COASTAL CONSERVANCY

Staff Recommendation
May 19, 2011

SAN CLEMENTE DAM REMOVAL PROJECT: IMPLEMENTATION PHASE

Project No. 07-004-03
Project Manager: Trish Chapman and Laura Engeman

RECOMMENDED ACTION: Consideration and possible Conservancy authorization to disburse up to $4.5 million to the Ocean Protection Council to fund implementation of the San Clemente Dam Removal Project in Monterey County.

LOCATION: Carmel River Watershed, Monterey County

PROGRAM CATEGORY: Integrated Marine and Coastal Resources Protection

---

EXHIBITS

Exhibit 1: Project Location and Site Map

Exhibit 2: June 5, 2008 Staff Recommendation

Exhibit 3: San Clemente Dam Seismic Safety Project Final Environmental Impact Report/Environmental Impact Statement (Volume 1, Volume 2, Volume 3, Volume 4)

Exhibit 4: Notice of Determination, including:
Exhibit B: Findings on Environmental Impacts
Exhibit C: Statement of Overriding Considerations
Exhibit D: Mitigation, Monitoring and Reporting Program.

Exhibit 5: Addendum to Final EIR/EIS

Exhibit 6: Project Letters

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Section 31220 of the Public Resources Code:

"The State Coastal Conservancy hereby authorizes the disbursement of up to four million five hundred thousand dollars ($4,500,000) to the Ocean Protection Council (OPC) to fund implementation of the San Clemente Dam Removal Project, subject to the following conditions:

1. The combined contribution of Conservancy funds from this authorization and the June 5, 2008 authorization for the San Clemente Dam Removal Project, attached to the staff recommendation as Exhibit 2, shall not exceed seven million dollars ($7,000,000).

2. No funds from this authorization shall be disbursed until the Conservancy has authorized the Executive Officer of the Coastal Conservancy (Executive Officer) to execute a project implementation agreement with California American Water for the San Clemente Dam Removal Project and that agreement has been executed.

3. The OPC shall ensure that the project is carried out in compliance with all project components and mitigation measures that are identified in the Final Environmental Impact Report/ Environmental Impact Statement dated January 2008 ("FEIR/EIS") as necessary to avoid or mitigate the significant environmental effects of the project and in accordance with the implementation agreement, and shall provide the Conservancy with copies of all mitigation monitoring and reporting documentation required by the Mitigation Monitoring and Reporting Program adopted by the Department of Water Resources on March 11, 2011 (Exhibit D to Exhibit 4, attached to the accompanying staff recommendation)."

Staff further recommends that the Conservancy adopt the following findings:

"As discussed in greater detail in the accompanying staff recommendation and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed project is consistent with Chapter 5.5 of Division 21 of the California Public Resources Code (Section 31220), regarding integrated marine and coastal resource enhancement.

2. The proposed project is consistent with applicable local watershed management plans and water quality control plans.

3. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.

4. The Conservancy has independently reviewed and considered the information contained in the FEIR/EIS that was certified by the California Department of Water Resources (DWR) on December 31, 2007 pursuant to the California Environmental Quality Act ("CEQA"), attached as Exhibit 3 to the accompanying staff recommendation and the information contained in the Addendum to the FEIR/EIS, dated May 19, 2011, attached as Exhibit 5 to the accompanying staff recommendation.

5. The FEIR/EIS identifies 63 significant environmental effects of the proposed project; of these, 37 effects have been avoided or reduced to less than significant through mitigation measures, 23 are unavoidable effects that cannot be mitigated to less than significant but have been mitigated to the extent feasible and 3 are unavoidable effects for which no feasible mitigation measures exist. The Conservancy hereby incorporates into its findings the "Findings on Environmental Impacts" adopted by the Department of Water Resources on March 11, 2011(Exhibit B to Exhibit 4, attached to the accompanying staff recommendation).

6. The public benefits of the proposed project outweigh the significant unavoidable effects:

    a) The Conservancy has reviewed the Final EIR/EIS, the Addendum dated April 15, 2011 and DWR's Findings on Environmental Impacts and concludes that there are no feasible alternatives that can reduce all potentially significant and unavoidable impacts to a less than significant level and that all feasible alternatives have some significant and unavoidable impacts.

b) The proposed project meets numerous objectives of Chapter 5.5 of Division 21 of the Public Resources Code and will help implement the Conservancy's Strategic Plan goals and objectives, specifically Goal 5, Objective 5B (restoration of significant coastal habitats), and Goal 6, Objectives B (restoration of coastal watersheds), D (removal of fish passage barriers) and G (sediment management).

c) The proposed project cannot be implemented without resulting in the significant and unavoidable environmental effects described in the Final EIR/EIS and summarized in the accompanying staff recommendation and in DWR's Findings on Environmental Impacts. As discussed in the accompanying staff recommendation, all potentially significant impacts have mitigation measures associated with them, except for Hydrology and Water Resources impact WR-4b (increase in the frequency of high suspended sediment concentrations), Water Quality impact WQ-10 (reservoir sediment excavation), and Fisheries impact FI-13 (stream sediment removal, storage, and associated restoration). Of these three impacts that cannot be mitigated to any extent, only one is a long-term effect: the increase in the frequency of high suspended sediment concentration, and that effect is expected to exceed baseline on 11 occasions in 41 years. The 23 potentially significant impacts that cannot be reduced to a less than significant level by incorporated mitigation measures all have associated mitigation measures that will at least lessen the overall impact, although not to less than significant levels. Further, of these 23 effects, only four are long-term: the loss of brushland and riparian habitat due to the excavation of the bypass channel and three effects relating to the loss of historical structures.

d) The proposed project provides the following public benefits:

    1) Protects public safety by removing the dam.

    2) Significantly improves fish passage by removing the dam and rerouting the Carmel River to provide unobstructed flow from the mouth of the Carmel River to Los Padres Dam above the site of the San Clemente Dam.

    3) Restores the ecological integrity of the Carmel River up- and down-stream of the San Clemente Dam site, thereby helping to restore river functions and habitats.

