behind the dam. Approximately 278,000 cubic yards of clean sandy sediments would be placed in the nearshore waters downcoast of Malibu Pier, and the remaining sediments transported to the Calabasas Landfill. In addition, eight aquatic habitat barriers on Cold and Las Virgenes creeks, upstream tributaries to Malibu Creek, would be modified. The Corps estimates that should the project be authorized and funded by Congress, project construction would commence in 2025 and last approximately eight years.

Construction of the project will result in the loss of riparian and other environmentally sensitive habitat (ESHA) that has developed on the surface of the impounded sediment reservoir. However, removal of the dam and sediment will restore that buried segment of Malibu Creek, improve the aquatic and riparian habitat in stream reaches above and below Rindge Dam, and provide spawning and rearing habitat for the endangered southern California steelhead. The project design includes water quality protection measures, no net-loss of environmentally sensitive habitat, and restoration of all habitat areas disturbed during construction. The restoration project is an allowable use and the least environmentally damaging alternative for restoring Malibu Creek aquatic and riparian habitat, and protects and restores water quality in the project area. The staff therefore recommends that the Commission find the project consistent with the water quality, stream, and ESHA policies of the Coastal Act (Sections 30231 and 30233).

Over a three-year period, the project would place in the nearshore zone near the mouth of Malibu Creek approximately 278,000 cubic yards of clean sandy sediments trapped behind Rindge Dam. Removal of the dam and the impounded sediment reservoir would restore a more natural sediment transport regime in Malibu Creek. The sediments are suitable for nearshore placement, and additional testing to reconfirm suitability will take place during the three-year period of sand excavation. The nearshore placement zone was selected to avoid sensitive marine habitats and monitoring during placement will ensure that those habitats are protected. The project is designed to not adversely affect the hydrodynamics of and the marine resources within Malibu Lagoon. The sands will be placed in the nearshore zone in water depths allowing the sands to eventually move shoreward and downcoast. The staff therefore recommends that the Commission find the project consistent with the marine resource and sand supply policies of the Coastal Act (Sections 30230, 30231, and 30233).

Rindge Dam and the impounded sediment reservoir are within Malibu Creek State Park, however the immediate vicinity surrounding this area contains no designated hiking trails or recreational areas due to limited accessibility and public safety restrictions at the dam and spillway. Overall, the restoration of Malibu Creek and its tributaries, and restoration of a more natural sediment supply to downcoast beaches, would benefit public recreation. Nearshore placement of excavated sands is designed to avoid adversely affecting surfing areas upcoast at Surfrider Beach and Malibu Point. The staff therefore recommends that the Commission find the project consistent

with the public access and recreation policies of the Coastal Act (Sections 30210, 30213, 30220, and 30223).

The project holds the potential to create two types of geologic hazards: slope instability during and after excavation of the impounded sediments behind Rindge Dam, and increased downstream flood risks after removal of the dam and impounded sediment. The project includes the incremental removal of the dam and impounded sediments over an eight-year period, and a procedure for future Commission review of potential slope stabilization and mitigation measures. The multi-year undertaking will allow the Corps to monitor the downstream effects of dam and sediment removal, and make adjustments to the project and/or implement flood control measures should unanticipated project effects require such measures. The project includes a procedure for Commission review and approval of future slope stabilization measures that will be developed during the Pre-Construction Engineering and Design phase of the project. The staff therefore recommends that the Commission find the project consistent with the geologic hazard policies of the Coastal Act (Section 30253).

Project excavation of impounded sediments behind Rindge Dam and construction activities at the Sheriff's Overlook site along Malibu Canyon Road hold the potential to affect archaeological resources associated with the Chumash and Gabrielino/Tongva people. The project includes archaeological resource protection and mitigation measures, which will be implemented in coordination with Chumash and Gabrielino/Tongva representatives. Consultation with the State Historic Preservation Officer required under Section 106 of the National Historic Preservation Act is ongoing and will continue through final project design. The staff therefore recommends that the Commission find the project consistent with the archaeological resource policy of the Coastal Act (Section 30244).

The staff therefore recommends that the Commission **concur** with the U.S. Army Corps of Engineers' consistency determination CD-0006-17. The motion and resolution are on Page 5 of this report. The standard of review for this consistency determination is the Chapter 3 policies of the Coastal Act.

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- Exhibit 15 – Rindge Dam and Malibu Canyon Road
- Exhibit 16 – Flood Flow over Rindge Dam and Spillway
- Exhibit 17 – Malibu Creek Inundation Map

I. FEDERAL AGENCY’S CONSISTENCY DETERMINATION

The U.S. Army Corps of Engineers has determined the project consistent with the California Coastal Management Program.

II. MOTION AND RESOLUTION

Motion:

*I move that the Commission **concur** with consistency determination CD-0006-17.*

Staff recommends a **YES** vote on the motion. Passage of this motion will result in a concurrence in the determination of consistency and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

Resolution:

*The Commission hereby **concur** with consistency determination CD-0006-17 by the U.S. Army Corps of Engineers on the grounds that the project is fully consistent, and thus consistent to the maximum extent practicable, with the enforceable policies of the California Coastal Management Program.*

III. FINDINGS AND DECLARATIONS

A. PROJECT DESCRIPTION

The U.S. Army Corps of Engineers (“Corps”) proposes to implement the Malibu Creek Ecosystem Restoration Project in the Malibu Creek watershed in the Santa Monica Mountains and the nearshore waters downcoast of Malibu Lagoon in Los Angeles County (**Exhibits 1 and 2**). The Corps submitted the subject consistency determination for the Locally Preferred Plan (LPP), also referred to as Alternative 2b2, and described in extensive detail in the January 2017 *Malibu Creek Ecosystem Restoration Study Draft Integrated Feasibility Report (IFR) with Environmental Impact Statement/Environmental Impact Report (EIS/EIR), Los Angeles and Ventura Counties, California [DIFR/EIS/EIR]*.

Malibu Creek is the largest coastal watershed in the Santa Monica Mountains, and is encompassed by one of the largest areas of protected open space left in southern California – the Santa Monica Mountains National Recreation Area (SMMNRA), managed by the National Park Service. Primary tributary flows into Malibu Creek in the lower portion of the watershed are from Las Virgenes Creek and Cold Creek. The majority of the streambed in the area of study remains unaltered (i.e., is not armored with stone or concrete on bank or bed), although at times the natural meanders of the creeks are constricted by roads, culverts, and other development. The project area is largely located in Malibu Creek State Park, owned and managed by the California Department of Parks and Recreation (CDPR).

The central feature of the restoration project is the removal of the Rindge Dam arch and spillway on Malibu Creek, located in the coastal zone three miles upstream from the Pacific Ocean, and the concurrent excavation of an estimated 780,000 cubic yards (cu.yds.) of sediment currently impounded behind the dam over an upstream distance of one-half mile (**Exhibits 3 and 4**). Approximately 278,000 cu.yds. of excavated sediments would be placed in nearshore waters downcoast of Malibu Pier, and the remaining sediments transported to the Calabasas Landfill (**Exhibits 5 and 6**).

In addition, aquatic habitat barriers on Cold Creek (four road crossing culverts) and Las Virgenes Creek (three road crossing culverts and one check dam), both of which are upstream tributaries to Malibu Creek, would be modified under the proposed project (**Exhibits 7 and 8**). Various measures were formulated for barrier modifications to allow for restoration of partial or complete aquatic habitat connectivity while ensuring the intended purpose of the barriers. As a result, the removal of Rindge Dam would restore 8.5 miles of aquatic habitat connectivity on Malibu Creek (between the Pacific Ocean and Century Dam (located farther upstream of Rindge Dam)), and barrier modification would restore an additional 9.5 miles of aquatic habitat along Cold Creek and Las Virgenes Creek.

The proposed project includes the following elements:

Construction Staging.

The former Sheriff's Honor Camp site (Sheriff's Overlook), located adjacent to Malibu Canyon Road about 200 vertical feet above Rindge Dam, will be used throughout construction as a temporary construction staging area during the entire duration of the project construction, used for oversight and management of the dam and impounded sediment removal activities. This staging area is expected to include trailers, vehicular parking and equipment storage. After construction is completed, the site would be restored and used as one of the turnout areas available to vehicles travelling northbound along Malibu Canyon Road for short-term parking and a scenic overlook for viewing of the creek and canyon area. At the conclusion of the staging use, several signs about the site history (Rindge Dam) and the ecosystem restoration project are proposed to be installed at the site. Any construction work taking place at this site shall avoid all historic features related to the honor camp . . . Other temporary staging areas will be used during construction for storage and temporary disposal areas and at the upstream barriers.

Site Preparation.

About 40k cy will be used to construct two access ramps at the upper end of the Rindge Dam impounded sediment area to provide equipment access from Malibu Canyon Road to the work site, allowing for the removal of existing mature vegetation on the surface and temporary diversion and control of Malibu Creek to allow for needed work space for mining and other actions. A temporary cofferdam about five feet in height will be constructed upstream of the southbound ramp and direct water into a series of culverts. Controls and best management practices (BMPs) will be in-place to reduce turbidity level of discharges to background levels immediately downstream of the dam. Dewatering wells will be installed in the impounded sediment. Well water will be

conveyed immediately downstream of the dam and released into Malibu Creek after BMPs ensure that turbidity and other constituents are maintained at appropriate levels. Wells will be designed with casings that can withstand winter storm flows. Each well casing will be protected in-place prior to each storm season during construction. Any remnants of the wells will be removed at the end of construction.

Construction each year will normally cease prior to the start of the winter storm season starting in October. However, should weather forecasts predict continued dry weather, the construction year could be extended until long-term forecast predict rain that requires the contractor to shut down and leave the construction site until the following spring, defined as March at the earliest or when forecasts predict the end of the winter rainy season.

Dam Removal and Sediment Excavation and Disposal [Exhibits 3, 4, 6, and 9]

Sediment mining will begin to remove the top layer of mostly gravels and boulders (approximately 10 foot depth), with some of the material used for completion of the ramps, hauling the remaining Unit 1 layer to the Calabasas Landfill along with the surface vegetation. The first lift, the horizontal cut in the dam arch, will be removed in order to leave the concrete arch at the level of the remaining impounded sediment by October of the first year, repeating this action each year of construction. The site will be cleared of crews and equipment for the winter season, with the second year of construction beginning the next spring after the winter storm season.

The second to fourth year of construction will primarily be associated with removal of the Unit 2 sands with direct transport of sediment mined from the Rindge Dam impounded sediment area up Malibu Canyon and Las Virgenes Road, to Lost Hills Road, U.S. Highway 101 and the Ventura Harbor about 41 mi away from the dam. [Exhibit 5] Material would be offloaded from the trucks and placed on barges to be transported to the Malibu shoreline, to the east of the pier. The 1,500 cy capacity barges (dump scows) would transport the material via tugboat downcoast and place the sands in the nearshore area near, but to the east of Malibu Pier in a location that does not adversely affect submerged aquatic vegetation. Both trucks and barges would be making approximate 82-mile round-trips for each load: trucks from the Rindge Dam impounded sediment site to Ventura Harbor and back; and the dump scows from the harbor to the Malibu nearshore site and back. This cycle of activities will be repeated for these three years.

The fourth through seventh years of construction include the removal of the Unit 3 silts and clays with delivery to the Calabasas Landfill. The final year will complete site clean-up, the revegetation of creek slopes exposed during the mining, and removal of one ramp and partial removal of the remaining ramp to limit future access to the site to monitoring and adaptive management activities. The TSP [tentatively selected plan] includes removal of the Rindge Dam spillway.

About 10,000 cy of impounded sediment is estimated to remain in the impounded sediment area after construction around the pre-dam bedrock outcrops and boulders exposed by mining to the former (pre-dam) creek bed elevation. This material is expected to be naturally flushed to downstream reaches and the ocean with much

greater volumes of sediment generated from the watershed during early post-construction storm runoff events.

Aquatic barriers removal [Exhibits 7 and 8]

The LPP also includes removal or modification of eight barriers upstream of Rindge Dam: four along Las Virgenes Creek (LV1-LV4) and four along Cold Creek (CC1-3, CC5). Construction activities will begin after the first several years of construction at Rindge Dam, and will conclude within the estimated construction timeframe for completion of work at Rindge Dam. Barriers CC1 and CC5 are owned by Los Angeles County, and CC2 and CC3 are privately owned. LV1-2 are owned by CDPR and LV3-4 are owned by Los Angeles County. Waste material from these work sites will be transported by truck to the Calabasas Landfill.

