Item 4f

CALIFORNIA OCEAN PROTECTION COUNCIL

Staff Recommendation
June 29, 2016

Santa Barbara County Debris Basin Removal and Fish Passage Project

Chris Potter

RECOMMENDED ACTION: Authorization to disburse up to $539,000 to the Beach Erosion Authority for Clean Oceans and Nourishment to remove two debris basins located in Santa Barbara County on San Ysidro and Rattlesnake Creeks, and adoption of findings under the California Environmental Quality Act.

LOCATION: Santa Barbara County, San Ysidro and Rattlesake Creeks

STRATEGIC PLAN OBJECTIVE(S): The proposed project addresses OPC Strategic Plan Objectives 9.1 (Support an integrated approach to water management that minimizes harm to the health of downstream ocean and coastal ecosystems) and Objective 11.2 (Increase the availability of data and tools that can influence sediment-related planning decisions).

EXHIBITS

Exhibit A: Project location maps and site plans

Exhibit B: Site images

Exhibit C: Letters of support

Exhibit D: Final Programmatic Environmental Impact Report, December 2001

Exhibit E: Draft CEQA Findings

Exhibit F: Draft Notice of Determination for Ocean Protection Council potential action

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FINDINGS AND RESOLUTION:
Staff recommends that the Ocean Protection Council (OPC) adopt the following findings: "Based on the accompanying staff report and attached exhibits, the Ocean Protection Council hereby finds that:

1) The proposed project is consistent with the purposes of Division 26.5 of the Public Resources Code, the Ocean Protection Act.
2) The proposed projects are consistent with the Ocean Protection Council's Proposition 1 grant guidelines (adopted September 2015).

3) The Ocean Protection Council has reviewed the Final Program Environmental Impact Report, adopted by the Santa Barbara County Flood Control District Board of Directors on December 11, 2001 pursuant to the California Environmental Quality Act (SCH # 01-EIR-01) and attached to the accompanying staff recommendation as Exhibit E, and adopts the findings made in conformance with California Code of Regulations, Title 14, sections 15091 and 15096, subdivision (h), as contained in Exhibit F. "

Staff further recommends that the OPC adopt the following resolution pursuant to Sections 35500 *et seq.* of the Public Resources Code:

"The California Ocean Protection Council hereby approves the disbursement of up to $539,000 to the Beach Erosion Authority for Clean Oceans and Nourishment (BEACON) to remove two debris basins located in Santa Barbara County on San Ysidro and Rattlesnake Creeks."
Prior to the disbursement of any funds, BEACON shall submit for the review and written approval of the OPC's Executive Director the following:

1) A detailed work program, including budget, schedule and list of contractors to be retained for the project;
2) Evidence that all necessary permits and approvals have been obtained;
3) A plan to create signage to acknowledge OPC and Proposition 1 funding; and
4) A legally-enforceable agreement between the property owner(s) and the grantee sufficient to give the grantee adequate site control for the purposes of developing the project and long-term management for the life of the project."

PROJECT SUMMARY:
This project is being proposed by the Beach Erosion Authority for Clean Oceans and Nourishment (BEACON) in conjunction with the Santa Barbara County Flood Control and Watershed Conservation District (SBCFCWCD).

The proposed project is a natural infrastructure restoration effort that will remove two fifty-year old concrete debris dams from streams in the foothills behind the City of Santa Barbara. The dams are located on Rattlesnake and San Ysidro Creeks in Santa Barbara County. These creeks form part of the watershed for the Santa Ynez Mountains and in the past served as important sources of coastal beach sand and pathways for migrating steelhead fish. Removing the two dams will restore these natural functions, contributing positively to coastal watershed and habitat restoration, sustainable fisheries, regional sediment management and climate change adaptation.

The debris basins on Rattlesnake and San Ysidro Creeks were designed and built by the U.S. Army Corps of Engineers in 1964 following the Coyote Wild Fire. The purpose of the dams was to intercept the downstream movement of heavy debris before it could plug the creeks and cause flooding in adjacent urban areas. However, new approaches to post-fire flood protection have made the debris basins unnecessary. Both basins continue to act as barriers to coastal sediment supply and steelhead migration. The proposed project will remove the two dams and restore the adjacent creek areas to their natural (pre-dam) condition.