    4) Protects 928 acres for watershed conservation and compatible public access.

e) Thus, the Conservancy has balanced the economic, legal, social, technological, and other benefits of the project and finds that the benefits of the project outweigh its unavoidable adverse environmental effects."

PROJECT SUMMARY:

Staff is recommending the Conservancy authorize a $4,500,000 grant to the Ocean Protection Council to fund implementation of the San Clemente Dam Removal Project on the Carmel River in Monterey County (the "project"), subject to additional future authorizations. Staff is also recommending that the Conservancy make specific findings regarding the project's potential environmental impacts and adopt a statement of overriding considerations. Staff is recommending the Conservancy authorize funding for this project at this time because a demonstration of significant project commitment by the Conservancy is necessary for securing

additional commitments from California American Water (CAW), the California Public Utilities Commission (CPUC), and potential federal, state, and private funders.

Staff anticipates that prior to the disbursement of Conservancy funds, additional approval will be required to do the following:

- **Execute Project Implementation Agreement** – Conservancy staff are negotiating an agreement that will specify the roles and responsibilities of the Conservancy and CAW in regards to implementation, including funding, of the proposed project. The Executive Officer will seek additional Conservancy authorization before entering into such an agreement.
- **Serve as Clearinghouse for Public Funding** – The Conservancy, with the assistance of the National Marine Fisheries Service, is securing funding from federal, state, and private sources (the "public funding") to enable CAW to carry out the project. The Conservancy intends to function as the clearinghouse for this public funding, which could be up to $35 million. The Conservancy will accept, disburse, track and report on the public funding. Additional Conservancy authorization will be required for the Conservancy to disburse through its grant to the OPC the funds received from other agencies.
- **Approve OPC Grant to CAW** – Following Conservancy approval of this proposed grant to the OPC, OPC staff anticipate recommending that the OPC approve a grant to CAW to carry out the project. Conservancy funds would be granted to the OPC because, unlike the OPC, the Conservancy does not have authority to grant funds directly to a private company. Removal of San Clemente Dam is identified as a priority action in the OPC's Strategic Plan. However, Assemblymember Bill Monning has introduced bill AB 565 which would give the Conservancy the authority to provide a grant directly to CAW for this project. If this bill is enacted, the Conservancy will providing funding directly to CAW rather than to the OPC.

San Clemente Dam is owned and operated by CAW and no longer serves a water supply function. In the 1990s, the Department of Water Resources (DWR) Division of the Safety of Dams (DSOD), determined the dam could fail in the event of a maximum flood or earthquake, thereby posing a significant threat to downstream lives and property. CAW determined that the least-cost alternative to resolving the dam safety issue would be to strengthen the dam for an estimated cost of $49 million.

San Clemente Dam is also a substantial barrier to the migration of steelhead trout. The National Marine Fisheries Service (NMFS) has consistently ranked the Carmel River as the most viable watershed for recovery of the South-Central California Coast steelhead Distinct Population Segment[1] (S-CCC DPS), a federally-threatened subspecies. Between 1999 and 2009, steelhead counts at San Clemente Dam's fish ladder ranged from approximately 95 to 804 fish per year, whereas historic returns to the river have been estimated to be as high as 12,000 to 20,000 adult fish. NMFS has stated that restoration of the Carmel River steelhead population is critical to the

[1] The National Marine Fisheries Service and the U.S. Fish and Wildlife Service have adopted a joint policy for when a group of vertebrates will be considered a Distinct Population Segment (DPS) and thus a "species" under the Federal Endangered Species Act. Per this policy, for a group of vertebrates to be a DPS, it must be discrete from other populations as a consequence of physical, physiological, ecological, and behavioral factors; and it must be significant to its taxon.

overall recovery of the S-CCC DPS. Removing San Clemente Dam would provide steelhead with unimpaired access to over 25 miles of spawning and rearing habitat and would reduce the stress on fish traveling further upstream beyond Los Padres Dam where there is over 18 miles of additional spawning and rearing habitat.

The dam removal project presents a unique opportunity to permanently solve the public safety threat of dam failure, enhance the biological connectivity of the river corridor, restore the natural sediment supply to the downstream watershed and beach, and restore an important steelhead run. In addition, the project is expected to protect and provide recreation on approximately 900 acres of watershed lands. However, the estimated cost of the dam removal project is $83 million, $34 million more than the dam strengthening project. CAW has an obligation to its ratepayers to resolve the safety issue at the lowest cost possible. Therefore, outside funding is needed for CAW to address the seismic safety concerns in a manner that significantly benefits the environment, i.e., to undertake the dam removal project rather than the dam strengthening project.

Carmel River Reroute and Dam Removal Project

San Clemente Dam is located just downstream of the confluence of the Carmel River and San Clemente Creek. Upstream of the dam, the river and creek run parallel for about one-half mile, separated only by a narrow peninsula (Exhibit 1b). Most of the sediment that has accumulated behind the dam is located on the Carmel River side of the reservoir. These conditions offer a unique opportunity to remove the dam while minimizing the volume of accumulated sediment that must be excavated and moved.

To accomplish this, a half-mile reach of the Carmel River will be permanently bypassed and used as a sediment disposal area. To bypass the reach, a 450-foot-long channel will be cut through the narrow peninsula thereby connecting the Carmel River to San Clemente Creek, approximately 3,000 feet upstream of the dam (Exhibit 1b). The rock excavated from the bypass channel will be used to construct a dike that will permanently reroute the Carmel River into the San Clemente Creek drainage and seal off the upstream end of the abandoned reservoir. The accumulated sediment in the San Clemente Creek arm of the reservoir will be excavated and relocated to the abandoned reach of the Carmel River, and the sediment in the abandoned Carmel River arm will be re-graded and stabilized in place. The half-mile reach of San Clemente Creek between the dam and the bypass channel will be restored to its 1921 elevation, and a series of step-pools will be created to aid fish passage. When all project elements are in place, the dam will be removed.

Land Transfer

Following completion of the project, CAW will donate 928 acres of the project area for preservation of existing natural conditions, watershed conservation and creation of a public park that is compatible with resource conservation. CAW is currently in negotiations with the U.S. Bureau of Land Management (BLM), which has indicated its interest in accepting the property subject to satisfaction of certain conditions. The property connects with Garland Regional Park to the west and the San Clemente Open Space to the east, both of which are owned and managed by the Monterey Peninsula Regional Park District (MPRPD). If combined the three properties would result in over 5400 acres of contiguous open space.

