

CALIFORNIA OCEAN PROTECTION COUNCIL

Staff Recommendation

*June 24, 2010*

**In-stream Flow Assessments**

File No.:10-009

Project Manager: Michael Bowen

**RECOMMENDED ACTION:**

Staff recommends the council approve the following amended resolution:

“Authorization to grant up to one hundred thousand dollars (\$100,000) to the Pacific States Marine Fisheries Commission (PSMFC), three hundred thousand dollars (\$300,000) to Humboldt State University (HSU), and to enter into an environmental services contract with a contractor to be determined for \$600,000 to complete four in-stream flow analyses in three coastal rivers in California. The data from these assessments will be used by the Department of Fish and Game to develop stream flow recommendations for use by the State Water Resources Control Board.”

Staff further recommends that the Conservancy adopt the following finding:

“Based on the accompanying staff report and attached exhibits, the Ocean Protection Council hereby finds that the proposed authorization remains consistent with the findings made in the council’s November 20-21, 2008 authorization.”

The OPC approved the Instream Flow Assessments project at its November 20-21, 2008 meeting (Exhibit 1). Staff launched two of three instream flow projects successfully, but was unable to conclude a grant agreement with the United States Geological Survey. The instream flow analyses for the Santa Maria River are still urgently needed by the Department of Fish and Game. Therefore, staff recommends authorizing the Executive Officer to enter into an environmental services contract to conduct the remaining instream flow analyses for the Santa Maria River in order to achieve the OPC’s project goals in a timely fashion.

**LOCATION:** Statewide

**STRATEGIC PLAN OBJECTIVE:** Governance, Physical Processes and Habitat Structure

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**EXHIBITS**

Exhibit 1: [November 20-21, 2008](#) Staff Recommendation

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**RESOLUTION AND FINDINGS:**

Staff recommends that the Ocean Protection Council (OPC) adopt the following resolution pursuant to Sections 35500 *et seq.* of the Public Resources Code:

“The Ocean Protection Council hereby approves the disbursement of an amount not to exceed \$1,000,000 to complete four in-stream flow analyses for three coastal rivers. The data from these assessments will be used by the Department of Fish and Game to develop stream flow recommendations for use by the State Water Resources Control Board. Disbursements may be made under this authorization to the Pacific States Marine Fisheries Commission (PSFMC), Humboldt State University, (HSU), or through standard contracting procedures with a qualified provider of environmental services.

This authorization is subject to the condition that, prior to disbursement of funds, each grantee or contractor of funds under this authorization shall submit the following for the review and approval of the Secretary to the Council:

1. A detailed work plan, including schedule and budget.
2. The names and qualifications of any contractors or subcontractors the grantee(s) or contractor intends to retain to carry out the project.
3. Documentation that the grantee(s) or contractor has obtained all permits and approvals necessary to implement the project.”

Staff further recommends that the Council adopt the following findings:

“Based on the accompanying staff report and attached exhibits, the 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 is consistent with the Ocean Protection Council's project funding guidelines.”

**PROJECT DESCRIPTION:**

**Project Background:**

This authorization, made at its November 20-21, 2008 meeting, enabled staff to launch a program designed to assist the California Department of Fish and Game and the State Water Resources Control Board to meet its existing obligations under Public Resources Code (PRC) §10001. Under that code, DFG is obligated to identify and list “those streams and watercourses throughout the state for which minimum flow levels need to be established in order to assure the continued viability of stream-related fish and wildlife resources.” Water Code section 1257.5 requires the Water Board to consider stream flow requirements when acting on applications to appropriate water.

Shortly after the OPC authorized funds, staff provided two grants to authorized entities to commence instream flow studies on the Shasta River (Humboldt State University), and the Big Sur River (Pacific States Marine Fisheries Commission). The third grant to the United States Geological Service (USGS) was never finalized, due largely to USGS objections to State contracting language. Following several years of efforts to reach agreement, and due to concerns by DFG that the project

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would not be completed timely, OPC staff concluded that the authorized funds should be used to pursue an environmental services contract with an entity capable of completing the tasks already defined in the scope of work. Doing so will end the need for further discussions with USGS over contracting language, and allow staff to meet the goals and objectives of this important project in a timely fashion.

As before, the studies will be used by DFG and the Water Board to help ensure that water flows within streams are maintained at levels which are adequate for long-term protection, maintenance, and proper stewardship of fish and wildlife resources.