Restoration and Monitoring.

Upon completion of dam and sediment removal, the natural channel of Malibu Creek would be restored to pre-dam contours to the extent possible, and the riparian corridor would be re-vegetated with native riparian species. All areas disturbed by project construction, including but not limited to the dam and spillway footprints, construction vehicle access ramps, canyon slopes exposed after sediment removal, and upstream barrier removal/modification sites, would be re-vegetated with the appropriate native vegetation.

Monitoring of the Rindge Dam site and impounded sediment area would continue throughout the construction timeframe and would include oversight of environmental commitments based on permits obtained and wet season storm monitoring. Monitoring would include topographic changes, vegetation (including identification and removal of non-native plant species), and indicators of slope stability as impounded sediments are removed. USACE would be involved in monitoring and adaptive management activities for revegetated areas principally in the former impoundment area, access ramps, and upstream barrier sites for approximately 5 years following completion of construction.

The Corps currently estimates that should the project be authorized and funded by Congress, project construction would commence in 2025 and last approximately eight years.

B. BACKGROUND

The 100-foot-high concrete arch Rindge Dam was constructed in a steep narrow canyon gorge on Malibu Creek in 1926 (**Exhibit 3**). To provide erosion control a spillway was cut into canyon wall bedrock adjacent to the dam and faced with concrete slabs.¹ Rindge Dam interrupted the sediment transport regime in the watershed and interfered with habitat connectivity for aquatic species, including the endangered southern California steelhead, which is currently blocked from former spawning and rearing habitat in Malibu Creek and its tributaries upstream of the dam. The dam was constructed without an outlet structure, and the half-mile-long water supply reservoir

¹ The proposed removal of the spillway means removal of the concrete slab facing over the cut bedrock spillway, and not removal of the actual cut bedrock feature.

behind the dam was essentially filled with sediment by the mid-1940s. The reservoir was decommissioned by the California Department of Water Resources as a water storage facility in 1967 because it no longer stored more than 15 acre-feet of water. The dam and adjoining property were subsequently purchased by the California Department of Parks and Recreation and added to Malibu Creek State Park.

The consistency determination states that the California Department of Parks and Recreation (DPR) and numerous stakeholders have long been interested in pursuing the modification to, and possible removal of, Rindge Dam. In 1998 the Corps and California DPR initiated a joint study of ecosystem restoration possibilities in the Malibu Creek watershed. An initial public workshop was held in January 1998, and the Corps and California DPR signed a Feasibility Cost Sharing Agreement in July 2001, which initiated the feasibility study process. A public scoping meeting and workshop for the feasibility study was conducted in May 2002, and a *Notice of Intent* to prepare an environmental impact study for ecosystem restoration was published in June 2002. Meetings coordinated by the Corps and California DPR continued through subsequent years, and included the establishment of a Project Delivery Team and a Technical Advisory Committee, both of which included federal, state, and local agency representatives (including the Coastal Commission), regional and community public interest groups, and local individuals. After nearly 15 years of work, the Corps published the *Draft Integrated Feasibility Report/EIS/EIR* for Malibu Creek ecosystem restoration in January 2017.

The proposed restoration project is currently at the feasibility stage of the Corps' planning process. As noted previously, the Corps currently estimates that the earliest that project construction (using federal and local sponsor funding) would commence is in 2025. The Corps states in the *DIFR/EIS/EIR* that numerous future actions are required prior to the start of project construction, including:

- Filing the *Final IFR/EIS* and the proposed report of the Chief of Engineers with the U.S. Environmental Protection Agency.
- Certification of the *Final IFR and Environmental Impact Report* by the California Department of Parks and Recreation.
- Approval by the Chief of Engineers of the *Final IFR/EIS*.
- Approval by the Assistant Secretary of the Army for Civil Works of the *Final IFR/EIS*.
- Review of the *Final IFR/EIS* by the Office of Management and Budget and forwarding to Congress.
- Congressional approval of the project.
- Congressional appropriations for Pre-Construction Engineering and Design, including surveys, model studies, and detailed engineering plans.

- Congressional appropriations for project construction.

In addition, the Corps states in its consistency determination that:

Prior to construction, the Corps will review the project to confirm that the project remains consistent with the Coastal Zone Management Act of 1976. If the Corps determines that the project has changed or has new or different effects on coastal resources that require a supplemental CCD [coastal consistency determination], the Corps will, as provided for [in] the consistency regulations, develop and submit a supplemental CCD to the Coastal Commission.

C. OTHER AGENCY APPROVALS AND CONSULTATIONS

U.S. ARMY CORPS OF ENGINEERS, REGULATORY BRANCH

The Corps of Engineers Planning Division must comply with the provisions of the federal Clean Water Act and will do so through completion of a Section 404(b)(1) analysis and a determination of the Least Environmentally Damaging Practicable Alternative, both undertaken in coordination with the Corps' Los Angeles District North Coast Regulatory Branch.

U.S. FISH AND WILDLIFE SERVICE

The Corps of Engineers has coordinated with the U.S. Fish and Wildlife Service beginning in July 2007 and through development of a Draft Coordination Act Report (CAR), completed in May 2013; coordination will continue through development of the Final CAR. In addition, informal consultation under provisions of the federal Endangered Species Act (ESA) is ongoing including draft ESA determinations. The Corps will consult with the Service on project effects determinations and proposed conservation measures based on the final project plan.

NATIONAL MARINE FISHERIES SERVICE

The Corps of Engineers began coordination with the National Marine Fisheries Service in July 2007 and this process is ongoing regarding potential project benefits and impacts to ESA listed species and their designated critical habitat, primarily southern California steelhead and protected beach and nearshore habitats. Informal consultation under provisions of the ESA began in 2016 and is ongoing. Coordination will continue during essential fish habitat consultation and a draft Biological Assessment will be prepared and coordinated with NMFS for inclusion in a Biological Opinion for the project.

U.S. ENVIRONMENTAL PROTECTION AGENCY

The Corps of Engineers has consulted with EPA regarding the suitability of the sand layer of impounded sediments for beach or nearshore placement. Consultation occurred through the Southern California Dredged Material Management Team (SCDMMT) in 2013. The sand layer was determined suitable for direct beach placement. The Corps of Engineers will continue to coordinate with EPA and the SCDMMT throughout the National Environmental Protection Act (NEPA) process and project construction.

CALIFORNIA DEPARTMENT OF PARKS AND RECREATION

The Corps of Engineers and the California Department of Parks and Recreation jointly undertook the Malibu Creek Ecosystem Restoration Study. The Department is the non-Federal sponsor of the study and the lead agency pursuant to the California Environmental Quality Act (CEQA). The Integrated Feasibility Report (IFR) is a joint document to fulfill both NEPA and CEQA requirements. The Corps and the Department will continue to coordinate through publication of the Final IFR and Final EIS/EIR and during project construction.

CALIFORNIA STATE LANDS COMMISSION

The Corps of Engineers will obtain authorization from the California State Lands Commission for placement of suitable sandy sediments in nearshore waters downcoast of the Malibu Pier.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The Corps of Engineers will continue to consult with the California Department of Fish and Wildlife throughout the CEQA process and construction activities. Also, the Corps will coordinate with the Department relative to California listed species and Species of Special Concern. The Department may participate in a Federal ESA Section 7 consultation, if initiated, and has the option to adopt the Federal Biological Opinion (BO) or to prepare its own BO. Depending on the results of the BO, a California Fish and Game Code Section 2081 take permit may be required for the project. The non-federal project sponsors would be responsible for applying for a Section 2081 take permit, as well as a Fish and Game Code 1601 Streambed Alternation Agreement, if required.

LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

The Corps of Engineers began coordination with the Los Angeles Regional Water Quality Control Board in October 2016 for the required federal Clean Water Act Section 401 Water Quality Certification (WQC). Prior to the start of project construction, the Corps will obtain the required Section 401 WQC and will comply with the permit requirements throughout project construction.

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

The Corps of Engineers has initiated consultation with the California State Historic Preservation Officer (SHPO) regarding project compliance with Section 106 of the National Historic Preservation Act (NHPA). The Corps will complete consultation prior to the start of project construction and will implement recommended cultural resource protection and mitigation measures.

NATIVE AMERICAN TRIBAL CONSULTATION

The Corps of Engineers held an initial Tribal consultation meeting in April 2016 with representatives from the Santa Ynez Band of Chumash Indians, Wishtoyo Chumash Foundation, and the Tongva Ancestral Territorial Tribal Nation. Native American consultation conducted to date strongly indicates that the Malibu Ecosystem Restoration Project area should be considered sensitive for Native American resources. Consultation under Section 106 of the NHPA, CEQA, and Corps and California Department of Parks and Recreation Tribal consultation policies is ongoing.

D. COASTAL STREAMS AND ENVIRONMENTALLY SENSITIVE HABITAT

Coastal Act Section 30231 states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Coastal Act Section 30233(a) states in part:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

...

(6) Restoration purposes

Coastal Act Section 30233(d) states:

Erosion control and flood control facilities constructed on watercourses can impede the movement of sediment and nutrients that would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for these purposes are the method of placement, time of year of placement, and sensitivity of the placement area.

Coastal Act Section 30240 states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which

would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

The project is intended to improve aquatic and terrestrial habitat conditions along Malibu Creek and two upstream tributaries for the benefit of fish and wildlife species. Removal of Rindge Dam and upstream barriers would: (1) eliminate barriers to fish passage on Malibu Creek, thereby facilitating the migration, spawning, and rearing of the endangered southern California steelhead; (2) restore 18 miles of spawning habitat in Malibu, Cold, and Las Virgenes creeks; and (3) restore the natural sediment transport regime of Malibu Creek, thereby improving downstream coastal beach sand replenishment.

The Corps states that the restoration project would:

- *Provide for a more natural sediment transport regime in the vicinity of Rindge Dam and along reaches downstream of Malibu Creek to the shoreline.*
- *Reconnect the aquatic corridor to provide access to additional spawning and rearing habitat to a variety of aquatic species, including the Pacific lamprey, arroyo chub, western pond turtle, and the federally endangered southern California steelhead, among others.*
- *Restore riparian habitat connectivity along Malibu Creek and tributaries from the Pacific Ocean to the upper watershed to include restoration of migratory corridors for terrestrial animals, including mammals and herptofauna.*
- *Address non-native species of concern occur within Malibu Creek that crowd out native species by outcompeting for light, water and nutrients, particularly within the Rindge Dam impounded sediment area and near upstream barriers. Non-native species include the giant reed (*Arundo donax*), fountain grass (*Pennisetum setaceum*), spurge (*Euphorbia esula*), and pepperweed (*Lepidium latifolium*).*
- *Allow for transport of Rindge Dam impounded sediment to nourish downstream shoreline and nearshore habitats that would have naturally benefited from this material without the dam in-place.*
- *Decrease potential for human disturbances to aquatic species in alliance with the formulation of other ecosystem restoration measures.*

The proposed project involves excavation of sediments and removal of a dam from a coastal stream, and placement of clean sandy sediments in nearshore coastal waters. The project therefore triggers the three-part test of Section 30233(a): (1) the project must be one of the seven enumerated allowable uses; (2) the project must be the least environmentally damaging feasible alternative; and (3) the project must include feasible mitigation measures to minimize adverse environmental impacts. Regarding the first test, the excavation of sediments, the removal of Rindge Dam, and the placement of clean sandy sediments in nearshore waters are allowable uses under the restoration provision of Section 30233(a)(6).

While designed to restore coastal streams and environmentally sensitive habitat, and to restore and protect the biological productivity and quality of coastal waters, the project's temporary impacts on coastal resources requires an alternatives analysis to determine the least

environmentally damaging feasible alternative to implement the project's goals. The Corps undertook an extensive alternatives analysis:

A full array of structural and non-structural measures was formulated during the planning process and combined into various alternatives to address the planning objectives. After several iterations of the planning process, project delivery team risk-informed decision-making, and preliminary screening of alternatives, a focused array of alternatives was carried forward for more detailed analysis. The alternatives in the focused array all included removal of the Rindge Dam concrete arch and impounded sediment behind the dam. Methods of removal and timeframes to complete varied based on the different combinations of measures considered for each alternative.