Implementation Strategy

The dam removal project will be implemented by CAW with assistance from the Conservancy and NMFS. Assistance will include the following:

- CAW and SCC are jointly funding the design and permitting for the project (subject to the Conservancy's June 5, 2008 authorization) with technical assistance provided by NMFS;
- SCC and NMFS are leading the effort to secure up to $35 million in additional funds needed to undertake the project; and
- SCC, NMFS and CAW are working together to address other issues required for project implementation.

Schedule

Due to the safety hazard posed by San Clemente Dam, expeditious removal of the dam is a high priority for all involved. Key components of the project schedule are outlined below:

Major Milestone	**Schedule**
Secure additional funding	July 2010 – July 2012
Complete 30% design	October 2010 - Dec 2011
Secure project permits and approvals	January 2011 – March 2013
Contractor procurement	July 2011 – July 2012
Final Conservancy and OPC Approval	Spring 2012
Final design	August 2012 – January 2013
Construction	April 2013 – November 2015

Site Description: San Clemente Dam is a 106-foot-high concrete arch dam located approximately 18.5 miles from the Pacific Ocean on the Carmel River. The dam is located just downstream of the confluence of the Carmel River and San Clemente Creek. When the dam was constructed in 1921, it had a reservoir storage capacity of approximately 1,425 acre-feet. Today the reservoir has been filled by more than 2.5 million cubic yards of sediment, leaving a reservoir storage capacity of approximately 70 acre-feet. Several years ago CAW stopped using the dam as a diversion point for water withdrawals from the river, and now the dam no longer provides any services. The dam is owned and operated by CAW, an investor-owned water utility that is regulated by the California Public Utilities Commission (PUC). CAW provides water service to the Monterey Peninsula. The land adjacent to the dam and reservoir is largely undeveloped, consisting of steep slopes covered with dense chaparral and oak woodland. The nearest residential development, the Sleepy Hollow subdivision, is located approximately one mile downstream from the dam.

Project History: In 1992, the California Department of Water Resources (DWR) Division of the Safety of Dams (DSOD) determined that San Clemente Dam could potentially fail in the event of either the maximum credible earthquake or probable maximum flood. As a result, DSOD instructed CAW to develop a project to address this safety issue. CAW funded multiple studies which evaluated options for strengthening, notching, or removing the dam. In August 2000, the Conservancy authorized a $50,000 grant to the Institute for Fisheries Resources (IFR) to evaluate

additional alternatives for modifying or removing the dam in order to improve fish passage and habitat conditions. This grant was augmented in 2001 to a total of $115,300. IFR evaluated several options for removing the sediment accumulated behind the dam. All of these options were eventually deemed infeasible due to downstream flooding, habitat, and/or transportation-related impacts.

Ultimately, CAW submitted a proposal to strengthen the dam in place. This decision was driven primarily by the fact that it was the most economical way to address the safety issues. In 2006, the Department of Water Resources released the Draft EIR/EIS for the San Clemente Dam seismic safety project which evaluated CAW's proposed project and three alternatives: notching the dam, and two dam removal options. Of these alternatives, the Carmel River Reroute and San Clemente Dam Removal Project (i.e., the project) was deemed by state and federal resource agencies to be the most feasible of the dam removal alternatives.

In 2007, Coastal Conservancy staff, in cooperation with NMFS and the Planning and Conservation League Foundation (PCLF) began working with CAW to develop an approach where public agencies would assist CAW to remove the dam. In May 2007, the Conservancy authorized $500,000 for technical studies to further evaluate the feasibility of the Reroute and Removal project. These studies culminated in the conclusion that the project is feasible. In June 2008, the Conservancy authorized an additional $3,000,000 of Conservancy's funds, to be matched by CAW funds, for design and permitting of the project.

In December 2008, work was halted on the project due to the State fiscal crisis, and in February 2009, CAW withdrew from participation in the dam removal project and returned to pursuing the dam strengthening project. In July 2009, CAW resumed consideration of the dam removal project and undertook additional feasibility studies in cooperation with the Conservancy. Based on the favorable outcome of these studies, CAW submitted applications to remove the dam to DSOD and the California Public Utilities Commission in January 2010 and September 2010, respectively. The Conservancy and CAW resumed cooperative work on the design and permitting of the project in November 2010.

PROJECT FINANCING

Project Implementation

Coastal Conservancy	$4,500,000
California American Water	$46,000,000
Wildlife Conservation Board (requested)	$7,000,000
California Resources Agency	$4,000,000
Coastal Impact Assistance Fund	$750,000
NOAA's Open Rivers Initiative (requested)	$2,500,000
California Department of Fish and Game (requested)	$7,000,000
To be determined	5,250,000
Subtotal project implementation costs	*$77,000,000*

Previously Authorized Project Planning

Coastal Conservancy	$2,500,000
NOAA's Open Rivers Initiative	$500,000
California American Water	$3,000,000

Subtotal project planning costs	*$6,000,000*
Net Conservancy Contribution	**$7,000,000**
Total Project Costs	**83,000,000**

The proposed authorization would provide a Conservancy contribution of up to $4.5 million for implementation of the San Clemente Dam Removal Project. As discussed in the Project History section, in June 2008, the Conservancy authorized up to $3 million in Conservancy funds for design and permitting work for the project. However, in July 2010, the Conservancy was awarded a $500,000 grant from NOAA's Open Rivers Initiative for design and permitting of the dam removal project. Therefore, the net Conservancy contribution is now expected to be $2,500,000 to design and permitting and $4,500,000 to project implementation for a total of $7 million in Conservancy funds.