### **Project Details and Scope of Work:**

This project will produce detailed flow analyses for the Santa Maria River, as follows:

OPC staff will enter into an environmental services contract to achieve the project goals. Through a competitive bidding process a qualified contractor will complete a stream flow analysis for the entire Santa Maria River in Santa Barbara County. This analysis will investigate the water flow required for adult steelhead passage from the ocean into upstream spawning and rearing habitats, a critical component of the steelhead life history, and to upstream habitat near and in the Los Padres National Forest. It is anticipated that the contractor will use rainfall runoff simulations, groundwater evaluations, and review of annual hydrographs in the analyses. Additional analysis will include an investigation of the frequency of water flow events to evaluate the potential passage opportunities based upon annual runoff and releases from Twitchell Reservoir.

Another component will include an analysis of the estuarine habitat of the Santa Maria River including mapping to track potential changes in water volume, and water quality monitoring to assess seasonal or annual changes in major water quality parameters. The contractor will monitor water level to track the effects of inflows, tides, and sand-barrier closure and breaching on estuary volume. Fish sampling using direct observation and seining will be conducted to assess use of the estuary by steelhead and other species such as tidewater goby.

Due to the unpredictable nature of flows on the Santa Maria, and the difficulty inherent in observing migrating adult steelhead, adult habitat suitability criteria will be compiled from available data from similar rivers and other sources, such as the Coastal Conservancy's "Steelhead Migration Barrier Assessment and Recovery Opportunities for the Sisquoc River, California" (2003). Populations of resident rainbow trout exist in the Cuyama and Sisquoc Rivers and can be used to document habitat suitability criteria that will be applicable to adult and juvenile steelhead. Habitat use data will be collected during several seasons (e.g., spring and summer) in reaches identified during year one of the project. It is envisioned that the stream flow data from the Santa Maria River will be incorporated into the construction and calibration of hydraulic and habitat simulation models. The models will then be used to identify flow recommendations considering all important elements such as hydrology, biology, geomorphology, water quality, connectivity and estuarine health.

### **PROJECT FINANCING**

Project financing remains the same as identified under the previous staff recommendation, and as follows:

Ocean Protection Council \$1,000,000  
DFG (in-kind contribution) \$46,200

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DFG Fisheries Restoration Grant \$501,041(anticipated)  
McBain and Trush, Inc/Cal Trout (leveraged) \$139,000 + in kind

**Total Project Cost \$1,686,241**

The anticipated source of funds will be the fiscal year 2007/2008 appropriation from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84). Proposition 84 authorizes the use of these funds for purposes consistent the California Ocean Protection Trust Fund (Pub. Res. Code § 75060(g); *see also* Pub. Res. Code § 75074).

This project is appropriate for prioritization under the selection criteria set forth in Section 75060(g). Section 75060(g) provides that the Council will give priority to projects which will develop the scientific data necessary to improve state efforts to protect and conserve ocean resources. Developing the data necessary to better manage the in-stream flows throughout the state will improve state efforts to conserve ocean resources such as anadromous fish. This project will develop in-stream flow recommendations for three rivers in various regions of the state. DFG has identified these rivers with high resource value and ‘critical’ habitat for salmonid survival throughout the state.

The OPC contribution to each in-stream flow analysis will be as follows:

HSU: Shasta River \$300,000  
PSMFC: Big Sur River \$100,000  
Environmental Services Contract: Santa Maria River \$600,000

Each of the in-stream flow projects outlined in this proposal costs approximately \$500,000 - 600,000. The OPC’s funds will build on existing and future work of DFG, the grantees, and others and to complete the analyses. The Shasta River element (\$300K) builds on existing efforts of DFG, Humboldt State University, and the University of California Davis and an independent consultant. Total project cost for the entire Big Sur River in-stream flow analysis is \$601,041. OPC’s contribution of \$100,000 will fund the estuary portion of the overall Big Sur assessment. The Santa Maria River analysis (\$600K) will be entirely funded by OPC. DFG will contribute staff time to work with the grantees and contractors on each analysis in the amount of \$46,200.00 per year for three years for on-the-ground coordination and oversight.