Several alternatives were eliminated during the screening process, including constructing a V-notch in the dam to allow direct sediment bypass through the dam, restoration of the water supply function of the dam, construction of fishways around the dam, and trapping and hauling fish around the dam. These alternatives were eliminated due to their infeasibility, inability to meet restoration objectives, or potential environmental impacts. Ultimately, four primary alternatives received detailed analysis in the *Integrated Feasibility Report*: the no action (Alternative 1) and three action alternatives (Alternatives 2, 3, and 4) each with multiple options (sub-alternatives) addressing methods of sediment transport and deposition, spillway removal, and upstream barrier modifications (**Exhibit 10**). The four alternatives are summarized as follows:

- Alternative 1 (No Action). The dam, spillway, and impounded sediment remain in place and the upstream barriers are not modified or removed.
- Alternative 2. Options include removal of the Rindge Dam concrete arch and impounded sediment removal using traditional mining methods, and consideration of various shoreline and upland placement options for the impounded sediment. The mostly sands layer of the impounded sediment, an estimated 278,000 cubic yards, would be placed along the Malibu shoreline or nearshore area using trucks (shoreline) or a combination of trucks and barges (nearshore). Other variations for the Alternative 2 options include removal of the dam spillway and the modification or removal of other upstream aquatic barriers on Cold Creek and Las Virgenes Creek tributaries. The overall construction timeframe is estimated to take 7-8 years to complete.
- Alternative 3. Options include removal of the Rindge Dam concrete arch and impounded sediment over many decades, allowing for storms to erode controlled volumes of the impounded sediment before implementing the next incremental notching of the dam arch, repeating the cycle until the dam arch and sediment is removed. The costs for these alternative options are less than other alternatives and use far less trucks, but there are much greater uncertainties about the time needed to complete construction and potential adverse downstream effects of incremental releases of the impounded sediment, including an increased flood risk to

downstream communities. Other variations for the Alternative 3 options include removal of the dam spillway and the modification or removal of upstream barriers. The overall construction timeframe is estimated to take at least two decades, but more likely multiple decades to a century to complete. The large range for construction completion is based on the uncertainties associated with the frequency of storm events of sufficient magnitude that allow for the next cycle of incremental dam concrete arch notching, followed by the timeframe for storms that mobilize and naturally transport the next layer of exposed impounded sediment.

- Alternative 4. Options are similar to the Alternative 2 options, except the Rindge Dam concrete arch would be lowered an additional 5-ft each winter storm season during the 7-8 year construction cycle to allow opportunities for a controlled volume of the impounded sediment to erode downstream during the storm seasons between mining season operations. These alternative options potentially reduce the number of trucks needed to transport the impounded sediment, but increase the risk of detrimental impacts to downstream reaches of Malibu Creek compared to Alternative 2 options. Other variations for the Alternative 4 options include removal of the dam spillway and the modification or removal of upstream barriers. The overall construction timeframe is estimated to take 7-8 years to complete.

The consistency determination next compared the four project alternatives, summarized as follows. Alternative 2 and 4 options provide for restoration of more natural sediment transport regimes and habitat connectivity within Malibu Creek in 7-8 years as opposed to the many decades required for Alternative 3 options. In addition, potential adverse effects to Malibu Creek critical habitat and aquatic species and sensitive cultural resources downstream of Rindge Dam are much higher for Alternative 3 options. Traffic impacts along Malibu Canyon and Las Virgenes Canyon roads and the cities of Malibu and Calabasas are much higher in Alternatives 2 and 4 than for Alternative 3.

Alternative 2 and 4 options include shoreline placement of mostly sands in front of the Malibu pier, temporarily requiring some of that sediment to be placed at an upland storage site with additional handling required to truck material from that site to the beach parking lot. Use of the lot would adversely impact public access to the beach and creates an increased risk of indirectly impacting isolated patches of surfgrass as mostly sands drift downcoast of the parking lot. Other Alternative 2 and 4 nearshore placement options shift all trucking to the upper portion of the Malibu Creek watershed and use Highway 101 to transport impounded sediment to barges in Ventura Harbor for shoreline placement, avoid use of the upland storage site and the Malibu pier parking lot, and reduce other potential traffic impacts along PCH and the City of Malibu.

The Corps states that although the Alternative 3 options are less costly, the low habitat evaluation scores for these options, timeframe to completion, and biological, cultural and flood risks to downstream reaches of Malibu Creek do not support the recommendation of these alternatives. The Corps also states that the Alternative 4 options increase the downstream flood risk, adversely impact cultural resources, and have the potential to adversely impact biological resources and therefore are not considered for recommendation.

Alternative 2 options 2b1 and 2b2 include the removal of the Rindge Dam spillway. Although some aesthetic, safety and critical habitat benefits are associated with the removal of the spillway, the Corps states that this action does not directly address the project objectives. However, the California Department of Parks and Recreation (CDPR) considers removal of the spillway to be a critical component to the overall restoration plan, and the CDPR prefers use of barges and placement of mostly sands in the nearshore area, as opposed to use of the pier parking lot for direct beach placement, which would cause increased public access and recreation impacts.

The Corps concluded that Alternative 2d1 is the National Ecosystem Restoration (NER) plan and the Tentatively Selected Plan. The CDPR prefers Alternative 2b2 as it proposes use of barges and placement of mostly sands in the nearshore area versus use of the pier parking lot and is identified at the Locally Preferred Plan (LPP). The Corps concludes that both Alternatives 2d1 and 2b2 are considered the Least Environmentally Damaging Practicable Alternatives under NEPA.

In selecting Alternative 2b2 as the proposed project for the subject consistency determination, the Corps states:

The Sponsor [CDPR] has indicated their intent to pursue Alternative 2b2 as a LPP. The likely LPP is similar to the NER Plan in regards to actions described for the Rindge Dam and impounded sediment area. The strategy for modification and removal of the upstream barriers is also the same as the NER plan. The differences in these plans include the method of transport and placement of the mostly sands, using trucks and barges for nearshore placement, and adding the removal of the Rindge Dam spillway. Although the Habitat Evaluation outputs remain the same as those calculated for the NER Plan, the likely LPP has the benefit of avoiding an area of sensitive surfgrass. The likely LPP also reduces future impacts to steelhead critical habitat and public safety via removal of the spillway.

The DIFR/EIS/EIR and the consistency determination examined potential temporary impacts on habitat and wildlife during project construction, and these impacts are summarized below:

- **Vegetation/Sensitive Habitat.** Construction will result in the removal of riparian and wetland vegetation on the surface of the impounded sediment behind the dam, and disturbance to hillside chaparral due to access ramp construction. After removal of the dam and sediment, riparian and wetland habitats and a natural hydrologic regime will be restored along Malibu Creek, and hillside areas will be restored to pre-project conditions. As incoming streamflow and sediment currently passes over the dam, the removal project would not result in substantial changes to downstream sedimentation patterns or downstream riparian and wetland habitat.
- **Wildlife.** Mobile species will move away from construction zones and disturbed areas. Clearing of vegetation will occur outside of bird nesting seasons to minimize project impacts. Wildlife diversity and populations are expected to improve over current conditions after restoration of the Malibu Creek riparian corridor.

- **Southern California Steelhead.** Annual construction activities are expected to add fine sediments to reaches of Malibu Creek immediately downstream of the dam. Any steelhead found in the pool at the face of the dam will be caught and relocated in consultation with the National Marine Fisheries Service; this activity will be repeated each year prior to the start of construction. No project construction will occur during the winter rainy season when Malibu Lagoon is more likely to be open and allowing steelhead to move between the ocean and the reach of Malibu Creek between the lagoon and the dam.

The *DIFR/EIS/EIR* and the consistency determination also examined potential long-term impacts on habitat and wildlife during project construction, and these impacts are summarized below:

- **Vegetation/Sensitive Habitat.** Riparian habitat upstream of the impounded reservoir and downstream of the dam will be affected by the new hydrologic and sediment regime. However, native species are expected to adapt and recover quickly and required habitat restoration and revegetation work will assist this process. Riparian, wetland and aquatic vegetation communities will reestablish along the restored creek corridor and the project will generate long-term habitat improvements.
- **Wildlife.** Dam and impounded sediment removal will lead to long-term improvements to riparian and aquatic habitats, which in turn will benefit wildlife species dependent on these habitats for breeding and foraging. Restoration of upland areas disturbed during construction with native vegetation will generate similar wildlife benefits. Removal of the dam will reestablish the wildlife corridor along Malibu Creek after a century of disruption.
- **Steelhead and Fisheries.** Modifications to the hydrologic regime of Malibu Creek from dam removal will enhance aquatic and riparian habitat, with associated benefits to steelhead, tidewater goby and other native fish species. Dam removal will create an additional 18 miles of steelhead spawning and rearing habitat on Malibu, Cold, and Las Virgenes creeks.

To address the project's habitat impacts, the Corps, after coordination with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Parks and Recreation, and California Department of Fish and Wildlife, incorporated the following protective measures into the proposed project:

- A qualified biologist will be responsible for overseeing compliance with all protective measures for biological resources during clearing and construction activities.
- A Habitat Restoration Program will be developed to restore the streambed to pre-dam contours to the extent possible and to revegetate riparian areas of Malibu Creek, in coordination with the appropriate resource agencies and stakeholders during Pre-construction Engineering Design.

- A revegetation plan will be developed with a native plant palette, including proposed plant sizes, a maintenance procedures during the establishment period (including irrigation if needed), and re-planting of dead vegetation. All areas disturbed by construction, including cleared areas, shall be restored to their original condition or an improved condition.
- Construction best management practices would be in place to avoid and reduce erosion of disturbed areas. Work would stop, all equipment would be removed, and the site stabilized prior to the rainy season. Work would commence again in early spring, weather permitting.
- Prior to the implementation of vegetation removal or sediment deposition, a USFWS-approved biologist would conduct special-status plant surveys. If no such species are observed, then no further conservation measures would be implemented. If any of these special-status plant species are determined to be present on site, then individual plants would be enumerated, photographed, and flagged. Timing of field surveys would correspond with blooming or growth seasons when species are conspicuous and recognizable. Seed collection from individuals with mature seed that are likely to be impacted would be conducted for post-construction propagation.
- In order to avoid direct affects to steelhead during Dam removal activities, pre-construction surveys will be conducted to identify the presence/absence of fish below the Dam within the construction zone. The construction zone will be defined in the engineering designs. While construction would occur outside of the migratory season for steelhead, juvenile steelhead are likely to occur in the Malibu Lagoon and in Malibu Creek pools below Rindge Dam. A fish rescue and relocation effort plan will be developed prior to commencing work in pools in the reach downstream of the Dam. The fish rescue and relocation will be conducted under the supervision of a qualified biologist and will entail measures to reduce effects to steelhead.
- During work within channels where arroyo chub could occur (including upstream tributaries), measures would be taken to avoid or reduce impacts on arroyo chub under the supervision of a qualified fisheries biologist and in coordination with USFWS and CDFW. Surveys will be conducted within the sediment and dam removal areas. If needed, a fish rescue and relocation effort plan will be developed prior to commencing work in areas where this species occurs and exclusion barriers are needed to divert flow around the work area. The fish rescue and relocation will be conducted under the supervision of a qualified biologist and will entail measures to reduce effects to arroyo chub and other fish associated with in-water construction activities.
- Prior to the implementation of construction activities, a qualified biologist would conduct surveys to ensure no special statues reptiles or amphibians are present within the area in which construction activities at Malibu Creek are to occur. If no special status species are observed, then no further conservation measures would be implemented. If any of these species are present, they will be captured and relocated to suitable habitat in consultation with CDFW.

- Removal of vegetation at the project site will occur prior to the start of bird nesting season to the extent possible in order to avoid impacts to migratory and nesting birds. If vegetation removal must be conducted during the nesting season, the area will be surveyed by a qualified biologist and appropriate buffers will be identified in consultation with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife.
- Prior to the implementation of construction activities, a qualified biologist would conduct pre-construction surveys for presences/absences of territorial vireo males within the area in which construction activities at Malibu Creek are to occur. If no vireo are observed, then no further conservation measures would be implemented. If these species are present a monitoring and avoidance plan shall be worked out in consultation with the USFWS.
- Prior to the implementation of construction activities, a qualified biologist would conduct surveys to determine if bat roosts are present within the project area, particularly trees to be removed. If no bats are observed, then no further conservation measures would be implemented. If bats are found during an August – October survey, appropriate exclusion devices approved by CDFW and the USFWS shall be installed by a qualified bat biologist. Once the bats have been excluded, tree removal may occur. Exclusion devices shall be placed by a qualified bat biologist in accordance with CDFW and USFWS guidance.