The expected source of Conservancy funds for this project is an appropriation to the Conservancy from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84, Public Resources Code section 75001, et seq.). Proposition 84 authorizes the Conservancy's use of these funds for the purposes of protecting beaches, bays, coastal waters and coastal watersheds, including restoration of the natural habitat values of coastal waters and lands through projects undertaken pursuant to the Conservancy's enabling legislation (Division 21 of the Public Resources Code). Proposition 84 specifically allocates Conservancy funding for Monterey Bay and its watersheds, which is defined to include the Carmel River watershed. See Public Resources Code sections 75060(e) and 75072.5 The proposed project will restore the natural habitat values of coastal waters and lands by removing a major fish passage barrier on the Carmel River, and restoring river processes and the ecological connectivity of the river's aquatic and riparian habitats. The proposed project is consistent with the Conservancy's enabling legislation, as discussed in the "Consistency with Conservancy's enabling legislation" section below. The proposed authorization is thus consistent with the funding requirements of Proposition 84.

Proposition 84 also requires that for potential projects that include acquisition or restoration for the purpose of natural resources protection, the Conservancy give priority to potential projects that meet one or more of the criteria specified in Section 75071. The proposed project satisfies the following specified criteria: 1) Watershed protection – the project will contribute to long-term watershed protection by restoring the ecological processes and connectivity of the Carmel River; and 2) Non-state matching contribution – CAW will provide approximately 59% of the project costs (planning and implementation). In addition, $1.25 million of federal funding has been secured, and significantly more is being sought.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

This project would be undertaken pursuant to the Conservancy's enabling legislation, Division 21 of the Public Resources Code; in particular Chapter 5.5 (Public Resources Code Section 31220), regarding integrated coastal and marine resources protection.

Section 31220(a) of the PRC authorizes the Conservancy to undertake coastal watershed projects that meet one or more criteria of Section 31220(b). Consistent with Section 31220(b), the

proposed project will achieve the following objectives: 2) protect and restore fish and wildlife habitat within coastal and marine waters and coastal watersheds; 3) reduce threats to coastal and marine fish and wildlife; 4) reduce unnatural erosion and sedimentation of coastal watersheds or contribute to the reestablishment of natural erosion and sediment cycles; and 6) acquire, protect, and restore coastal wetlands, riparian areas, floodplains, and other sensitive watershed lands, including watershed lands draining to sensitive coastal or marine areas. Consistent with Section 31220(a), Conservancy staff has consulted with the State Water Quality Control Board in developing this project.

As Section 31220(c) requires, the proposed project is consistent with local and state watershed plans. This is discussed in detail below under "Consistency With Local Watershed Management Plan/State Water Quality Control Plan." Section 31220(c) also requires that projects include a monitoring and evaluation component. Extensive monitoring and evaluation will be integrated into the design of the dam removal project.

CONSISTENCY WITH CONSERVANCY'S 2007 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 5 Objective B**, the proposed project will facilitate restoration of watershed processes in the Carmel River and improve access to over 43 miles of spawning and rearing habitat for steelhead trout. Removal of San Clemente Dam will also restore the aquatic and riparian habitat corridor along the river.

Consistent with **Goal 6 Objective B and D**, the proposed project is part of a comprehensive effort to restore the Carmel River watershed. Removing the dam will provide increased access to spawning and rearing habitat for steelhead trout, restore the natural sediment supply to downstream reaches, and increase the biological connectivity of the river.

Consistent with **Goal 6 Objective G**, the proposed project will remove a barrier to natural sediment transport in the river, helping re-establish sediment supply to Carmel River Beach.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines, last updated on June 4, 2009, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Support of the public:** Removal of San Clemente Dam has broad support from federal, state and local agencies, environmental and community groups, including Senator Barbara Boxer, Congressman Sam Farr, Assemblymember William Monning, County Supervisor Dave

Potter, NMFS, Trout Unlimited, PCLF, Caltrout, the Carmel River Steelhead Association, and the Carmel River Watershed Conservancy. Support letters are provided in Exhibit 6.

4. **Location:** The project area is located on the Carmel River approximately 18.5 miles from the ocean. The San Clemente Dam Removal Project will benefit coastal resources by improving access to spawning and rearing habitat for steelhead trout, an anadromous fish that spends part of its life in the ocean.
5. **Need:** The Coastal Conservancy was asked by the former Secretary of the California Natural Resources Agency to lead the State's effort to facilitate removal of the dam because it was determined that significant state leadership was necessary in order to successfully implement the project. The Conservancy's commitment of staff resources and funding is critical for completing the project.
6. **Greater-than-local interest:** Restoration of the Carmel River watershed is critical to the recovery of the federally-threatened South-Central California Coast steelhead population. Removal of San Clemente Dam will significantly increase access to spawning and rearing habitat and thus is an important step in the recovery process.
7. **Sea level rise vulnerability:** The project area is not located in an area vulnerable to sea level rise. By helping to restore natural sediment supply to the coast, the dam removal project will enhance the resiliency of the downstream coastal region to sea level rise.

Additional Criteria

8. **Urgency:** Due to the unsafe condition of the dam, DWR requires that remedial action be taken soon. If the dam cannot be removed expeditiously, DWR will require CAW to proceed with buttressing the dam.
9. **Resolution of more than one issue**: Removal of San Clemente Dam will permanently resolve the public safety issue posed by the dam and will also improve access to habitat for steelhead trout and restore the natural sediment supply to the lower Carmel River and Carmel beach.
10. **Leverage**: See the "Project Financing" section above.
11. **Conflict resolution**: Efforts to address the safety issues at San Clemente Dam have been stalled for several years due to concerns that buttressing the dam would perpetuate significant impacts to the Carmel River ecosystem and specifically steelhead trout, but that removing the dam would be costly to CAW's ratepayers. The proposed project involves a public-private cooperative approach to removing the dam that resolves this conflict.
14. **Realization of prior Conservancy goals**: See "Project History" above."
16. **Cooperation**: The San Clemente Dam Removal Project is a cooperative effort of a private company, state and federal agencies, and several nonprofit organizations. It has the potential to demonstrate how cooperation between the public and private sectors can lead to an outcome that is fair and cost-effective for all involved and achieve greater public benefits than would result from any of the participants working alone through a regulatory solution.
17. **Vulnerability from climate change impacts other than sea level rise:** All critical components of the project objectives will be designed to a very high safety standard. This

will ensure that the design will be resilient even if the frequency and/or intensity of flood flows should increase as a result of climate change impacts.