The proposed project incorporates watershed and habitat restoration best practices to support more sustainable sediment transport down the two creeks and ultimately to the coastline. Steelhead, unlike salmon, can spawn in a range of creek locations along the south coast of Santa Barbara County. The project increases spawning gravel areas and reduces creek bed erosion resulting in a healthier creek environment and retention of vegetation along the creek banks.

The proposed project incorporates habitat and watershed restoration and natural infrastructure elements as part of an adaptive management plan with long-term benefits (50 plus years). It is important to note that the project is consistent with the priority goals of "The Inventory of Barriers to Fish Passage in California's Coastal Watersheds" (State Coastal Conservancy, 2004), the "Work Program of the Southern California Wetlands Recovery Project (SCWRP)" (SCWRP, 2016).

The proposed project will incorporate emerging best practices for removing fish passage barriers. These best practices and outcomes will be monitored and documented so as to share the results and experiences learned with others. A best practices how-to guide/user-friendly manual will be developed detailing the demolition and removal of concrete structures, aquatic and terrestrial habitat restoration techniques and technologies, and processes to plan, fund, and implement projects. Consultants will prepare the manual in conjunction with BEACON and SBCFCWCD staff and will assist in organizing workshop training.

Site Description:
The two debris bans dams are located on Rattlesnake and San Ysidro Creeks in the foothills behind the City of Santa Barbara. The property on which the two debris basins are located is owned by the SBCFCWCD. The two creeks form part of the watershed for the Santa Ynez Mountains and in the past served as important sources of coastal beach sand and pathways for migrating steelhead fish.

Both debris basins act as barriers to coastal sediment supply and steelhead migration. In addition, the riparian habitat in the immediate vicinity of the two debris basins is significantly degraded (approx. 1 acre total).

Project History:
A programmatic EIR which addresses debris basin maintenance and potential removals was approved in 2001. The SBCFCWCD is currently preparing an updated Debris Basin Maintenance Plan which includes more details on proposed debris basin removals. The basin removals will not result in new impacts. The Debris Basin Plan is scheduled for completion in August 2016 and at that time will be incorporated through an addendum to the EIR. Note: The cost of preparation of the Debris Basin Plan will be borne entirely by the SBCFCWCD.

PROJECT FINANCING

OPC	$539,000
BEACON	$5,000
SBCFCWCD	$532,000
TOTAL	$1,076,000

The expected source of Ocean Protection Council funds for this project is the fiscal year 2015-16 appropriation to the Natural Resources Agency pursuant to the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1, Water Code §79700 et. seq.). Funds appropriated to the Natural Resources Agency derive from Chapter 6 (commencing with §79730) and may be used "for multibenefit water quality, water supply, and watershed protection and restoration efforts for the watersheds of the state" (Water code §79731). Section 79732 identifies specific purposes of Chapter 6, which include removal of fish passage barriers and assistance in the recovery of endangered, threatened, or migratory species by improving watershed health, instream flows, fish passage, coastal or inland wetland restoration.

The proposed project is an appropriate use of Proposition 1 funds because it will provide multiple benefit natural infrastructure/habitat restoration improvement, contributing positively to steelhead habitat and natural resources restoration, flood management, regional sediment management, and coastal erosion. The project will also contribute to sea-level rise adaptation, mitigating the negative effects of extreme storm events by better managing the creek sediment movement and transport, supporting beach sand deposition.