The final language of the above habitat and species protective measures will be developed during the Corps' Pre-Construction Engineering and Design process in consultation with the aforementioned agencies. All measures will be in place prior to the start of all project construction activities over the estimated eight-year-long construction time period. In addition, the Corps will need to obtain a Final Coordination Act Report and Biological Opinion from the National Marine Fisheries Service regarding protection of southern California steelhead and its designated habitat. The National Marine Fisheries Service provided a letter to the Commission on January 17, 2018, stating that it supports the restoration project and anticipates that there will be a mutually acceptable resolution of project impacts on steelhead and its designated critical habitat through the ongoing consultation process (**Exhibit 11**).

Given the complexities and uncertainties of the proposed project, the Corps and the California Department of Parks and Recreation developed a monitoring and adaptive management plan (MAMP) to:

... ensure the success of the recommended restoration plan in meeting project objectives and to provide a process to identify when any adaptive management actions are warranted during the monitoring period. The MAMP identifies criteria upon which an adaptive management action may be implemented and provides:

- *A systematic approach for identifying project success criteria in areas of habitat restoration;*

- *The process for future decision-making related to habitat management activities in the project area;*
- *Triggers, and implementation of remedial actions to meet success criteria;*
- *The framework for effective monitoring, assessment of monitoring data, and decision making for implementation of adaptive management activities in the project area;*
- *The process for identifying adaptive management actions in the project area; and*
- *Decision criteria for vegetation and wildlife evaluation and modification of adaptive management activities.*

The MAMP will be reviewed and revised as needed during the future Pre-Construction Engineering and Design phase as specific design details are made available.

The Corps states that the uncertainties associated with the proposed restoration project which justify the development and use of the MAMP include:

- *Project engineering and design fully address project objectives;*
- *Future operation and maintenance regime maintain project objectives;*
- *Ability of hydrologic models to predict project impacts/benefits;*
- *Future availability of water for restored habitat due to extreme drought or other climate change issues; and*
- *Other factors which are not completely within the USACE's or CDPR's control or ability to predict, such as high flow events that may occur before the restored habitat has fully established, vandalism, or upstream watershed changes that may affect the project area.*

The project monitoring plan that will support the MAMP includes the following elements: appropriate monitoring period to determine ecological success of the restoration project; monitoring schedules; reference sites for the vegetation communities included in the restoration project; performance standards to monitor site development and to decide when to implement remedial measures; monitoring procedures for the hydrologic regime, vegetation, stream habitat, and wildlife; monitoring stations for geomorphology and in-channel habitat elements; photo documentation; assessment phase of monitoring results; database management; and annual reports. Potential adaptive management measures for the restoration project include: irrigation/supplemental water; replanting of habitat; plant protection from predation or trampling; invasive species control; erosion control; re-grading of the creek invert; and non-native/nuisance wildlife control.

The Commission agrees with the Corps that the project: (1) is designed to protect and minimize impacts to aquatic, riparian, and environmentally sensitive habitats to the extent practicable during the eight-year-long restoration project; and (2) includes adequate resource protection and mitigation plans. The Corps' consistency determination acknowledges that these plans will not be finalized until the project enters the future Pre-Construction Engineering and Design phase of development. The Corps has committed to provide copies of the final plans to the Executive Director for review prior to the start of any construction activity. Should the Executive Director

identify changes and/or shortcomings in the content of any of these plans regarding protection of stream resources and environmentally sensitive habitats, and if the Corps and the Executive Director are unable to resolve any disagreements over the plans, staff will bring the matter back to the Commission for a public hearing on the question of whether the project is likely to have an effect on coastal resources that is substantially different from what was originally described and anticipated and, as a result, the project no longer appears consistent with the California Coastal Management Program.

The Commission retains its statutory ability to conclude that such changes have occurred and to request that the Corps take appropriate remedial action in such a situation, including submission of a supplemental consistency determination, pursuant to the re-opener provisions of 15 CFR §930.45 and §930.46 of the NOAA federal consistency regulations:

§930.45 Availability of mediation for previously reviewed activities.

(a) Federal and State agencies shall cooperate in their efforts to monitor federally approved activities in order to make certain that such activities continue to be undertaken in a manner consistent to the maximum extent practicable with the enforceable policies of the management program.

(b) The State agency may request that the Federal agency take appropriate remedial action following a serious disagreement resulting from a Federal agency activity, including those activities where the State agency's concurrence was presumed, which was:

(1) Previously determined to be consistent to the maximum extent practicable with the management program, but which the State agency later maintains is being conducted or is having an effect on any coastal use or resource substantially different than originally described and, as a result, is no longer consistent to the maximum extent practicable with the enforceable policies of the management program; or

(2) Previously determined not to be a Federal agency activity affecting any coastal use or resource, but which the State agency later maintains is being conducted or is having an effect on any coastal use or resource substantially different than originally described and, as a result, the activity affects any coastal use or resource and is not consistent to the maximum extent practicable with the enforceable policies of the management program. The State agency's request shall include supporting information and a proposal for recommended remedial action.

(c) If, after a reasonable time following a request for remedial action, the State agency still maintains that a serious disagreement exists, either party may request the Secretarial mediation or OCRM mediation services provided for in subpart G of this part.

§930.46 Supplemental coordination for proposed activities.

(a) For proposed Federal agency activities that were previously determined by the State agency to be consistent with the management program, but which have not yet begun, Federal agencies shall further coordinate with the State agency and prepare a supplemental consistency determination if the proposed activity will affect any coastal use or resource substantially different than originally described. Substantially different coastal effects are reasonably foreseeable if:

(1) The Federal agency makes substantial changes in the proposed activity that are relevant to management program enforceable policies; or

(2) There are significant new circumstances or information relevant to the proposed activity and the proposed activity's effect on any coastal use or resource.

(3) Substantial changes were made to the activity during the period of the State agency's initial review and the State agency did not receive notice of the substantial changes during its review period, and these changes are relevant to management program enforceable policies and/or affect coastal uses or resources.

(b) The State agency may notify the Federal agency and the Director of proposed activities which the State agency believes should be subject to supplemental coordination. The State agency's notification shall include information supporting a finding of substantially different coastal effects than originally described and the relevant enforceable policies, and may recommend modifications to the proposed activity (if any) that would allow the Federal agency to implement the proposed activity consistent with the enforceable policies of the management program. State agency notification under this paragraph (b) does not remove the requirement under paragraph (a) of this section for Federal agencies to notify State agencies.

The Commission concludes that the project's overall goals of restoring and improving terrestrial and aquatic habitat, particularly the improvement of steelhead migration through removing a major barrier to fish passage, facilitating the migration, spawning, and rearing of southern steelhead (an endangered species), and restoring the natural sediment transport regime and riparian habitat of Malibu Creek, are consistent with Coastal Act goals for habitat restoration and beach enhancement. While construction of the project will result in the loss of riparian and other environmentally sensitive habitat (ESHA) that has developed on the surface of the impounded sediment reservoir, the project is designed to restore natural aquatic and riparian habitat along the lower 8.5 miles of Malibu Creek, including the footprint of the impounded reservoir and stream reaches above and below Rindge Dam. The project design includes no net-loss of ESHA, a net gain in aquatic and riparian habitat function in Malibu Creek, and restoration of all habitat areas disturbed during construction.

The Commission finds the restoration project is an allowable use under Section 30233(a)(6). The Commission agrees with the Corps that the proposed project represents the least environmentally damaging feasible alternative and meets the “alternatives” test of Section 30233(a), and provides adequate mitigation in accordance with the “mitigation” test of Section 30233(a). The Commission finds that the project will maintain and restore the biological productivity of coastal streams and wetlands through the restoration of aquatic and riparian habitats along Malibu, Cold, and Las Virgenes creeks, consistent with the resource protection policies of Section 30231. The Commission also finds that while the project will remove ESHA from the surface of the impounded sediment reservoir, the overall aquatic and riparian habitat restoration that will occur along Malibu Creek after dam and sediment removal will significantly improve ESHA within the project area, and that the proposed restoration is a resource-dependent use consistent with the policies of Section 30240.

The Corps’ commitments for habitat restoration and protection, implementation of monitoring and adaptive management, submittal to the Executive Director of final project design and resource protection and mitigation plans, and submittal of a supplemental consistency determination should the project change (or should new or different effects on coastal resources be identified) between now and the expected start of construction in 2025 enable the Commission to find the proposed project consistent with the stream, coastal waters, and environmentally sensitive habitat protection policies of the Coastal Act (Sections 30231, 30233, and 30240).

E. WATER QUALITY

Coastal Act Section 30231 states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Coastal Act Section 30232 states:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

The consistency determination states that one of the project objectives is to restore aquatic habitat of sufficient quality along Malibu Creek and tributaries to sustain or enhance indigenous populations of aquatic species. This objective rests partially on a foundation of sufficient and high quality streamflow. The Corps also noted that the proposed project must: (1) minimize detrimental impacts to existing water quality parameters in the lower portion of Malibu Creek; and (2) avoid modification to ongoing seasonal freshwater discharges from Tapia Water

Reclamation Facility into Malibu Creek above Rindge Dam. The Corps also reports that to ensure compliance with the Clean Water Act, a draft 404(b)(1) analysis has been prepared and that prior to construction, a Clean Water Act Section 401 Water Quality Certification (WQC) will be obtained from the Regional Water Quality Control Board, and a Storm Water Pollution Prevention Plan (SWPPP) will be prepared pursuant to Section 402 of the Clean Water Act.

The *Draft Integrated Feasibility Report/EIS/EIR* examines several contributing factors to water quality in the restoration project area:

The study area of Malibu Creek is undeveloped through the canyon reaches, but the creek is narrow and steep. In the mountains, runoff concentrates quickly from the steep slopes; hydrographs show that the stream flow increases rapidly in response to effective rainfall. High rainfall rates, in combination with the effects of shallow surface soils, impervious bedrock, fan-shaped stream systems, steep gradients, and occasional denudation of the area by fire, result in intense debris-laden floods. Flows originating in the upper watershed flow through the lower canyon portion of the study area at high velocities, upstream and downstream of Rindge Dam. The bed slope decreases and the overbank area increases where Malibu Creek emerges from the canyon about a mile below Rindge Dam resulting in a reduction in flow velocities and a potential increase in sediment deposition.

...

The TWRP [Tapia Water Reclamation Facility] is located adjacent to Malibu Creek approximately 4.5 mi upstream from Malibu Lagoon. The facility is jointly owned by the Las Virgenes Municipal Water District and Triunfo Sanitation District. This facility treats municipal wastewater primarily from the cities and unincorporated areas of the upper watershed. The combined service area is approximately 100,000 ac with 90,000 residents in the Santa Monica Mountains. Tapia has a processing capacity of 16 MGD (about 25 cfs), but currently operates at approximately 9 MGS (about 14 cfs). The facility is currently exploring ways to increase recycling and to reduce reclaimed water discharge into the watershed.

The *DIFR/EIS/EIR* also notes that while the TWRP discharged tertiary treated water year-round to the creek between 1984 and 1997 in part to augment summer flows in the creek, currently the facility is prohibited by its Regional Water Quality Control Board permit from discharging reclaimed water into Malibu Creek during the dry season (April 15 to November 15) excepting during treatment plant operational emergencies, storm events, and minimal streamflow conditions that require flow augmentation in Malibu Creek to sustain endangered species. Regarding the latter exception, the *DIFR/EIS/EIR* states that:

The NMFS, USFWS, and CDFW have expressed concern over the summer discharge prohibition because of potential adverse modification of habitat suitable for steelhead. Based on NMFS recommendations, RWQCB permitting requirements for TWRP now mandate monitoring creek flow so that a streamflow of 2.5 cfs over

Rindge Dam and past Cross Creek Road can be maintained through augmentation from the treatment facility (RWQCB 2005: 11).

Fish barriers are currently listed by the RWQCB as water quality impairments on Malibu Creek. The removal of the Rindge Dam and modification of upstream barriers on Cold and Las Virgenes creeks would improve long-term water quality in Malibu Creek by removing fish barriers and restoring the impounded sediment reservoir area to a natural riparian habitat and allowing natural riverine processes to re-establish.

