

COASTAL CONSERVANCY

Staff Recommendation
May 24, 2007

SAN CLEMENTE DAM REMOVAL PROJECT TECHNICAL ASSISTANCE

File No. 07-004-01
Project Manager: Trish Chapman

RECOMMENDED ACTION: Authorization to disburse up to \$500,000 for engineering and technical studies for 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 Map](#)
 - Exhibit 2: [January 18, 2007, Executive Officer briefing memo on the San Clemente Dam Removal Project](#)
 - Exhibit 3: [Schematic of Dam Removal/River Re-Route Project](#)
 - Exhibit 4: [Letters of Support](#)
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RESOLUTION AND FINDINGS:

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

“The State Coastal Conservancy hereby authorizes the disbursement of an amount not to exceed five hundred thousand dollars (\$500,000) to prepare engineering studies, environmental impact and risk analyses, and implementation strategies for the removal of San Clemente Dam on the Carmel River in Monterey County. Prior to the disbursement of any funds, the Executive Officer of the Conservancy (Executive Officer) shall approve the work plan, budget, and contractor for that work. The Conservancy further authorizes the Executive Officer to make the findings necessary for Department of Industrial Relations review of a Labor Compliance Program if needed for this project.”

Staff further recommends that the Conservancy adopt the following findings:

“Based on the accompanying staff report 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 Project Selection Criteria and Guidelines adopted by the Conservancy on January 24, 2001.”
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PROJECT SUMMARY:

The proposed authorization would allow the Conservancy to disburse up to \$500,000 for engineering and environmental studies to evaluate the feasibility of and develop a strategy for removing San Clemente Dam on the Carmel River in Monterey County. As discussed in the January 18, 2007 Executive Officer’s report to the Coastal Conservancy (Exhibit 2), San Clemente Dam is an obsolete structure that no longer serves a water supply function and could fail in the event of a maximum flood or earthquake. According to the Department of Water Resources (DWR) Division of the Safety of Dams, it poses a significant threat to downstream lives and property.

San Clemente Dam is also a significant barrier to migration of steelhead trout. The National Marine Fisheries Service (NMFS) has consistently ranked the Carmel River as the most potentially viable steelhead watershed for recovery of the South-Central California Coast Distinct Population Segment (S-CCC DPS), a federally-threatened subspecies. Between 1999 and 2005, steelhead counts at San Clemente Dam’s fish ladder ranged from approximately 400 to 800 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 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.

Removing the dam would also permanently solve the public safety threat of dam failure, enhance the biological connectivity of the river corridor, and restore the natural sediment supply to the downstream watershed and beach. Through the dam removal project, there is also an opportunity to protect and provide recreation on approximately 2,500 acres of watershed lands.

Conservancy staff have been working with California-American Water Company (CalAm), the owner of the dam, and other entities to develop a feasible approach to removing it. Additional information regarding the project design, environmental impacts, and estimated costs is needed in order to reach agreement on an approach to dam removal and secure a commitment to the project from CalAm and the Department of Water Resources (DWR), which is responsible for ensuring that the dam safety issue is resolved.

The San Clemente Dam Seismic Safety Project 2006 Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS) prepared for DWR evaluated two alternatives for removing the dam. Under the most economically-feasible approach, a portion of the Carmel River would be permanently bypassed by cutting a 450-foot-long channel connecting the Carmel

River to San Clemente Creek, approximately 2,500 feet upstream of the dam (see Exhibit 3). The bypassed portion of the Carmel River would be used as a disposal site for sediment accumulated behind the dam and along the San Clemente Creek arm of the reservoir. The sediments at the downstream end of the bypassed reservoir arm would be stabilized and protected from erosion. The San Clemente Creek channel would be reconstructed through its historic inundation zone from the exit of the diversion channel to below the dam site. The dam and fish ladder would be demolished and removed from the site.

As part of the EIR/EIS process, conceptual level engineering designs were prepared for all of the alternatives. These designs were used to evaluate potential impacts and estimate costs. The draft EIR/EIS found that the bypass alternative would have only a few long-term unavoidable significant impacts. These are associated with 1) loss of habitat due to the creation of the bypass channel and re-route of one-half mile of the Carmel River; and 2) cultural resource impacts related to altering the historical environment and creating new visual obstructions. Based on the conceptual engineering designs, the project is estimated to cost \$75 million.