The proposed project was selected through a competitive grant process under the Ocean Protection Council's *Proposition 1 Grant Guidelines* adopted in September 2015 ("Prop 1 Guidelines") (see §79706(a)). The proposed project meets each of the evaluation criteria in the Prop 1 Guidelines as described in further below

CONSISTENCY WITH CALIFORNIA OCEAN PROTECTION ACT:

The proposed project is consistent with the Ocean Protection Act, Division 26.5 of the Public Resources Code, because it is consistent with trust-fund allowable projects, defined in Public Resources Code Section 35650(b)(2) as projects which:

1) Eliminate or reduce threats to coastal and ocean ecosystems, habitats, and species.
2) Improve management, conservation, and protection of coastal waters and ocean ecosystems.
3) Protect, conserve, and restore coastal waters and ocean ecosystems.
4) Fund adaptive management, planning, coordination, monitoring, research, and other necessary activities to minimize the adverse impacts of climate change on California's ocean ecosystem.

The project will increase coastal sand supplies, thereby helping to mitigate the effects of sea-level rise. Specifically, removal of the two debris basins by themselves will increase the supply of sand to the coast by an estimated 2,400 cubic meters per year. An equivalent amount of beach nourishment would cost approximately $60,000 per year. Santa Barbara County is particularly vulnerable to sea level rise since many of its beaches consist of a thin veneer of sand backed by a high coastal bluff (Griggs and Russell, 2012). Loss of beach area will leave coastal bluffs and infrastructure more vulnerable to storm wave erosion and attack.

Historically, Rattlesnake and San Ysidro Creeks provided migration paths and spawning habitat for endangered steelhead fish (National Marine Fisheries Service, 2012). The two debris basins on these creeks represent complete barriers to steelhead migration, thus cutting off spawning habitat in the upper reaches of the creeks. Removal of the debris basin dams will help to promote the recovery of the historical steelhead fishery in the Santa Barbara County region.

The project will restore approximately 1 acre of natural creek habitat. This habitat supports a diverse number of species. Restoration of the debris basin areas will also help to limit erosion of the creek's side slopes and will restore natural hydrodynamic characteristics.

Last, debris basins exist on 32 different watersheds within Southern California (National Marine Fisheries Service, 2012). The results of this project can be used by flood control agencies in Ventura, Los Angeles, Orange and San Diego Counties to dismantle debris basins within their jurisdictions, helping to increase coastal sand supplies and recovery of the endangered steelhead fish. This project includes the development of a Best Practices Manual for use by other agencies.

CONSISTENCY WITH THE OPC'S STRATEGIC PLAN:
This project implements Focal Area "Coastal and Ocean Impact from Land". The goal of which is to reduce the negative impacts of land-based activities on marine ecosystems and the state's coastal and ocean economy.

CONSISTENCY WITH THE OPC'S PROPOSITION 1 GUIDELINES:
The following are the criteria that were applied to the applications in either the Letter of Intent or full proposal stage of the evaluation.

Chapter 6 of Proposition 1 purposes: The applicant has indicated that proposed project will address the following purposes enumerated in Chapter 6 of Proposition 1.

(1) Protect and increase the economic benefits arising from healthy watersheds, fishery resources, and instream flow.
(2) Implement watershed adaptation projects in order to reduce the impacts of climate change on California's communities and ecosystems.
(4) Protect and restore aquatic, wetland, and migratory bird ecosystems, including fish and wildlife corridors and the acquisition of water rights for instream flow.
(6) Remove barriers to fish passage.
(7) Collaborate with federal agencies in the protection of fish native to California and

wetlands in the central valley of California.
(10) Protect and restore coastal watersheds, including, but not limited to, bays, marine estuaries, and nearshore ecosystems.
(12) Assist in the recovery of endangered, threatened, or migratory species by improving watershed health, instream flows, fish passage, coastal or inland wetland restoration, or other means, such as natural community conservation plan and habitat conservation plan implementation.

OPC's Key Issue Areas for Prop 1 Funding: This project addresses OPC issue areas "Innovative Marine and Estuarine Fisheries Management" and "Climate Change".

Multi-benefits: The proposed project will provide multiple benefits that contribute positively to habitat and natural resource restoration, flood management, regional sediment management and coastal erosion control. Importantly, the project will contribute to climate change and sea level rise adaptation, mitigating the negative effects of extreme storm events by better managing creek sediment movement and promoting increased beach sand deposition.