The *DIFR/EIS/EIR* examined potential impacts to water quality arising from restoration project construction activities and determined that minor natural transport of sediments during winter and potential turbidity increases associated with construction are the primary potential impacts. Any potential impacts will be reduced due to implementation of best management practices and through compliance with the project's Section 401 WQC and SWPPP. The consistency determination includes the following water quality mitigation measures that would be implemented during construction periods and during the winter season when construction is suspended:

Implement Best Management Practices (BMPs). *An erosion-control and spill response plan will be prepared and implemented to include erosion-control best-management practices during construction and implementation of geotechnical recommendations described in the Appendix D [Geotechnical Engineering], including revegetation of disturbed areas, sloping the final impound surface at the end of each construction year, cutting the Dam simultaneously with reducing impound elevations, construction of a cofferdam for control of flows, removal of the cofferdam during the winter season, dewatering sediments, diverting water around construction through pumping and/or piping, development of slope stability measures for groundwater saturation, construction ramp stability measures, and erosion-control measures at disposal sites.*

Best Management Practices during Construction. *Prior to construction a Stormwater Pollution Prevention Plan (SWPPP) will be prepared to address potential impacts to stormwater from construction equipment, construction crews, and construction practices. The SWPPP will include best management practices to prevent accidental spills and other contamination of Malibu Creek, and will include provisions for in-the-dry construction at the barrier sites, and regular monitoring of water quality, including turbidity, during construction and in the winter runoff season. The SWPPP will include a provision for adaptive measures to be taken in the event of excess contamination or turbidity.*

Oil Spill Control. *Oil-absorbing floating booms will be kept onsite and the contractor will respond to spills during construction.*

Equipment Maintenance. *Vehicles and equipment will be kept in good repair, without leaks of hydraulic or lubricating fluids. If such leaks or drips do occur, they will be cleaned up immediately. Equipment maintenance and/or repair will be*

confined to one location. Runoff in this area will be controlled to prevent contamination of soils and water.

The Commission agrees with the Corps that the project: (1) is designed to restore and protect the biological productivity of coastal streams and during the eight-year-long restoration project; and (2) includes adequate water quality protection and mitigation plans. The Corps' consistency determination acknowledges that final development of the water quality protection and mitigation measures will occur during the future Pre-Construction Engineering and Design phase of project development. The Corps has committed to provide copies of those measures to the Executive Director for review prior to the start of any construction activity. Should the Executive Director identify shortcomings in the content of any of those water quality protection measures, and if the Corps and the Executive Director are unable to resolve any disagreements over the plans, staff will bring the matter back to the Commission for a public hearing on the question of whether the project is likely to have an effect on coastal resources that is substantially different from what was originally described and anticipated and, as a result, the project no longer appears consistent with the California Coastal Management Program.

The Commission retains its statutory ability to conclude that such changes have occurred and to request that the Corps take appropriate remedial action in such a situation, including submission of a supplemental consistency determination, pursuant to the re-opener provisions of 15 CFR §930.45 and §930.46 of the NOAA federal consistency regulations (cited previously in Section III.D.).

The water quality protection measures incorporated into the proposed restoration project, the implementation of water quality monitoring and adaptive management during the construction period, submittal to the Executive Director of final water quality protection measures, and submittal of a supplemental consistency determination should the project change (or should new or different effects on water quality be identified) between now and the expected start of construction in 2025 enable the Commission to find the proposed project consistent with the water quality protection policies of the Coastal Act (Sections 30231 and 30232).

F. MARINE RESOURCES

Coastal Act Section 30230 states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Coastal Act Section 30231 states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine

organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Coastal Act Section 30233(b) states:

Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.

The project includes the placement of clean sandy material excavated from the Rindge Dam impounded sediment reservoir into nearshore waters downcast of the Malibu Pier (**Exhibit 12**). Over a three-year period, the Corps anticipates placing approximately 278,000 cubic yards (cu.yds.) of material at this location. Sediments would be transported via truck from the project site to a berth at Ventura Harbor, offloaded onto 1,500-cu.yd.-capacity dump scow barges, and towed to the offshore placement location. The estimated 11-acre disposal site currently proposed by the Corps is located several hundred feet offshore in water depths less than 23 feet, which would keep the sands within the limits of the depth of closure to ensure that all materials are retained within the littoral zone. The site is an area that would typically receive sand transported down an unimpeded Malibu Creek. Sediments would then be moved generally in a downcast direction and gradually onto the beach by longshore currents.

The placement site was selected to avoid sensitive marine habitats (e.g., rocky reefs, kelp, eelgrass) (**Exhibits 13 and 14**), and is located approximately five miles downcast of the Point Dume State Marine Conservation Area and the Laguna Point to Latigo Point Area of Special Biological Significance. The *DIFR/EIS/EIR* describes the nearshore environment at the proposed sediment placement area:

The nearshore environment is a mix of sand and rocky-bottom habitat, with some of the rocky habitat supporting large kelp beds that support a diverse amount of species. Field surveys were conducted in June 2016 to map habitat areas and marine biological resources along a 3.5 mi stretch of Malibu shoreline from Carbon Canyon Road on the east to 1.5 mi west of Malibu Creek and the 20 foot mean-lower-low-water (MLLW) depth contour. A total of 325 acres of seafloor was mapped by employing sidescan sonar, down-looking sonar technology, remote video, and photographs to identify marine habitat types, identify bottom types (e.g., rock, sand), identify aquatic vegetation (e.g., kelp, eelgrass, surf grass, algae), identify any large objects (wrecks, debris, etc.), and anticipated resources that are known from or potentially present within the identified survey area. Biological characteristics of the study area were also compared to available information.

East of Malibu Pier, the shoreline was generally sandy beach with intermittent rocks on the beach and in the surfline at both the west and east ends of the beach. The majority of the subtidal habitat was sand at depths between 0 and -35 ft. Giant kelp beds were mapped on reefs primarily located west of Malibu Pier. A second smaller bed was located offshore of Carbon Canyon.

Surfgrass was observed on low relief bedrock reef upcoast of Malibu Point at a depth of -15 ft MLLW and has been reported to occur in several locations (between survey Areas 1-3) based on historical CDFW habitat maps. Its depth distribution is between the lower intertidal zone and approximately -20 ft MLLW. Surfgrass was not observed on the underwater video east of Malibu Point. Eelgrass, another HAPC for FMP species, was not encountered within the study area. It is located in the sandy subtidal habitat at depths between -47 and -33 ft outside of Area 1 upcoast of Malibu Point (Merkel & Associates, 2015).

The *DIFR/EIS/EIR* next describes the marine invertebrates, fish species, and marine mammals that are found within or adjacent to the proposed nearshore sediment placement area:

*Marine invertebrates common to the sandy nearshore inter- and shallow subtidal habitats include mole crabs, clams, and polychaete worms, which bury themselves in the sand between cobbles and feed on particles brought in by the waves. These species in turn are fed on by shorebirds during low tides and by fish during high tides. The mixture of sand and cobble, coupled with the strong wave energy and periods when low tides expose the area to desiccation, creates a harsh environment that limits the numbers of animal, plant, and algal species that occur in this area. Little neck clams (*Protothaca staminea*) could act as indicator species should any non-natural sand movement occur within the beach area.*

*Several hundred species of finfish occupy California's near shore environment. The fishes found in the warmer waters of southern California are seldom found north of Point Arguello. The most common fish found in the nearshore environment are the rockfishes. Another dominant fish of the soft-bottom habitats in southern California are the left-eyed flatfish (family *Bothidae*) (e.g., California halibut [*Paralichthys californicus*] and sanddab [*Citharichthys* sp.]); right-eyed flatfish (family *Pleuronectidae*) (e.g., turbot [*Hypsopsetta guttulata* and *Pleuronichthys* sp.]); and tonguefish (family *Cynoglossidae*) (e.g., California tonguefish [*Symphurus atricauda*]). Other common near shore sandy bottom dwellers include the Pacific angel shark and skates and rays. Fish common in or near the surf zone include California corbina, surfperches, grunion, and croakers.*

*Marine mammals potentially occurring in the nearshore waters include the common dolphin (*Delphinus delphis*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), harbor seals (*Phoca vitulina*), California sea lions (*Zalophus californianus*), and California grey whales (*Eschrichtius robustus*). Although individual seals and sea lions may be sighted along the nearby shoreline, the beach is not expected to be used as a haul-out area for either of these species.*

Prior to placement of any dredged or excavated materials into ocean waters, the materials must be determined physically and chemically suitable for such disposal in order to ensure that the materials will not adversely affect the marine environment. The Southern California Dredged Material Management Team (DMMT) is the regulatory body that reviews and approves the placement of dredged materials in ocean waters and on shoreline beaches in the southern California bight.² The Corps undertook initial physical and chemical testing of core samples of the impounded materials behind Rindge Dam in 2002 and made a preliminary determination that approximately 278,000 cu.yds. of sandy materials were free of contamination and suitable for nearshore placement. The DMMT reviewed the sediment test results in February 2013 and January 2015 and agreed that based on the preliminary test results the materials appear to be suitable for nearshore disposal. However, the Corps will undertake additional sediment grain size and chemical analysis during the future Pre-Construction Engineering and Design phase of the project and bring its sampling and analysis plan, test results, and a preliminary suitability determination to the DMMT for its review and approval. Therefore, the Commission will continue to retain oversight over the future sediment suitability determinations through its role in the DMMT. In addition, the Corps states in the consistency determination that:

As per standard procedures, prior to any placement, transect sampling is required to verify gradation compatibility with . . . nearshore . . . placements; if sediment is shown to be compatible, regular, confirmatory gradation sampling of the material at the dam site [will] also have to be done as the excavation proceeds, to assure the gradation remains within the tolerable range. In addition, any approved placement scenario will be subject to continued testing for unsuitable materials as excavation of the impound proceeds.

Given that the sandy sediments excavated from the impounded reservoir behind Rindge Dam at this time appear physically and chemically suitable for nearshore placement, the Commission next examines the Corps' analysis of the potential impacts on marine resources and habitat from placement of those suitable sediments. The nearshore placement area was selected in part on the basis of its sandy bottom habitat and to avoid sand placement in sensitive habitats. The consistency determination states:

Placement of sands in the near-shore placement site could result in temporary increase in turbidity and suspended solids and may decrease the amount of dissolved oxygen near the placement site, thus affecting fish and other marine life within the area. Motile species are expected to relocate out of the area until placement activities are finished, and placement of beach compatible materials in the near shore area will not substantially impede the movement or migration of any native fish or wildlife (Criteria 4). Benthic marine populations would be buried, but would be expected to recolonize and recover. Therefore, no substantial loss to the population of any fish, wildlife, or vegetation will occur as the result of [nearshore] placement (Criteria 5). Adjacent beaches would experience less erosion due to

² The DMMT includes representatives from the Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Regional Water Quality Control Board, California Department of Fish and Wildlife, and the Coastal Commission.

elevated sand levels in the near shore while some of the placed sand may actually migrate onto adjacent beaches increasing beach widths down coast of the placement site, which will beneficially affect shore birds and benthic organisms in the long run as well as California grunion. Therefore, nearshore placement of sediment will not result in a substantial loss in overall ecosystem biodiversity (Criteria 8) and will not result in an adverse effect or net loss in habitat value of any sensitive biological habitats (Criteria 2).

The Corps examined potential impacts on the California least tern and Western snowy plover:

The beach and nearshore receiver sites are located more than thirteen miles north of the California least tern nesting site located within on Venice Beach. Sediment placement activities would not directly affect any nest sites owing to distance. The area is not likely to be used for foraging by California least tern also due to distance from the nearest nest site. The USACE, therefore, has determined that the placement of sand in the nearshore at the Malibu Pier Beach will not affect California least tern.

There were reports of nesting plovers on Surfrider Beach in 2013 (Chris Dellith, personal communication), which is highly unusual and not in the location currently being considered for beach placement. The beach fronting Malibu Lagoon is critical habitat for snowy plover, but would not be modified by the proposed placement adjacent to Malibu Pier. Placement in the nearshore would have no effect on this shore species as they would not be encountered at the near shore site. The USACE, therefore, has determined that the project will not affect western snowy plover.

In addition, the Corps notes that current sediment discharges from Malibu Creek, and the generally downcast movement of those sediments, have similar effects on marine habitat and resources as those that would be associated with the proposed placement of sediments excavated from the Rindge Dam impounded reservoir.