**CONSISTENCY WITH THE CALIFORNIA OCEAN PROTECTION ACT:**

As identified in the original staff recommendation, attached, the project is consistent with the Ocean Protection Act, Division 26.5 of the Public Resources Code, in the following respect:

Under Section 35650(b)(2)(G), the OPC may undertake projects to “provide monitoring and scientific data to improve state efforts to protect and conserve ocean resources.” Broadly, completion of this project will result in scientific data on the relationship between water flow and habitat availability for salmonids throughout the aforementioned rivers. These data will specifically include habitat mapping, water temperature, timing of flow, and insight into the habitat requirements for the various life stages of salmonids.

The proposed project is also consistent with the goals of §35615 because it will encourage coordination of activities of state agencies, (the Water Board and DFG) and will help establish

policies to coordinate the collection of scientific data related to the ocean and coastal resources. The project will foster collaborative partnerships between state and federal agencies and help promote sustainable salmonid runs in the future. Further, the data and information generated by this project will inform regional management decisions and potentially state and federal efforts on what types of stream flow are needed for the healthy management of salmonids.

**CONSISTENCY WITH THE OPC'S STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

As identified in the attached staff recommendation, the project is consistent with the OPC's strategic plan goals and objectives in the following respects:

**Goal A (Governance) Objective 2:** "Maximize the effectiveness of state agency efforts to protect and conserve ocean resources." Completion of this project will require that state and federal agencies work together to develop tools that will ultimately improve stream flow for salmonids throughout the state. Identifying the necessary stream flow requirements in particular watersheds will enhance salmonid populations.

**Goal D (Physical Processes and Habitat Structure) Objective 1:** "Restore and maintain valuable ocean and coastal habitats and resources." Completion of this project will support the recovery of salmonids and the data gathered will be used by multiple state agencies to develop adequate stream flow measurements for critical salmonid rivers.

The proposed project will provide funds to complete four in-stream flow analyses<sup>1</sup> (collectively "the project") for coastal rivers in California for salmonid recovery. Pursuant to this authorization, the Secretary to the Council expects to enter into agreements or contracts with 1) HSU to analyze two reaches of the Shasta River (Siskiyou County), 2) PSMFC to analyze the Big Sur River (Monterey County), and 3) a qualified contractor to analyze the Santa Maria River (Santa Barbara County). Each analysis will be completed under the direction and oversight of OPC and the Department of Fish and Game (DFG) staff. The studies will be used by DFG to develop in-stream flow recommendations for the State Water Resources Control Board, Water Rights Division (Water Board) to assist it in exercising its water rights authority (i.e., when considering new applications for water diversions or when evaluating permits or impacts to fish and wildlife resources) pursuant to PRC §10004.

The primary objective of the project is to provide the Water Board with flow recommendations as to what the minimum amount of water flow is needed to ensure salmonid survival. In previous situations, where stream flow has been altered based on these types of analyses, salmonid populations have increased. The studies will consider the benefits of increasing stream flow at critical times of the year for various life-stages of salmonids with the goal of increasing overall populations by providing additional habitat while maintaining cold, fresh water.

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<sup>1</sup>In-stream flow is the amount of water needed in a stream to adequately provide for downstream uses occurring within the stream channel. These users cover some or all of the following uses that extend beyond the need for human drinking water: aquatic habitat, recreation, wetlands, navigation, hydropower, riparian vegetation, and water quality, including waste assimilation. Flow is measured in volume of water per unit of time, usually cubic feet per second (cfs). This gauges the amount of water flowing past a point in the river at a given time.

**PROJECT GRANTEE(S) AND CONTRACTORS:**

It is proposed that the instream flow studies be completed by: Humboldt State University (in the North Coast) for the Shasta River, PSFMC (in the Central Coast) for the Big Sur River, and a qualified contractor (in the South Coast) for the Santa Maria River.

**Humboldt State University**

HSU has the necessary experience, regional and scientific knowledge and availability to conduct these analyses on the Shasta River. HSU is well versed in the Shasta River's long and varied history with salmonid conservation projects. Further, HSU will be leveraging and building on an existing contract between Cal Trout and McBain/Trush, Inc. HSU will leverage the current contract between DFG and Cal Trout/McBain and Trush, Inc. which is to evaluate various flow study methodologies applicable to the Shasta River basin, conduct outreach with landowners and other stakeholders in the Shasta River basin, and recommend a robust methodological approach to DFG for flow study implementation at three different locations in the Shasta River watershed. The stream flow analysis for the Shasta River will build on this work and will recommend a robust methodological approach to DFG for flow study implementation at two reaches of the Shasta River watershed.