18. **Minimization of greenhouse gas emissions:** The proposed project will incorporate best management practices to minimize greenhouse gas emissions, including but not limited to the following measures: reduce vehicle miles traveled through implementation of a Trip Reduction Plan for construction workers; maximize re-use of materials onsite, including the concrete debris from demolition of the dam and fish ladder, to minimize the transportation of materials to and from the site; utilize, to the maximum extent possible, state-certified construction equipment in the Portable Equipment Registration Program (PERP) which is pre-approved for use in any district by the California Air Resources Board

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

In the Carmel Area Land Use Plan of Monterey County's certified Local Coastal Program ("LCP"), policy 2.3.2 for Environmentally Sensitive Habitat states that "the environmentally sensitive habitats of the Carmel Coastal Segment are unique, limited and fragile resources of statewide significance, important to the enrichment of present and future generations of County residents and visitors; accordingly, they shall be protected, maintained and, where possible, enhanced and restored." The definition in the LCP of environmentally sensitive habitats includes habitat for rare and endangered species. The proposed project will facilitate improved access to spawning and rearing habitat for steelhead trout, a federally-listed endangered species. Thus, the proposed project is consistent with the LCP.

CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN/ STATE WATER QUALITY CONTROL PLAN:

Projects undertaken pursuant to Chapter 5.5 of Public Resources Code Division 21 (Section 31220) must be consistent with the following if available and relevant: Integrated Regional Watershed Management Programs (IRWMP); local watershed management plans; and water quality control plans, adopted by the state and regional water boards. The Monterey Peninsula IRWMP was completed in November 2007 and includes the Carmel River. Removal of San Clemente Dam is consistent with IRWMP Section 4.1 Environmental Enhancement goal to "preserve the environmental wealth and wellbeing of the Region's watersheds by taking advantage of opportunities to assess, restore and enhance natural resources of streams and watershed areas when developing water supply, water quality, and flood protection strategies." The project is also consistent with specific Environmental Enhancement objectives cited in Section 4.3 of the IRWMP that call for protecting and enhancing "sensitive species and their habitats in the Carmel River watershed" and identifying "opportunities to protect, enhance, or restore habitat in conjunction with water supply, water quality, or flood protection projects."

The Water Quality Control Plan for the Central Coastal Basin adopted by the Regional Water Quality Control Board in 1994 designates several beneficial use objectives for the Carmel River. The removal of San Clemente Dam will facilitate the restoration of fish and wildlife habitat thereby furthering the following designated beneficial uses for the Carmel River: cold fresh water habitat, wildlife habitat; rare, threatened or endangered species; migration of aquatic organisms; and spawning habitat (Table 2.1 of Basin Plan).

COMPLIANCE WITH CEQA:

On December 31, 2007, the California Department of Water Resources (DWR), the lead agency under the California Environmental Quality Act (CEQA) for the removal of San Clemente Dam, certified the Final Environmental Impact Report/Environmental Impact Statement for the San Clemente Dam Seismic Safety Project dated January 2008 (FEIR/EIS; Exhibit 3). The project is identified in the FEIR/EIS as "Alternative 3: Carmel River Reroute and San Clemente Dam Removal." On March 11, 2011, DWR approved the project. Due to the significant, unavoidable impacts of the project, DWR adopted a statement of overriding considerations (Exhibit C to Exhibit 4). The Conservancy has reviewed the FEIR/EIS and DWR's Findings on Environmental Impacts, and the Conservancy concurs with DWR's findings.

In addition, the Conservancy has prepared an addendum to the FEIR/EIS because the FEIR/EIR did not consider the proposed transfer of the project area to a public entity following completion of construction. The project area is proposed to be transferred for purposes of preserving the property in its existing natural condition and for use as a park that is compatible with preservation of natural resources. A management plan for the property has not been prepared yet. The proposed transfer of ownership of the project area is not expected to have a significant adverse effect on the environment.

The FEIR/EIS identifies potential significant effects from implementation of the project in the areas of Geology & Soils, Hydrology & Water Resources, Water Quality, Fisheries, Terrestrial Biology, Wetlands, Air Quality, Noise, Traffic & Circulation, Cultural Resources, and Recreation. These impacts are summarized in Table 2-1: Impacts and Mitigation Matrix for Proponent's Proposed Project and Alternatives of the FEIR/EIS (Exhibit 3, Volume 1, page 2-8).

Significant Effects that can be Mitigated to Less-Than-Significant

The majority of the potentially significant effects of the project identified in the FEIR/EIS can be mitigated to a less than significant level through design changes, construction management measures, and other mitigation measures. Many of these potential impacts are related to various sources of erosion which can lead to loss of vegetation, increased turbidity, decreased habitat quality for fish and other aquatic species, and increased sediment transport. The final design will incorporate measures to minimize erosion and maximize stability of the channel banks and valley walls. In addition, erosion impacts will be minimized during construction through an erosion control plan. As with most large construction projects, the project could have potential effects on sensitive species and habitats, as well as on cultural resources. These impacts can be avoided and minimized through appropriate construction management measures which have been incorporated into the project as mitigation measures. With regard to the potentially significant impacts, the Conservancy finds that the project, as modified by incorporation of the mitigation measures identified in the FEIR/EIS, avoids or reduces to less than significant 37 of the possible significant environmental effects of the project.

Significant Effects that Cannot be Mitigated to Less-Than-Significant

The EIR/EIS identifies 26 significant environmental effects that cannot be mitigated to less than significant although 23 of these can and will be mitigated to the extent feasible. Of these 26 effects, 21 are short-term and five are long-term. The five long term, unavoidable significant environmental effects are: 1) an expected increase in the number of days when the suspended sediment concentration will exceed 500 ppm; this effect is expected to exceed baseline by a maximum of 11 days in 41 years in one reach of the river; 2) permanent loss of brushland and riparian habitat as a result of excavation of the bypass channel; 3) loss of and alterations to historic structures (San Clemente Dam and Old Carmel River Dam); 4) alteration of the character of the setting for the San Clemente Dam historic district; and 5) loss of visual integrity for the San Clemente Dam historic district.