The project includes a number of marine resource protection measures to ensure that nearshore sediment placement over the three-year time period when suitable sediments are excavated from behind Rindge Dam do not adversely affect marine resources and habitat. As noted above, additional sediment grain size and chemical testing would occur during all phases of sand excavation to confirm nearshore placement suitability. During sand placement, weekly monitoring of water quality at the nearshore receiver sites for salinity, pH, temperature, dissolved oxygen, and light transmissivity will occur, and monthly water samples will be taken and analyzed for total dissolved solids. Water quality monitoring and the responsibility of the Corps to modify the rate or location of sediment placement will ensure that sediment placement will not adversely affect marine water quality. The Corps will also monitor sediment placement to ensure that sensitive marine habitats are not adversely affected. The Corps commitment to adaptive management during implementation of the project and consultation with federal and state resource agencies could lead to adjustments in nearshore placement over the three-year period should adverse impacts to marine habitat or resources be identified. In addition, additional

marine resource protection measures will be incorporated into the project, if deemed necessary, during the Pre-Construction Engineering and Design phase of the project.

The Corps also examined potential project impacts from dam removal and the return of a more natural flow regime in Malibu Creek on the recently-restored Malibu Lagoon. The *DIFR/EIS/EIR* states:

Malibu Creek flows into the Pacific Ocean at Malibu Lagoon estuary near the city limits of Malibu, California. The lagoon is part of Malibu Lagoon State Beach. Malibu Lagoon currently receives a combination of natural, seasonal freshwater input, and a substantial non-natural water input from various sources including the Tapia Water Reclamation Facility (TWRP). Most of the information in the following section is taken from Dillingham (1989) and Moffat and Nichol (2005). Malibu Lagoon tends to close to tidal flow through the formation of sand bars across its ocean front. In some extremely wet years, the lagoon remains open to the ocean and tidal exchange occurs all year. In some dry years, the sand bar remains unbreached in the winter and water flows over the sand bar. Large floods temporarily remove most of the vegetation, greatly alter topography, and completely redefine the habitats and occurrence of vegetation.

...

In 2012-2013, Malibu Lagoon underwent extensive restoration by the Malibu Lagoon Habitat Enhancement Project, funded by the C DPR, HTB, and SMBRC and others, via several grants. Restoration activities included habitat restoration within the lagoon, including recontouring of onsite channels to increase circulation. Additional plantings to enhance the species diversity and cover occurred in 2014.

The Corps reports that tidewater gobies are known to occur in the Malibu Lagoon and that the lagoon is considered a source population. Tidewater gobies were federally listed as endangered on March 7, 1994. The U.S. Fish and Wildlife Service designated revised critical habitat for tidewater gobies on February 6, 2013, and Malibu Lagoon was designated as critical habitat site LA-3. The *DIFR/EIS/EIR* examines potential project impacts to gobies and their habitat in the lagoon:

Indirect impacts from construction would only include downstream sediment flushing during sediment removal. However, the amounts of sediment flushed downstream are expected to be minor and within the normal range of existing conditions. Long-term impacts include changes to river hydrology associated with a free-flowing creek including degradation and aggradation of stream reaches. The removal of Rindge Dam and restoration of more natural sediment regimes will provide long-term benefits for Malibu Lagoon. Therefore, no specific conservation measures are proposed for the tidewater goby. BMPs listed in the Mitigation Measures will reduce the likelihood for accidental releases or chemical contaminants as well as reducing turbidity impacts to waters below the dam.

The Corps concluded that the proposed project is designed to not adversely affect lagoon hydrodynamics, recent restoration projects at the lagoon, the long-term health of the lagoon, or the tidewater goby and its habitat in Malibu Lagoon.

The Commission concludes that restoring a more natural sediment transport regime on Malibu Creek, placing in the nearshore zone near the mouth of Malibu Creek approximately 278,000 cu.yds. of clean sandy sediments trapped behind Rindge Dam, and monitoring (and if necessary modifying) sediment placement activities would be consistent with Coastal Act goals for protection of marine habitat and resources. The Commission finds that the proposed project represents the least environmentally damaging feasible alternative to returning trapped sediments back to the littoral zone near the mouth of Malibu Creek.

As noted above, the consistency determination acknowledges that the restoration project's resource protection and mitigation plans, including those applicable to the placement of sediments in nearshore waters, will not be completed until the project enters the future Pre-Construction Engineering and Design phase of development. The Corps has committed to provide copies of these plans to the Executive Director for review prior to the start of any construction activity. Should the Executive Director identify shortcomings in the content of any of these plans regarding protection of marine habitat and resources, and if the Corps and the Executive Director are unable to resolve any disagreements over the plans, staff will bring the matter back to the Commission for a public hearing on the question of whether the project is likely to have an effect on coastal resources that is substantially different from what was originally described and anticipated and, as a result, the project no longer appears consistent with the California Coastal Management Program.

The Commission retains its statutory ability to conclude that such changes have occurred and to request that the Corps take appropriate remedial action in such a situation, including submission of a supplemental consistency determination, pursuant to the re-opener provisions of 15 CFR §930.45 and §930.46 of the NOAA federal consistency regulations (cited previously in Section III.D.).

The Corps has committed to: (1) protect marine resources during dam removal activities; (2) incorporate marine resource protection into the final design of the restoration of a more natural sediment transport regime on Malibu Creek; (3) implement monitoring and adaptive management measures; (4) submit to the Executive Director final project design and resource protection and mitigation plans; and (5) submit a supplemental consistency determination should the project change (or should new or different effects on marine resources be identified) between now and the expected start of construction in 2025. Given these commitments, marine resources and biological productivity in the project area will be maintained and restored, and project mitigation measures regarding sediment suitability, nearshore placement area, and monitoring will serve to minimize potential adverse environmental effects arising from the project. Therefore, the Commission finds the proposed project consistent with the marine resource protection policies of the Coastal Act (Sections 30230, 30231, and 30233).

G. SAND SUPPLY

Coastal Act Section 30233 states in part:

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.

...

(d) Erosion control and flood control facilities constructed on watercourses can impede the movement of sediment and nutrients that would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for these purposes are the method of placement, time of year of placement, and sensitivity of the placement area.

The Corps reports that a deficit of sand to the shoreline at the mouth of Malibu Creek occurred during the time period after construction of Rindge Dam in 1926 and the mid-1940s when the reservoir was essentially filled with sediment up to crest of the dam. Sediments impounded by Rindge Dam would have naturally washed out to the ocean, with sands and cobbles entering the littoral zone and ultimately drifting predominantly downcoast to nourish beaches between Malibu and Santa Monica. The surface of the impounded reservoir is now a series of large gravel bars with Malibu Creek meandering through them to the spillway and dam crest where, depending on flow volumes, water and sediment cascade over the 100-foot-tall barrier into a plunge pool and continue downstream to the Pacific Ocean. The *DIFR/EIS/EIR* describes the impounded sediment characteristics (**Exhibits 6 and 9**), noting that the former Rindge Dam reservoir is entirely full of sediment and that the surface is a series of gravel bars with Malibu Creek meandering through them. Approximately 278,000 cu.yds. of sandy sediments are estimated to be retrievable out of the estimated 780,000 cu.yds. of sediment impounded behind the dam. The sand-dominant unit is overlain by a gravel-dominant layer and underlain by a silt-dominant layer. Pre-reservoir alluvium is not present in large quantities and is proposed to be left in place for natural riparian and stream bottom substrate.

Excavation and nearshore placement of sandy sediments would occur over a three-year period during the dry seasons. The Corps proposes to return the trapped sandy sediments to nearshore waters downcoast of the Malibu Pier, where the sediments would have naturally ended up absent Rindge Dam. The *DIFR/EIS/EIR* states that the project includes trucking the sandy sediments directly from the Rindge Dam impounded reservoir site along Malibu Canyon Road, Las Virgenes Road, and U.S. Highway 101 to barges located at the Ventura Harbor. The 1,500 cu.yd. capacity barges (dump scows) would transport the material via tugboat downcoast and place the

sands in the nearshore area east of Malibu Pier in a location that does not adversely affect submerged aquatic vegetation. The sands will be placed landward of the depth of closure (an approximate water depth of 23 feet) allowing the sands to eventually move shoreward.

As noted earlier in this report in Section III.F, the sediments proposed for nearshore placement have been tested and preliminarily determined to be physically and chemically suitable for placement. However, the Corps will implement additional physical and chemical sediment testing prior to the start of excavation and will continue testing throughout excavation of the impounded sediment reservoir in order to ensure continued suitability for nearshore placement. In addition, and as noted previously, sediment placement has been designed to avoid sensitive habitat areas in nearshore waters and to be placed in the zone of closure to maximize retention of sands along the shoreline. After completion of project construction, Malibu Creek would return to a more natural flow regime through Malibu Canyon. While the volume of sediments eventually reaching the ocean after project completion would essentially be the same as current volumes, the elimination of the dam and impounded sediment reservoir will provide for winter storm and runoff events to more naturally transport sediments from the Malibu Creek watershed to the ocean and shoreline.

The consistency determination acknowledges that the restoration project's required sediment analysis and suitability determinations will not be completed until the project enters the future Pre-Construction Engineering and Design phase of development. The Corps has committed to work with the DMMT and the Executive Director to obtain concurrence with physical and chemical sediment suitability determinations prior to the start of any construction activity. Should the Executive Director identify shortcomings with the determinations regarding suitability of sediment for nearshore placement, and if the Corps and the Executive Director are unable to resolve any disagreements over the determinations, staff will bring the matter back to the Commission for a public hearing on the question of whether the project is likely to have an effect on coastal resources that is substantially different from what was originally described and anticipated and, as a result, the project no longer appears consistent with the California Coastal Management Program.

The Commission retains its statutory ability to conclude that such changes have occurred and to request that the Corps take appropriate remedial action in such a situation, including submission of a supplemental consistency determination, pursuant to the re-opener provisions of 15 CFR §930.45 and §930.46 of the NOAA federal consistency regulations (cited previously in Section III.D.).

Sections 30233(b) and (d) require that nearshore disposal of sediments must be suitable for such a use, must avoid significant disruption to marine habitats, and must be placed into suitable longshore current systems. The Corps has committed to: (1) protect marine resources during nearshore placement of clean sandy sediments; (2) implement monitoring and adaptive management measures for all elements of the project, including sediment placement in nearshore waters; (3) submit to the Executive Director final project design and resource protection and mitigation plans; and (4) submit a supplemental consistency determination should the project change (or should new or different project effects on sand supply be identified) between now and the expected start of construction in 2025. Given these commitments, clean sands currently

trapped behind Rindge Dam will be transported to nearshore waters. Sediment placement has been designed to avoid sensitive habitat areas and to be placed in the zone of closure to maximize retention of sands along the shoreline. Therefore, the Commission finds the proposed project consistent with the sand supply policies of the Coastal Act (Section 30233(b) and (d)).

H. PUBLIC ACCESS AND RECREATION

Coastal Act Section 30210 states:

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Coastal Act Section 30213 states in part:

Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

Coastal Act Section 30220 states:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Coastal Act Section 30223 states:

Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.

The project's two primary objectives, restoration of steelhead habitat in Malibu Creek and its tributaries and restoration of sediment supply to downcast beaches, are both consistent with the intent of these Coastal Act policies. Regarding recreational areas at and adjacent to the project area, the California Department of Parks and Recreation operates Malibu Creek State Park and Malibu Lagoon State Beach. While a large portion of the project area falls within the boundary of the State Park, including Rindge Dam and the impounded sediment area, the immediate vicinity surrounding this area contains no designated hiking trails or recreational areas due to limited accessibility, the steep terrain, and existing public safety restrictions at the dam and spillway.

The consistency determination examines unsanctioned public use in the dam and spillway area:

Sheriff's Overlook is closed to public access due to the potential use by people attempting to illegally access Rindge Dam and associated life safety concerns, as well as potential damage to structures and habitat. Within the immediate area

surrounding Rindge Dam there are no formal hiking trails and limited recreational use due to limited accessibility, although trespassing and illegal recreation does occur. Closure of this area during construction would have minimal or no impact on recreation resources as other portions of Malibu Creek State Park would remain open during construction. As a result of the closure, the project will not increase the use of existing recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated due to the existing limited usability of the area for recreational purposes. Upon completion of construction activities any debris or equipment located at Sheriff's Overlook would be cleared from the area. At the end of construction, the site will be used as a turnout for viewing the canyon, with interpretive signage about the dam and its historical significance. This site would be similar, but larger than, other existing turnouts along Malibu Canyon Road. All other existing turnout areas along Malibu Canyon Road would remain open throughout construction.