Ability to adapt to impacts of climate change: The restoration sites themselves are not vulnerable to the effects of sea-level rise as they are 12,000 to 16,000 feet above sea-level. The project increases the ability of Santa Barbara County to adapt to other impacts of climate change, such as changes in patterns, frequency, and strength of precipitation events. Removal of the debris basins and restoration of the corresponding riparian areas on San Ysidro and Rattlesnake creeks will help to limit erosion on creek side slopes and will restore natural hydrodynamic characteristics. This will result in each creek having a healthier and more resilient riparian ecosystem.

California Water Action Plan Goals: The California Water Action Plan has been developed to meet three broad goals: more reliable water supplies, the restoration of important species and habitat, and a more resilient, sustainably managed water resources system (water supply, water quality, flood protection, and environment) that can better withstand inevitable and unforeseen pressures in the coming decades. The proposed project addresses the second goal by providing better migratory pathways to spawning areas for native steelhead as well as providing a much needed source of sediment for coastal beach ecosystems.

Removes or reduces multiple stressors to the environment: The project will reduce the vulnerability of the coastline to sea level rise and climate change induced storm wave attack/erosion by increasing the supply of sand to the coast. If the results of the project are used to remove all of the debris basins from the Santa Barbara County foothills (17 total), the coastal sand supply to the area will be increased by approximately 8%. This increase will help to mitigate the loss of sandy beach habitat that is projected to occur as sea level rises. Increased coastal sand supplies will also help to mitigate projected increases in coastal bluff erosion and storm wave attack against coastal infrastructure.

Steelhead will benefit from improved access to spawning areas in upper reaches of many watersheds and California grunion will benefit from increased access to sandy beach spawning areas.

Utilizes green infrastructure, natural systems, or systems that mimic natural systems: The project will remove two debris basin dams and restore the creek areas in the vicinity of the dams to their natural (i.e., pre-dam) conditions. Recently developed simulation methodologies will be used to shape the restored creek bed geometry to replicate flow patterns in an adjacent model creek. The replicated creek hydrodynamics will help to promote successful steelhead migration through the restored areas.

New, innovative, or proven technologies or practices: Past efforts to dismantle debris basins on California creeks have focused on restoring creek side habitat but not on replicating pre-dam hydrodynamic conditions. For this project, the SBCFCWCD will be using the relatively new Stream Simulation Approach to design the restoration of the two creeks (U.S. Dept. of Agriculture, 2008 and California Dept. of Fish and Wildlife, 2009).

Sustainable outcomes: The project incorporates habitat and watershed restoration and natural infrastructure elements as part of adaptive management plans aimed at long-term benefits (50+ years). The project will also increase spawning gravels in the system and reducing streambed erosion resulting in a healthier creek environment and retention of bank vegetation. In addition, the project design will result in very little ongoing operation and maintenance for the BCFCWCD which has committed to monitoring for at least 10 years. It is important to note that the SBCFCWCD owns the properties on which the two debris basins are located.

Ability to begin implementing the project in timely fashion: The SBCFCWCD is in the process of preparing designs for the removal of the two debris basins and securing permits from the California Department of Fish and Wildlife, the U.S. Army Corps of Engineers and the California Regional Water Quality Control Board. These permits are anticipated by December 2016. A Biological Opinion from National Marine Fisheries Service on the Steelhead was accepted by the SBCFCWCD in 2015. SBCFCWCD is also preparing an updated Debris Basin Plan to provide 30% design details for the debris basin removals. The updated Debris Basin Plan will be incorporated as an Addendum to the Programmatic EIR for the Updated Routine Maintenance Program that was approved in 2001. It is anticipated the Debris Basin Plan will be completed by August 2016. It is important to note that the debris basin removals do not result in any new biological impacts.

SBCFCWCD staff will manage the proposed restoration project, contracting out the dam demolition and creek restoration components and contributing significant in-kind staff time. Construction will begin in August 2018 and be completed by December 2018.

Provide mapping/data that can enhance current understanding: Demolition, removal, and restoration techniques and technologies and processes used to plan, fund, and implement projects will be documented and incorporated into a best practices how-to guide/user-friendly

manual. Consultants will prepare the manual in conjunction with BEACON and SBCFCWCD staff and will assist in organizing a workshop training.