The project's potentially significant effects and their mitigation measures are presented in chart form on pages 2-8 through 2-40 of the FEIS/EIR, and are discussed at length in Chapter 4 of that document. The short-term and long-term unavoidable significant environmental effects, using the headings shown in the chart, are presented below.

Hydrology & Water Resources

- WR-2a & WR-2b: Changes in Sediment Flow Passing SCD Immediately After Construction and Changes in Sediment Storage and Composition in the Lower River During Construction. *Changes in the amount of sediment transported from the upper watershed (above SCD) to the lower Carmel River (below) SCD immediately after construction.* ***Short-term, significant, unavoidable****.*

  Sediment will be excavated from the San Clemente Creek portion of the reservoir and moved to the sediment stockpile; however, it is expected that a small residual amount of sediment would remain along the canyon walls and channel within the former reservoir area. The excavated canyon walls will initially lack stabilizing vegetation. The residual sediment layer will be composed primarily of sands and gravels. In initial rain events following excavation, the fine gravel will rapidly wash off the hillsides and potentially be transported downstream. The EIR/EIS does not identify any significant effects that are expected to result from this short-term increase in the quantity of sediment transported downstream, but the abrupt nature of the short-term increase is a significant impact. This impact will be mitigated to the extent possible through creation of geomorphically stable channels and implementation of a stream restoration plan that includes revegetation to limit erosion.

- WR-4b: increase in Frequency of High Suspended Sediment Concentrations. *High flows will increase sediment concentration in the river.* ***Long-term, significant, unavoidable.***

  During high flows, sediment concentrations in the river naturally increase. As a result of removal of the dam, less of the annual sediment supply would be trapped upstream. Thus, the project will lead to increased sediment loads being transported downstream. The largest amount of sediment transport will occur during high flows. As a result of the increased sediment loads being transported, suspended sediment concentrations in downstream reaches will increase. Modeling was conducted to estimate the number of days for each river reach when the water quality target of 500 parts per million (ppm) suspended sediment would be exceeded over a 41-year period. The modeling found that under baseline conditions, the number of days the water quality target of 500 ppm of

suspended sediment would be exceeded ranged from 21 to 42, depending on the river reach analyzed and the hydrologic assumptions used in the model. For the project, the modeling predicted that the 500 ppm target would be exceeded from 27-42 days over the 41-year period. The modeling predicted that the maximum increase from baseline conditions in days where the 500 ppm target would be exceeded with the project was 11 days in 41 years, along reach 4.3. This is a significant, unavoidable impact with no available mitigation measures.

Water Quality

- WQ-9: Reservoir Drawdown. *Increased turbidity, decreased dissolved oxygen.* ***Short-term, significant, unavoidable.***

  Implementation of the project will require dewatering the reservoir at the start of construction years two and three. Lowering the water levels in the reservoir would cause increased turbidity and decreased dissolved oxygen levels. Lower water levels could also lead to increased water temperatures in the reservoir before it is completely drained. To mitigate impacts, the reservoir will be drawn down at a relatively slow rate. However, the water quality degradation would remain a significant, unavoidable, impact.

- WQ-10: Reservoir Sediment Excavation. *Increased turbidity, release of toxic substances and fine-grained sediment.* ***Short-term, significant, unavoidable****.*

  Up to 500,000 cubic yards of sediment would be excavated from San Clemente Creek and transported to the sediment stockpile area. These activities could cause further turbidity increases and dissolved oxygen decreases within the reservoir through disturbance of sediments. These effects would be significant and unavoidable. No mitigation measures are available for this impact.

Fisheries

- FI-2: Dewatering River Channels for Construction Purposes. *Short-term loss of aquatic habitat.* ***Short-term, significant, unavoidable.***

  During the third construction season, the plunge pool immediately downstream of San Clemente dam would be dewatered to facilitate dam removal. This would be a significant, unavoidable impact because of the loss of seasonal rearing habitat for steelhead trout. To partially mitigate the impact, procedures would be implemented to rescue fish before the dewatering is complete and relocate them elsewhere along the river or to the Sleepy Hollow Steelhead Rearing Facility.

- FI-4: Diversion of Carmel River and San Clemente Creek Around San Clemente Reservoir for Construction Purposes. *Short-term loss of aquatic habitat.* ***Short-term, significant, unavoidable.***

  During construction seasons two and three, the flows in the Carmel River and San Clemente Creek would be diverted into pipes for 3,300 feet and 1,350 feet, respectively, to 500 feet downstream of the dam. This would be a significant, unavoidable impact because of the loss of seasonal rearing habitat for steelhead trout for two years. The partial mitigation identified for FI-2 would also apply to this impact.

- FI-5: Reservoir Dewatering. *Short-term loss of aquatic habitat.* ***Short-term, significant, unavoidable.***

During construction seasons two and three, the reservoir would be completely dewatered. This would be a significant, unavoidable impact because of the loss of seasonal rearing habitat for steelhead trout. To partially mitigate the impact, nets would be installed across the channels leading into the reservoir. A fish rescue would occur in the reservoir during drawdown. Rescued fish would be relocated to suitable habitat downstream of the Old Carmel River Dam.

- FI-13: Stream Sediment Removal, Storage, and Associated Restoration. *Long-term reduction of aquatic habitat, short-term alteration of aquatic habitat.* ***Short-term, significant, unavoidable****.*

  During the construction of the diversion channel and diversion dike, the Carmel River and San Clemente Creek would not support conditions for rearing steelhead. This would be a short-term significant impact that cannot be mitigated.

  By re-routing the Carmel River, there will be a net loss of approximately 1700 feet of river channel (1,350 feet of San Clemente Creek, which will be converted to the Carmel River and 350 feet of the Carmel River). The FEIR/EIS concludes that this loss of channel is significant but beneficial in the long term because bypassing the accumulated sediment and removing the dam will provide fish with access to the upper watershed, which is not currently available. Thus, the loss of 1700 feet of channel can be considered as either mitigated to less than significant by the access to the upper watershed that is being provided by the project or as an environmental effect that is not an adverse change in the environment as compared to baseline, in which there is limited access to the upper watershed.