The *DIFR/EIS/EIR* examines the effects on recreation from nearshore placement of sediments:

Disposal of beach compatible material offshore utilizing a barge would avoid any use of the Malibu Pier parking area and beach, and would therefore avoid any temporary closures or potential recreational impacts at the location. The barge routes and exact offshore placement area would also avoid any impacts to prime surfing areas along Surfrider Beach and Malibu Point.

Sand will be placed in the nearshore zone downcast of Malibu Point. The net direction of sediment in this area is downcast to the east, and project sediment placement is not expected to interact with the surfing areas upcoast and adjacent to Surfrider Beach and Malibu Point. The *DIFR/EIS/EIR* states:

The shoreline change model shows some increased beach width near Malibu lagoon but will return to the normal levels by the end of the placement window. This increased beach width will not alter the waves at Malibu Point but may cause the waves to break slightly further offshore for a short period of time.

The consistency determination acknowledges that the restoration project's final design decisions, including interpretive facilities at Sheriff's Overlook, will not be completed until the project enters the future Pre-Construction Engineering and Design phase of development. Should the Executive Director identify shortcomings with the design of such facilities, and if the Corps and the Executive Director are unable to resolve any disagreements over these facilities, the matter will be brought before the Commission for a public hearing and Commission review. The Commission also notes that should the proposed nearshore placement of sediments from the Rindge Dam impounded reservoir become associated with adverse changes to surf breaks at Surfrider Beach and Malibu Point, the Executive Director and the Corps will work together to determine if there is a causal relationship between sediment placement and changes in surf breaks, and whether modifications to sediment placement would be necessary in order to protect this recreational activity. If resolution is not achieved, staff will bring the matter back to the Commission for a public hearing on the question of whether the project is likely to have an effect

on coastal resources that is substantially different from what was originally described and anticipated and, as a result, the project no longer appears consistent with the California Coastal Management Program.

The Commission retains its statutory ability to conclude that such changes have occurred and to request that the Corps take appropriate remedial action in such a situation, including submission of a supplemental consistency determination, pursuant to the re-opener provisions of 15 CFR §930.45 and §930.46 of the NOAA federal consistency regulations (cited previously in Section III.D.).

The Commission agrees that because there are no designated safe public access and recreation areas at Rindge Dam or the impounded sediment reservoir, the proposed dam and spillway removal and excavation of impounded sediments will not adversely affect public access or recreation at those locations. The Commission also agrees that (1) nearshore sediment disposal will not adversely affect public shoreline recreation but may lead to increased downcast beach widths and associated recreational benefits; (2) the Malibu Pier parking area and beach will not be closed; and (3) the barge routes will avoid impacts to prime surfing areas. In addition, the Corps has committed to: (1) ensure that surfing is not adversely affected by nearshore placement of sediments downcast of Malibu Pier; (2) implement monitoring and adaptive management measures for all elements of the project, including sediment placement in nearshore waters; (3) submit to the Executive Director final locations of nearshore disposal sites; and (4) submit a supplemental consistency determination should the project change (or should new or different effects on surfing or other shoreline recreational activities be identified) between now and the expected start of construction in 2025. These facts and commitments mean that the project will not adversely affect: (1) the achievement of maximum public access; (2) the protection of lower cost visitor and recreational facilities in the form of beaches, surfing spots, hiking trails, and viewing spots; (3) the protection of coastal areas suited for water-oriented recreational activities; again in the form of beaches and surfing spots; or (4) the reservation of upland areas suitable for coastal recreational uses. Therefore, the Commission finds the proposed project consistent with the public access and recreation policies of the Coastal Act (Sections 30210, 30213, 30220, and 30223).

I. HAZARDS

Coastal Act Section 30253 states:

New development shall do all of the following:

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.

(d) Minimize energy consumption and vehicle miles traveled.

(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses.

The project holds the potential to create two types of geologic hazards: slope instability during and after excavation of the impounded sediments behind Rindge Dam, and increased downstream flood risks after removal of the dam and impounded sediment. The *DIFR/EIS/EIR* addresses the slope stability issue:

The removal of the lateral force and vertical force loads now being maintained by the mass of the impounded sediment could potentially destabilize canyon walls (bedrock) surrounding the sediment basin as the sediment and dam are removed. Instability in the form of creep or sliding is a concern and could potentially be activated if existing slopes are undercut or are inadvertently loaded with fill.

The removal of the lateral force load from the dam arch could potentially destabilize canyon walls, which have to some extent been supported by the dam for nearly 100 years. No related slope stability exploration or study has been funded or undertaken. This evaluation will have to be done prior to the onset of sediment removal. Additional concern is stability of the canyon walls related to changes in groundwater characteristics. The bedrock under the impound area has been unnaturally saturated continuously (or intermittently) by groundwater at an elevation as much as 100 feet higher than would occur naturally (if the dam were not present). Ground water that remains within the ascending slopes has a destabilizing effect. Elevated pore pressures create a buoyant effect that reduces internal friction and hence the resisting forces within the lower portion of the slope. Elevated groundwater levels also reduce the strength of the clay material typically found along joint fractures and clay seams within the rock. The net effect is landsliding which is most likely to occur when groundwater levels are high and the excavation of impounded sediment has removed lateral support at the base of slope or toe. No related slope stability exploration or study of this potential condition has been funded or undertaken. This evaluation will have to be done prior to the onset of sediment removal.

In conjunction with the stability of the canyon slopes, retaining walls associated with Malibu Canyon Road and utility lines may be impacted by canyon slope instabilities [Exhibit 15]. If slope instabilities impact the retaining walls and/or utilities or cause failure of them, significant cost and schedule impacts would occur so that repairs can be made. The current configurations of the retaining walls and their foundations are currently unknown and would need to be evaluated at future stages. Utility lines and foundations are also unknown and would need to be

evaluated at future stages as well. This evaluation would be in conjunction with and along similar lines of investigation as those required for the canyon slopes.

Erosion and scour that may occur in localized parts of the canyon, after the dam and impounded sediment are removed could provide additional sources of slope and infrastructure instability.

The Corps states in the consistency determination that all necessary additional slope stability studies and evaluations will be undertaken during the future Pre-Construction Engineering and Design phase of the project. The results of these studies would outline the project design, safety, stabilization, and mitigation measures needed to ensure that the project does not adversely affect existing public infrastructure (e.g., Malibu Canyon Road) adjacent to the dam and impounded reservoir. Currently, however, the project only includes the following mitigation measures addressing potential slope stability hazards:

ER-1. Stabilization of Slopes. *Stabilization measures to the extent practical will be implemented to protect Malibu Canyon Road, and other areas as determined necessary from landslide and soil destabilization effects that may be produced by the proposed project as determined by a slope stability exploration and geotechnical evaluation to be conducted prior to project construction.*

ER-2. Implement Best Management Practices (BMPs). *Prior to construction the construction contractor shall prepare an erosion-control and spill response plan will be prepared and implemented to include erosion-control best-management practices during construction, including re-vegetation of disturbed areas, sloping the final impound surface at the end of each construction year, cutting the dam simultaneously with reducing impound elevations, construction of a cofferdam for control of flows, removal of the cofferdam during the winter season, dewatering sediments, diverting water around construction through pumping and/or piping, development of slope stability measures for groundwater saturation, construction ramp stability measures, and erosion-control measures at disposal sites.*

The Commission does not have sufficient information at this time to be able to fully determine whether these measures will adequately address the aforementioned slope stability hazards associated with the project. Regarding the potential destabilization of canyon walls from the removal of the dam and impounded sediment, and from changes in groundwater characteristics of the bedrock underneath the impounded sediment, the *DIFR/EIS/EIR* states:

No related slope stability exploration or study has been funded or undertaken. This evaluation will have to be done prior to the onset of sediment removal.

Regarding retaining walls that support Malibu Canyon Road and utility lines in the corridor, the *DIFR/EIS/EIR* states:

The current configurations of the retaining walls and their foundations are currently unknown and would need to be evaluated at future stages. Utility lines

and foundations are also unknown and would need to be evaluated at future stages as well. This evaluation would be in conjunction with and along similar lines of investigation as those required for the canyon slopes.

The Corps' mitigation measures, which call for future slope stability exploration and geotechnical evaluations, are themselves not a substitute for the documentation currently required to support a finding that the removal of the dam and impounded sediments will not lead to geologic hazards along the slopes above and adjacent to the immediate project area. Additional geotechnical evaluations of slope stability and any associated measures needed to prevent slope instability and failure will be needed before the Commission can finally conclude that the project would be consistent with the geologic hazard policy of the Coastal Act. The project is currently at the feasibility study stage of development, and the necessary geotechnical studies will not be undertaken and published until the future Pre-Construction Engineering and Design (PED) phase of the project is underway.

Therefore, the Commission determines that the project would be consistent with the geologic hazard policy by implementing the following procedure. As provided for in the subject consistency determination, the Corps will submit to the Commission future geotechnical reports developed during the project's Pre-Construction Engineering and Design phase. Those reports will: (1) evaluate slope stability hazards associated with the removal of Rindge Dam and its impounded sediment reservoir; (2) include any stabilization measures necessary to protect Malibu Canyon Road, utility lines, and other areas adjacent to the project area; and (3) conclude that the proposed project, including any required slope stabilization measures, will not create geologic hazards that would adversely affect existing public infrastructure in the project area. Upon receipt of those reports, the Executive Director will: (1) prepare a summary of the geotechnical reports for Commission review; (2) make a recommendation to the Commission as to whether the project, with any slope stabilization measures that are included in the geotechnical reports, remains consistent with the geologic hazard policies of the Coastal Act; (3) make a recommendation to the Commission as to whether a supplemental consistency determination is required from the Corps in order for the Commission to review new project elements (i.e., slope stabilization measures) not currently proposed in the subject consistency determination; and (4) schedule a public hearing for the Commission to review and act on such recommendations.

With this procedure for future Commission review of project geotechnical reports, and at this feasibility stage of project development, the Commission finds that construction of the proposed restoration project will include a procedure for Commission review and approval of slope stabilization measures that will ensure the project is implemented consistent with the geologic hazard policy of the Coastal Act.

Regarding potential downstream flooding impacts, the Corps identified the following constraint that limited the scope of project development:

Maintain the downstream baseline condition level of flood risk along lower reaches of Malibu Creek within the Serra Canyon residential community and businesses in the City of Malibu, avoiding potential for adverse flood-induced impacts associated with the consideration of upstream ecosystem restoration measures.

Certain developed areas in the City of Malibu downstream of Rindge Dam are currently subject to sporadic flooding events. During the initial phase of the project feasibility study, the Corps assumed that Rindge Dam was still accumulating sediment. However, further investigations and modeling confirmed that the dam had reached its storage capacity with the current volume of impounded sediment. As a result, during peak events the entire flow of Malibu Creek overtops the dam's crest and it transports sediment eroded from the watershed to downstream reaches of Malibu Creek and the ocean (**Exhibit 16**). During low-flow regimes, small volumes of sediment are collected across the surface of the impounded reservoir until larger storm events mobilize and transport these sediments over the dam and downstream to the ocean.

The *DIFR/EIS/EIR* states:

There are flood concerns along lower Malibu Creek even under current conditions. Several residential and commercial areas downstream of the canyon mouth are at risk of flooding during events more frequent than the 1% ACE [annual chance exceedance] event. Significant deposition would be expected in these reaches even if the dam is not removed which will increase the flood risk. Up to 12 ft of deposition in some locations could be expected in the lower reaches over the next 50 years.

...

Subsequent to the hydraulic analyses of the initial array of alternatives, the PDT [Project Delivery Team] reviewed the results and concluded there was a significant flood risk downstream even under the No Action alternative. Therefore, natural transport was not considered a viable alternative because it would only exacerbate the downstream flood risks. Therefore, it was concluded that the TSP [Tentatively Selected Plan] should be based on mechanical removal of sediments.