Demonstrates solutions that can be implemented regionally and/or statewide: According to the National Marine Fisheries Service from a 2012 report, debris basins exist on 32 different watersheds within Southern California. The results of this project can be used by flood control agencies in Ventura, Los Angeles, Orange and San Diego Counties to dismantle debris basins within their jurisdictions, helping to increase coastal sand supplies and recovery of the endangered steelhead fish.

Demonstrates experience successfully implementing similar projects or demonstrates appropriate and necessary partnerships to complete the project. From 2008 to 2013, The SBCFCWCD has completed four other debris basin removal and stream restoration projects in Santa Barbara County. Monitoring data and reports from these very similar projects indicate that the projects have been successful in achieving project objectives.

Consistent with best available science: The proposed project will utilize a recently (2008-2009) developed Stream Simulation Approach in the designs of the two dam removals. The design process was developed by the U.S. Department of Agriculture and the California Department of Fish and Wildlife during 2008-2009.

Demonstrates a clear and reasonable method for measuring and reporting effectiveness of project: The proposed project will be monitored annually for a period of at least five years and then every two years for the next five years for a total monitoring period of 10 years. Regrowth of creek habitat will be monitored with success criteria of percent cover, tree height, species diversity and overall survivorship documented. Creek hydrodynamics will also be documented and compared with an adjacent control area. Sediment accumulation rates will be monitored in nearby debris basins to provide an estimate of the added sediment transport through the project site.

Project monitoring will be performed by SBCFCWCD and project documentation by SBCFCWCD and BEACON staff. The monitoring results will be incorporated into a best-practices design manual. BEACON staff will also perform grant administration and project management tasks for development of the best practices manual. BEACON will prepare the manual and carry out workshop training in conjunction with BEACON and SBCFCWCD staff.

Likelihood of project to fulfill its stated objectives: Given BEACON and SBCFCWCD's years of experience in undertaking projects like the one proposed, there is a high likelihood that the project will fulfill its stated objectives. In addition, the applicant will utilize the highly regarded Stream Simulation Approach in the designs of the two dam removal projects.

Community support as well as support from outside local area: The applicant, BEACON, is composed of Santa Barbara and Ventura Counties and the Cities of Goleta, Santa Barbara, Carpinteria, San Buenaventura, Oxnard and Port Hueneme. Two supervisors from each county

and one council person from each city sit on the BEACON Board of Directors. Each of the member agencies and their associated staff support the proposed project. Additionally a non-profit organization South Coast Habitat Restoration submitted a letter of support at the time the full proposal was submitted.

Bonus Points:

Advances the resiliency of marine, estuarine, and diadromous fish populations and the human communities that depend upon them in the face of a changing climate. The project will benefit a number of fish species including endangered steelhead and California grunion. Steelhead will benefit from improved access to spawning areas in the upper watershed behind Santa Barbara. California grunion will benefit from increased access to sandy beach spawning areas.

Leverages >100% matching funds: BEACON and it partner, SBCFCWCD, will provide a match of $538,000; i.e., a match of a 100%.

COMPLIANCE WITH CEQA: The Santa Barbara County Flood Control District Board of Directors adopted the Final Program Environmental Impact Report (Final PEIR) which addresses debris basin maintenance and potential removals on December 11, 2001 (SCH # 2001031043). The SBCFCWCD is currently preparing an updated Debris Basin Maintenance Plan which includes more details on proposed debris basin removals. The removal of the two debris basins on San Ysidro and Rattlesnake Creeks will not result in new impacts. It is important to note that the SBCFCWCD has previously removed two debris basins on other creeks in Santa Barbara County under the Final PEIR. The updated Debris Basin Plan is scheduled for completion in August 2016 and at that time will be incorporated through an addendum to the Final PEIR.

If the OPC approves the proposed authorization, staff will file a Notice of Determination (attached in draft form as Exhibit F) with the State Clearinghouse.