Terrestrial Biology

- WI-3: Cofferdam Construction and Plunge Pool Dewatering. *Adverse effects to special-status species.* ***Short-term, significant, unavoidable;.***

  Construction of a coffer dam and draining of the plunge pool below the dam could adversely affect any California red-legged frogs (CRLFs), western pond turtles, and other special-status species that may be present by leaving them vulnerable to predation and desiccation. Mitigation will include rescue and relocation of CRLFs, western pond turtles, and other special-status species. In addition, a CRLF population monitoring and bullfrog eradication program (CRLF Program) will be implemented as part of the mitigation. The CRLF Program will also include constructing enhanced frog habitat in several locations. Details of the mitigation plan will be approved by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) through the project permits. In the long-term these mitigation efforts are expected to have a net beneficial impact on CRLF. But the short-term impacts to species from rescue and relocation efforts and temporary loss of habitat would be a short-term significant, unavoidable impact.

- WI-10: Reservoir Drawdown or Elimination with Sediment Removal. *Effects on California red-legged habitat.* ***Short-term, significant, unavoidable;***

  Reservoir drawdown may strand CRLFs adults and juveniles and also make them more vulnerable to predation. Juvenile western pond turtles may also be impacted by a loss of available cover and forage. Mitigation will include rescue and relocation of CRLFs,

western pond turtles, and other special-status species, and implementation of the CRLF Program. Impacts to species from rescue and relocation efforts and temporary loss of habitat would be a short-term significant impact.

- WI-11: Sediment Removal. *Destruction of spawning habitat.* ***Short-term, significant, unavoidable;***

  Removing the sediment from San Clemente Reservoir would adversely affect nearly all the CRLF spawning and summer habitat in the reservoir. Mitigation will include rescue and relocation of CRLFs, western pond turtles, and other special-status species, and implementation of the CRLF Program. Impacts to species from rescue and relocation efforts and loss of habitat would be a short-term significant impact.

- WI-13: Bypass Channel Excavation. *Loss of habitat for special-status species.* ***Long-term, significant, unavoidable.***

  Brushland and riparian habitat clearing and channel excavation to create the Bypass Channel would remove some habitat for aquatic species including the CRLF, Coast Range newt and the western pond turtle. These activities may also affect other special-status terrestrial wildlife species, particularly the Monterey dusky-footed wood rat. Mitigation will include relocation of CRLF and western pond turtle juveniles and hatchlings. In addition, pre-construction surveys would be conducted and special-status species habitat flagged for avoidance. The long-term loss of habitat would be a significant, unavoidable impact.

Air Quality

- AQ-1: Dam Site Activities. *Short-term emissions from construction equipment and road dust.* ***Short-term, significant, unavoidable****.*

  Emissions from diesel fuel combustion and road dust in the project area could exceed the level of significance for mass emission of nitrogen oxides (NOx), carbon monoxide (CO), and fugitive dust (PM_{10F}). At the closest residential receptors, NOx and CO emissions would be below state and federal ambient air quality standards. However, because NOx is a precursor to ozone and the air basin exceeds air quality standards for ozone, any increase in NOx emissions is considered significant. To the extent possible, equipment that has been pre-approved by the California Air Resources Board through the Portable Equipment Registration Program will be utilized. In addition, mitigation measures for fugitive dust will be implemented, including using water, soil stabilizers, and other materials to reduce dust generation.

- AQ-2: Access Road Upgrades. *Short-term dust and other emissions during access road improvements.* ***Short-term, significant, unavoidable****.*

  Construction of access road improvements could generate dust. Some of these activities may be conducted upwind of residential areas. It is possible that due to the nuisance level impact on residences, the impact would be significant and unavoidable for short periods of time. Mitigation measures include use of water and other substances to reduce dust generation, placement of gravel on some dirt roads, and regular vacuum sweeping of San Clemente Drive.

- AQ-3: Project Generated Traffic. *Short-term dust and other emissions during project-related travel.* ***Short-term, significant, unavoidable****.*

  Construction traffic, including worker travel, on unpaved roads could generate dust upwind of residential areas. Mitigation measures would include those indentified for AQ-2. In addition, Sleepy Hollow residents would be provided with a card with the person and telephone number to contact regard dust complaints. This person would respond to complaints and arrange for corrective action within twenty four hours. Even with these measures, fugitive dust levels could exceed air quality standards which would be a significant, unavoidable impact.

Noise

- NO-1: Dam Site Activities. *Noise from construction equipment and activity.* ***Short-term, significant, unavoidable****.*

  Construction activities would generate noise, such as from large diesel engines. Some construction equipment, such as jackhammers, could generate noise levels as high as 90 A-weighted decibels (dBA). Significant impacts are not expected to occur because of the long attenuation distance to receptor areas (such as houses). However, given the sparsely populated rural nature of the area, it cannot be determined with certainty that the impact will be less than significant. Standard noise reduction mitigations would be employed such as limiting operations to daytime working hours.

- NO-2: Access Road Upgrades. *Noise generated during access road improvements.* ***Short-term, significant, unavoidable****.*

  Road widening and improvement would generate noise from activities such as pruning and removal of trees with gas engine chain saws, delivery of aggregate by diesel trucks, installing retaining walls requiring use of diesel equipment, and widening and grading roads with heavy machinery. Noise generated by these activities would increase background noise levels which would be a significant impact. Mitigation measures would include implementation of equipment maintenance and management best practices, use of equipment that is of quiet design and has a high-quality muffler, and limiting the speed and hours of operation for construction-related traffic.

- NO-3: Project Generated Traffic. *Noise from construction-related travel, including mobilization, materials, and workers.* ***Short-term, significant, unavoidable****.*

  Construction of the project will generate traffic from trucks delivering equipment and materials and also from worker transport. Due to the low levels of background noise, the residences along San Clemente Drive would be the most heavily impacted. Little additional noise would be generated by passenger cars carrying workers and would not be a significant impact. But noise generated by truck travel along San Clemente Drive would be considered a significant impact. The same mitigation measures as identified for impact NO-2 would be implemented.