The *DIFR/EIS/EIR* addresses the potential for increased sediment deposition downstream of Rindge Dam during and subsequent to the proposed removal of the dam and impounded sediments:

The sediment transport analysis completed for the project indicates a small potential for induced sediment deposition, for Alternative 2 in comparison to Alternative 1 [the without-project or No Action alternative], downstream of the Dam. After 10 yrs, in Malibu Lagoon (Reaches 1 and 2a), stream deposition would average 2.5 to 4.8 ft, in comparison to 2.4 to 4.4 ft in the without-project condition. Sediment will continue to be deposited at the mouth of the creek and within the lagoon, as it would under the No Action scenario. No additional sediment removal, beyond what is required in the no action scenario, is anticipated. However, maintenance requirements will be further evaluated during PED.

In Reach 2b, just upstream of Malibu Lagoon, 10-yr deposition would average 5.1 ft, in comparison to 4.1 ft for the without-project condition. Most reaches of Malibu Creek show a similar trend over the 50-yr period of simulation, with less than a

foot difference in bed elevation between Alternative 2a and Alternative 1 in all reaches except Reach 5, which is immediately downstream of the Dam, at 50 yrs (Appendix B has more detailed description of stream deposition). Sediment deposition can result in shifting and destabilized stream channel morphology that could adversely affect adjacent areas and property through erosion and widening the stream channel. Sediment transport simulation shows the ultimate bank-full width/depth ratio of Malibu Creek for Alternative 2 for to be within 10% of the without-project description.

The *DIFR/EIS/EIR* also examined the impact of the proposed project on downstream flood risk, compared to the risk associated with the No Action alternative (i.e., leaving the dam in place), using simulated streambed elevations. The report found that in Malibu Creek segments downstream of the canyon mouth, where commercial and residential areas are located, the modeled increases in streambed elevation are very small at most locations (less than 0.3 ft), with a maximum increase of 1.0 ft. The associated modeled increases in water surface elevation are less, with a maximum increase of 0.7 ft. The report concludes that even with the simulated increases in water surface elevation associated with the proposed project, there is no discernable increase in the 100-year floodplain boundary over that which exists by leaving the dam in place (**Exhibit 17**). The Corps concluded that the proposed project would not lead to increased downstream flood risks as compared to the existing level of flood risk with the dam in place.

The Commission agrees with the Corps' conclusion that the proposed project would not lead to: (1) a significant increase in slope stability hazards adjacent to the impounded sediment reservoir with implementation of slope stabilization measures; or (2) increased flood hazards downstream along Malibu Creek over the flood hazard that currently exists with the dam in place. The proposed project includes the incremental removal of the dam and impounded sediments over a seven-year period. The multi-year undertaking allows the Corps to monitor the stability of slopes adjacent to the impounded reservoir, monitor the downstream effects of dam and sediment removal, and make adjustments to the project and/or implement flood control measures should unanticipated project effects require such measures. In addition, the Corps notes that the existing level of slope stability analysis and hydraulic and sediment modeling for the proposed project is commensurate with the current planning feasibility study, and that additional modeling and analysis may be required during the future Pre-Construction Engineering and Design phase of the project.

Should future modeling results indicate that the project would lead to significant increased slope stability and/or flood hazards, the Corps would need to submit a supplemental consistency determination to the Commission to address project modifications and/or additional mitigation measures required to bring the project into conformance with the hazards policies of the Coastal Act. If the Corps determines no supplemental consistency determination is warranted, it will still provide the Executive Director with the modeling results and analysis to support its determination. If agreement cannot be reached between the Corps and the Executive Director regarding the need for a supplemental consistency determination, staff will bring the matter back to the Commission for a public hearing on the question of whether the project is likely to have an effect on coastal resources that is substantially different from what was originally described and

anticipated and, as a result, the project no longer appears consistent with the California Coastal Management Program.

The Commission retains its statutory ability to conclude that such changes have occurred and to request that the Corps take appropriate remedial action in such a situation, including submission of a supplemental consistency determination, pursuant to the re-opener provisions of 15 CFR §930.45 and §930.46 of the NOAA federal consistency regulations (cited previously in Section III.D.).

The Corps' inclusion into the project of: (1) monitoring and adaptive management measures; (2) a commitment to coordinate with the Executive Director regarding any modifications to the project and its resource protection and mitigation measures that are developed during the Pre-Construction Engineering and Design phase of the project; and (3) a commitment to submit a supplemental consistency determination should the project change (or should new or different geologic or flood hazards be identified) between now and the expected start of construction in 2025, enable the Commission to find the proposed project consistent with the geologic and flood hazard policies of the Coastal Act (Section 30253).

J. CULTURAL RESOURCES

Coastal Act Section 30244 states:

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

The *DIFR/EIS/EIR* examines local prehistory and history to provide a context for analysis of potential project effects on cultural and archaeological resources:

The Santa Monica and Malibu coastal areas represent one of the most intensely studied archeological regions in the state of California. A century of formal and informal research has generated considerable information regarding the area's prehistoric cultural development (Baldwin 1996; Morrato 1984). Investigations of the native Chumash and Gabrielino/Tongva of the region have provided insight into the development of complex hunter-gatherer societies in coastal southern California.

Archeological data indicate that prehistoric occupation of the California south-central coast dates to at least 9,500 yrs before present (BP) (Erlandson and Colten 1991), with even earlier evidence from the Channel Islands, including a date from Santa Rosa Island of 13,000 BP (Ritsh 1999).

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The first account of European contact in the region was the 1542 Cabrillo expedition, which visited the "Pueblo de las Canoas," reportedly the village of Muwu near Point Mugu at the western end of the Santa Monica Mountains,

although some claim that it may also have been the village of Humaliwo at the mouth of Malibu Lagoon. In 1602, the Vizcaíno expedition was greeted by Chumash people in a canoe from Muwu, although the Europeans did not come ashore. The first land expedition, under Gaspar de Portolà traveled across southern California, staying at the village at Encino, and then proceeded north to the Santa Clara River, and then west toward Saticoy. Their return route followed roughly the modern route of Highway 101, through the interior of the western Santa Monica Mountains. Several additional expeditions in the late 1700s provided accounts of the region (King 2009:7-9).

The San Buenaventura Mission was established at Ventura in 1782, followed by the San Fernando Mission in 1797. The missions recruited converts and workers from nearby village sites, and much of the native population of the Santa Monica Mountains was brought into one of the two missions as evidenced by the baptismal records which documented village names and kinship ties. The establishment of the missions drastically altered the existing social organization of the California Native Americans. As neophytes brought into the mission system, they were transformed from hunters and gatherers into agricultural laborers and exposed to diseases to which they had no resistance. By the end of the Mission Period in 1834, the Native American population had been decimated by disease and declining birthrates. Population loss as a result of disease and economic deprivation continued into the next century.

The Corps reports that excavation of the impounded sediments behind Rindge Dam and construction activities at the Sheriff's Overlook site along Malibu Canyon Road hold the potential to affect archaeological resources associated with the Chumash and Gabrielino/Tongva people. As a result, the project includes the following resource protection and mitigation measures:

CR-1: Archaeological Monitoring of Earth Moving Activities at Rindge Reservoir. *Because the reservoir behind Rindge Dam is filled with 780,000 cy in sediments, it is unknown whether archaeological sites were buried during sedimentation. Therefore, a qualified archaeologist and/or Native American monitor shall monitor earth removal activities as needed where the native stratigraphy (i.e. along the canyon walls and bottom) becomes exposed in order to locate, record and assess impacts to any buried archaeological resources. As the project intent is solely to remove sediments built up since the dam was constructed, no further excavation should be required once the original topography is reached. Therefore, implementation of this archaeological monitoring requirement would reduce any potential impacts to unknown archaeological deposits to a less than significant level.*

CR-4: Incorporation of Interpretive Exhibits and Restoration of the Sheriff's Honor Camp site. *Following project completion, the Sheriff's Honor Camp site will be restored as an interpretive road turnout with overlooks of the Rindge Dam*

site and Malibu Canyon. Interpretive exhibits explaining the historical significance of Rindge Dam and the historic and prehistoric significance of the Malibu Canyon area will be developed and installed in consultation with C DPR interpretive and cultural resource staff. A qualified archaeologist will monitor construction of the interpretive overlook in order to ensure that there are no impacts to historic properties.

The consistency determination also documents the consultation the Corps has undertaken with Native American tribes and individuals since 2013:

Section 106 of the NHPA, the American Indian Religious Freedom Act of 1978 (Public Law 95-341; 42 U.S.C. 1966), and Executive Order 13175 of November 6, 2000 (Consultation and Coordination with Indian Tribal Governments), all require that government agencies consult with Native Americans to determine their interests in federal projects.

On May 6, 2013, the USACE requested via fax, a list of Native American groups and individuals associated with the APE vicinity from the NAHC. The NAHC provided the list via emailed letter on May 7, 2013. The letter provided by the NAHC also included the results of a Sacred Lands File search conducted for the APE and indicated that Native American cultural resources have not been identified within the APE. A revised list was requested and received via email on March 29, 2016. The 2016 letter provided by the NAHC noted that sites on the Malibu Beach quadrangle may be impacted by the project. A California Assembly Bill 52 (AB52) notification was also provided by C DPR for one Tribe.

On April 13, 2016, the USACE mailed a consultation meeting invitation for a meeting on April 29, 2016, to the Native American groups and individuals indicated by the NAHC. C DPR called individuals on the list on April 22, 2016 to provide a reminder about the meeting. The USACE made follow-up calls and sent reminder emails on April 25 and April 27, 2016 regarding the meeting to everyone on the NAHC list.

An initial Tribal Consultation Meeting was held on April 29, 2016; representatives from the Santa Ynez Band of Chumash Indians, Wishtoyo Chumash Foundation, and the Tongva Ancestral Territorial Tribal Nation attended in person or via teleconference.

The Corps concluded in the consistency determination that based on the Native American consultation conducted to date, the Malibu Ecosystem Restoration Project area should be considered sensitive for Native American resources, particularly given the potential for discovery of artifacts within the impounded sediments. Consultation required under Section 106 of the National Historic Preservation Act, CEQA, and Corps of Engineers and California Department of Parks and Recreation tribal consultation policies is ongoing and will continue through the Pre-Construction Engineering and Design phase of the project. Should consultation determine that additional archaeological resource protection and/or mitigation measures are required, in part to

bring the project into conformance with the archaeological resource policies of the Coastal Act, the Corps will submit those measures to the Executive Director for review. If agreement cannot be reached regarding the adequacy of the additional resource protection measures, staff will bring the matter back to the Commission for a public hearing on the question of whether the project is likely to have an effect on coastal resources that is substantially different from what was originally described and anticipated and, as a result, the project no longer appears consistent with the California Coastal Management Program.

The Commission retains its statutory ability to conclude that such changes have occurred and to request that the Corps take appropriate remedial action in such a situation, including submission of a supplemental consistency determination, pursuant to the re-opener provisions of 15 CFR §930.45 and §930.46 of the NOAA federal consistency regulations (cited previously in Section III.D.).

In conclusion, the Corps' incorporation into the project of: (1) monitoring and adaptive management measures, in particular during the excavation of the impounded sediments; (2) a commitment to coordinate with the Executive Director regarding any modifications to the project and any archaeological resource protection and mitigation measures that are developed during the Pre-Construction Engineering Design phase of the project and/or during ongoing consultation with the State Historic Preservation Officer; and (3) a commitment to submit a supplemental consistency determination should the project change (or should new or different impacts to archaeological resources be identified) between now and the expected start of construction in 2025, enables the Commission to find the proposed project consistent with the archaeological resource policy of the Coastal Act (Section 30244).

SUBSTANTIVE FILE DOCUMENTS

1. CD-0006-17 (U.S. Army Corps of Engineers, Malibu Creek Ecosystem Restoration Project, Los Angeles and Ventura Counties).
2. Malibu Creek Ecosystem Restoration Study, Draft Integrated Feasibility Report (IFR) with Environmental Impact Statement/Environmental Impact Report (EIS/EIR), with Appendices A – Q, Los Angeles and Ventura Counties.
3. National Marine Fisheries Service letter to California Coastal Commission, January 17, 2018.
4. Biological Assessment and Section 7 Consultation for Malibu Creek Ecosystem Restoration Project, U.S. Army Corps of Engineers, September 2017.
5. Southern California Dredged Material Management Team, Final Meeting Minutes for February 27, 2013, and January 28, 2015, meetings.
6. CD-053-04 (U.S. Army Corps of Engineers, Removal of Matilija Dam, Ventura County).
7. Coastal Development Permit 4-07-098 (California Department of Parks and Recreation. Malibu Lagoon Restoration Project, Los Angeles County).