Under the proposed authorization, the Conservancy would hire consultants to prepare more detailed engineering designs for the bypass project and, based on the designs, prepare updated costs estimates and a more-detailed environmental impact analysis. Other consultants may be retained to assist with appraisals, assessments, and implementation strategies. One key element will be to evaluate the risks associated with the post-project condition in order to help determine the long-term liability associated with the project.

The Resources Agency has asked the Coastal Conservancy to act as the lead State agency in facilitating the San Clemente Dam Removal Project. The proposed investigations are a critical piece of the State's due diligence in evaluating its involvement in the dam removal effort. The Conservancy will work with DWR, the Department of Fish and Game, the National Marine Fisheries Service (NMFS), and other interested parties in undertaking this phase of the project.

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 125 acre-feet. At this point, the sole function of the dam is to provide a diversion point for water withdrawals from the river. The dam is owned and operated by CalAm, an investor-owned water utility that is regulated by the California Public Utilities Commission (PUC). CalAm provides public 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 the early 1990s, 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 CalAm to develop a project to address this safety issue. CalAm 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 later augmented by \$65,300. 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, CalAm submitted a proposal to buttress the dam in place. This decision was driven primarily by the fact that it was the most economical way to address the safety issues. Over the past few years, Coastal Conservancy staff, in cooperation with the NMFS and the Planning and Conservation League Foundation (PCLF) have been working with CalAm to develop an alternative under which public agencies would collaborate with CalAm to remove the dam. The proposed authorization is a key step in this collaborative effort.

PROJECT FINANCING:

Coastal Conservancy grant	<u>\$500,000</u>
Total Project Cost	\$500,000

The expected source of Conservancy funds for this project is an appropriation to the Conservancy from the “Water Security, Clean Drinking Water, Coastal and Beach Protection Fund of 2002” (Proposition 50). Proposition 50 authorizes the Conservancy’s use of these funds for the purpose of protecting coastal watersheds through projects undertaken pursuant to the Conservancy’s enabling legislation (Division 21 of the Public Resources Code) to acquire, restore or protect water and land resources (see Water Code Section 79570). California Code of Regulations Section 16423(a)(3) requires that an awarding body using Proposition 50 funds to undertake work considered “public works” initiate and enforce a Labor Compliance Program. This includes certain pre-construction activities such as surveying and materials testing. The proposed authorization will enable the Executive Officer to make the necessary findings, if such work is required as part of this project.

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 Sections 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.

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.

Section 31111 gives the Conservancy the authority to undertake plans and feasibility studies in order to implement the purposes of Division 21.

**CONSISTENCY WITH CONSERVANCY’S
STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 5 Objectives A and B**, the proposed project will facilitate restoration of watershed processes in the Carmel River and improved 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 Objectives A and C**, the proposed project will develop a plan for restoring a coastal 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.

**CONSISTENCY WITH CONSERVANCY’S
PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy’s Project Selection Criteria and Guidelines adopted January 24, 2001, 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 NMFS, PCLF and American Rivers. Support letters are provided in Exhibit 4.
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 has been designated as the lead agency in the State’s effort to facilitate removal of the dam. There is no local agency with the capacity to take the lead on a project of this size and complexity. Therefore, the Conservancy’s involvement is necessary to removing the dam.
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.

Additional Criteria

7. **Urgency:** DWR is now requiring action soon to address the unsafe condition of San Clemente Dam. If an agreement cannot be reached soon on dam removal, CalAm will proceed with buttressing the dam. The proposed studies are needed to advance a plan for removal instead.
8. **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.
9. **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 unfairly costly to CalAm’s ratepayers. Developing a cooperative approach to removing the dam would resolve this conflict.
10. **Readiness:** The Conservancy is ready to move forward with the additional studies as soon as the funding is available.
11. **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.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

In the Carmel Area Land Use Plan of Monterey County’s certified Local Coastal Program, 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 species.

**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 Watershed Resource Management Programs (IWRMP); local watershed management plans; and with water quality control plans, adopted by the state and regional water boards. A draft of the Monterey Peninsula IWRMP was completed in November 2006 and includes the Carmel River. Removal of San Clemente Dam is consistent with IWRMP 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 IWRMP 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:

The proposed project is statutorily exempt from the California Environmental Quality Act (CEQA), pursuant to 14 Cal. Code of Regulations Section 15262. Consistent with §15262, the project will only involve preparation of planning studies and feasibility studies and will consider environmental factors. Upon approval, staff will file a Notice of Exemption for this project.