Traffic & Circulation

- TC-1: Road Segment Traffic Operations. *Additional traffic on area road network.* ***Short-term, significant, unavoidable****.*

The project will increase traffic on area roadways. Some segments of Highway 1 and Carmel Valley Road already operate below the acceptable level of service. Construction-generated traffic would have a significant impact on these roadways, but this impact can be mitigated. During construction to improve the jeep trail and create the spur road, the jeep trail would periodically need to be closed for short periods of time. Because these time periods could exceed ten minutes, this is considered a significant, unavoidable impact.

Mitigation for impacts to area road operations would include the following: 1) trip reduction plan for construction workers that would involve carpooling from a location to-be-determined; 2) traffic coordination and communication plan which would time project travel to avoid peak traffic periods and provide the public with a point of contact for traffic information; 3) traffic safety plan addressing size of truck traffic, routes, signing and striping, use of flag person, etc.; and 4) traffic impact fee to mitigate for impacts to State Highway 1 and Carmel Valley Road.

- TC-3b: Traffic Safety San Clemente Drive. *Increased accident rates.* ***Short-term, significant, unavoidable****.*

  San Clemente Drive, which passes through the gated-community of Sleepy Hollow, would be used to provide access to areas below the dam. This is expected to be less than 25% of the total number of trips generated by the project. San Clemente Drive is a narrow two-lane road with no facilities for pedestrians and bicyclists. The impact to pedestrian and bicycle circulation on San Clemente Drive would be a significant, unavoidable impact. The same mitigations as required under impact TC-1 would be implemented.

- TC-6: Neighborhood Quality of Life. *Increased accident rates.* ***Short-term, significant, unavoidable****.*

  San Clemente Drive would be used by construction traffic to access the area below San Clemente Dam. Although the construction traffic would not impact the level of service on the road, any truck traffic within the Sleepy Hollow community may be considered a significant impact to the quality of life of its residents. Traffic on the jeep trail would also have a significant impact on users of the adjacent private property who are currently the only users of the jeep trail. The same mitigations as required under impact TC-1 would be implemented, but the impacts would remain significant.

Cultural Resources

- CR-4: Demolition or Alteration to Historic Properties. *Alterations to OCRD and associated fish ladder and to San Clemente Dam.* ***Long-term, significant, unavoidable****.*

  The project involves removing San Clemente Dam and its associated fish ladder, notching the Old Carmel River Dam (OCRD), and altering its associated fish ladder. These features are considered historic properties and their removal or alteration is a significant, unavoidable impact. Mitigation measures for these impacts include preparation of a Historic American Building Survey and Historic American Engineering Report. Other mitigation could include development of interpretive displays or other educational material. Mitigation will be finalized in consultation with the State Historic Preservation Office (SHPO).

- CR-5: Alteration of Surrounding Environment. *Alter character of setting for San Clemente Dam Historic Resource District.* ***Long-term, significant, unavoidable****.*

  The San Clemente Historic Resource District includes San Clemente Dam and its fish ladder, OCRD and its fish ladder, two dam-keeper houses, and various other facilities. The project will remove or alter several of these historic resources, resulting in a significant impact on the setting of the historic district. Mitigation includes preparation of a National Register of Historic Places Nomination Form for the SCD Historic District and completion of a Historic Preservation Management Plan.

- CR-6: Introduction of Visual Obstructions. *Loss of visual integrity for San Clemente Dam Historic Resource District.* ***Long-term, significant, unavoidable****.*

  Alteration and demolition of individual historic resources within the SCD Historic District would adversely affect the visual integrity of the historic district. This is a significant and unavoidable long-term effect. Mitigation measures include photo documentation of the historic resources prior to construction.

Recreation

- REC-2: Disruption of Use of Jeep Trail to Stone Cabin. *Heavy equipment traversing Jeep Trail.* ***Short-term, significant, unavoidable****.*

  Heavy equipment for the project would be brought to and removed from the site via the jeep trail during the first and last month of each construction season. Mitigation would restrict these trips to normal working hours, but this would still be considered a significant impact on recreation.

Alternatives

Although the Final EIR/FEIS identifies several alternatives to the project, only Alternative 2, removal of San Clemente Dam, would be consistent with Division 21 of the Public Resources Code and therefore Alternative 2 is the only other alternative that would be considered for funding by the Conservancy. Alternative 2 entails removal of San Clemente Dam without rerouting the Carmel River and it includes the removal of 2.4 million cubic yards of sediment that is currently located behind the dam. Similar to the project, Alternative 2 has 33 significant environmental effects that cannot be avoided or reduced to less than significant, three of which cannot be mitigated to any extent. Due to the significantly higher costs of Alternative 2 and risk posed by sequestration of the excavated sediment in an upslope canyon, the proposed project was identified as the most feasible dam removal option.

Mitigation Monitoring and Reporting Program (MMRP)

DWR prepared a Mitigation Monitoring and Reporting Program (MMRP) to ensure that all of the mitigation measures identified in the Final EIR/EIS are implemented. For each mitigation measure, the MMRP specifies the specific mitigation monitoring or reporting action(s) that must be undertaken, the timing of each action, the entity responsible for taking the action, and the entit(ies) responsible for enforcing the mitigation requirements by verifying that the actions have been taken.

Statement of Overriding Considerations

Staff recommends that in conjunction with approving a grant for implementation of the San Clemente Dam Removal Project and consistent with Section 15093 of the CEQA Guidelines, the Coastal Conservancy adopt the statement of overriding considerations set forth in the findings section of this staff recommendation. The project will provide significant public benefits by addressing dam safety in a manner that restores the ecological integrity of the Carmel River and by providing fish unobstructed passage from the mouth of the Carmel River to the Los Padres Dam. In addition, the project will result in the protection, and public use and enjoyment of 928 acres in the Carmel River watershed. Although the project has unavoidable environmental effects, most of these have been mitigated to some extent, and of the three effects for which no mitigation is available, only one is a long-term effect. That long term effect, which is an increase in the frequency of high suspended sediment concentration, is predicted to exceed baseline on only 11 occasions in 41 years. For these reasons, staff recommends that the Conservancy find that the public benefits of removing the San Clemente Dam outweigh the environmental effects.