**Pacific States Marine Fisheries Commission**

PSMFC is an interstate commission created by Congress in 1947. PSMFC supports policies and actions to conserve, develop, and manage fishery resources in California, Oregon, Washington, Idaho and Alaska. Its purpose is to promote the better utilization of fisheries (marine, shell, and anadromous) and to develop a joint program of protection and prevention of physical waste of such fisheries. PSMFC accomplishes this through coordinating research activities, monitoring fishing activities, and facilitating a wide variety of projects. PSFMC will conduct the analysis for the estuary component of the Big Sur River. PSMFC will also complete the stream flow analysis for the mainstem section of the Big Sur River, pending approval from DFG Fisheries Restoration Grant Program. If PSMFC is awarded this grant, it will be in a unique position to carry out the work that pertains to the estuary portion of the river, as the commission will already have staff and the necessary data readily available.

**Contractor**

OPC Staff will review a list of qualified contractors and interview at least three prospective firms. Once a selection has been made based upon qualifications, price negotiations will begin. Selection of a qualified contractor will proceed as is required by State contracting procedures.

The selected firm must have a diverse team of scientists that will be necessary (biologists, hydraulic engineers, geologist, geomorphologist, groundwater expert) to complete an instream flow analysis and who are trained in hydraulic and geomorphic data analysis suitable for the Santa Maria River. .

All four studies will be conducted in close coordination with OPC, and DFG staff will provide coordination and oversight for each stream flow analysis. As the designated trustee for California's fish and wildlife, DFG has special expertise regarding salmon, steelhead and other fish that rely upon river-related ecosystems and adequate flows of water.

**SITE DESCRIPTION:**

**The Santa Maria River**

The Santa Maria River is located on the South - Central Coast of California. The river is formed at the confluence of the Sisquoc River and Cuyama River, about 20 miles from the coast. The river defines part of the border between Santa Barbara County and San Luis Obispo County, California. Twitchell Reservoir is formed by a dam on the Cuyama River, upstream of the confluence of the Sisquoc and Cuyama River.

**CONSISTENCY WITH OPC'S 2007/2008 FUNDING PRIORITIES**

The project remains consistent with the Ocean and Coastal Ecosystems section, focusing on salmon statewide. As that document states, priority will be given to innovative projects that will contribute to improved management, enforcement, and understanding of river ecosystems in California. Further, this project also meets the strategic grants section in the funding priorities. Specifically, it states that priority will be given to projects that:

- Improve management approaches and techniques for coastal and ocean resources
- Improve coordination or data sharing among local, state or regional entities
- Produce results that can be applied to other areas or regions

**CONSISTENCY WITH OPC'S PROJECT FUNDING GUIDELINES:**

The project is consistent with the OPC's Project Funding Guidelines, adopted June 14, 2007, in the following respects:

**Required Criteria**

1. **Directly relate to the ocean and coast:** The in-stream flow recommendations will take place in the Big Sur River, Santa Maria River, and tributaries to the Shasta River. These rivers drain to the ocean and have potential to support large populations of anadromous fish.
2. **Support of the Public:** See Exhibit 1.
3. **Greater-than-local interest:** The chosen rivers have the potential to support large populations of salmonids due to the relatively pristine state of the habitat. Increased salmonid populations would be beneficial not just to fishermen, but to tribes, and to the benefit of the surrounding habitat and species that live within the riparian area.

**Additional Criteria**

5. **Leverage:** See the "Project Financing" section above.
6. **Timeliness or Urgency:** As exhibit 2 shows, the list of the coastal streams that are of high resource value was just recently released this past August. With salmonid populations at an all time low, it is urgent that the state act quickly to help reverse this downward population trend.
7. **Innovation:** Regulating stream flow in California for the benefit of anadromous fish as well as for existing human uses is a relatively new approach to recovering salmonid populations throughout the state.

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8. **Coordination:** This project will rely on the cooperation of DFG, the Water Board, the National Marine Fisheries Service, HSU and the PSFMC. The information that is collected will be used by many other state and federal agencies.

**COMPLIANCE WITH CEQA:**

The proposed project is categorically exempt from review under the California Environmental Quality Act (“CEQA”) pursuant to 14 Cal. Code of Regulations Section 15306 because the project involves only data collection, research and resource evaluation activities that will not result in a serious or major disturbance to an environmental resource. Staff has already filed a Notice of Exemption for the project following the council’s action November 20-21, 2008.