

COASTAL CONSERVANCY

Staff Recommendation
December 3, 2015

SEA OTTER RECOVERY 2016 GRANTS

Project No. 08-079-05
Project Manager: Trish Chapman

RECOMMENDED ACTION: Authorization to provide up to \$118,000 to the U.S. Fish and Wildlife Service and the University of California to implement two separate projects focused on the recovery of the southern sea otter.

LOCATION: Nearshore waters from southern San Mateo County to northern Santa Barbara County

PROGRAM CATEGORY: Integrated Coastal and Marine Resources

EXHIBITS

Exhibit 1: [Project Location Maps](#)

Exhibit 2: [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 one hundred eighteen thousand dollars (\$118,000) to implement projects focused on the recovery of the southern sea otter, specifically as follows, to the:

- U.S. Fish and Wildlife Service: sixty-two thousand dollars (\$62,000) to reduce sea otter disturbance through a public education campaign on responsible-viewing of wild sea otters.
- Regents of the University of California, Davis Campus (UCD): fifty-six thousand dollars (\$56,000) to develop diagnostic methods for identifying microcystin intoxication in sea otters.

Prior to the disbursement of funds each grantee shall submit for the review and written approval of the Executive Officer of the Conservancy a work program, including scope of work, budget and schedule; and the names and qualifications of any contractors to be employed in carrying out the 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 authorization is consistent with Chapter 5.5 of Division 21 of the Public Resources Code, regarding Integrated Coastal and Marine Resource Protection.
2. The proposed project is consistent with the current Conservancy Project Selection Criteria and Guidelines.”

PROJECT SUMMARY:

The proposed authorization would provide funding to the U.S. Fish and Wildlife Service (USFWS) and the University of California, Davis Campus (UCD) to undertake separate projects to aid the recovery of the southern sea otter through public education to reduce stress induced by interactions with humans and improving diagnostic techniques for identifying environmental stressors on the population. The southern sea otter (*Enhydra lutris nereis*,) is an ecologically important species that faces numerous challenges, from disease and shark bite mortality to resource limitation in large portions of its occupied range. Southern sea otters were hunted to near extinction in the early part of the 20th century, and listed as a federally threatened species in 1977. Currently the population numbers around 2,900 animals inhabiting the near-shore marine environments adjacent to San Mateo County south to Santa Barbara County. This is far less than the historic levels estimated at approximately 16,000 animals with a range along the entire California coast and south into Baja California.

To address this decline, taxpayers can voluntarily contribute to the California Sea Otter Recovery Tax Fund, of which the Conservancy receives approximately half the proceeds for expenditure on projects which will assist in the recovery of sea otters. In August 2015, the Conservancy solicited project proposals aimed at recovery of the southern sea otter. This solicitation was posted on the Conservancy’s website and emailed to multiple organizations involved with sea otter recovery efforts in California. The Conservancy received three proposals and staff recommends funding the two projects described below.

“Be Otter Savvy” Program. USFWS will reduce stress on otters through implementation of an education program aimed at promoting responsible viewing of wild sea otters. California’s sea otter population has been slowly recovering from near-extinction since cessation of the maritime fur trade. During this time, California’s coastal human population has also undergone a many-fold increase. As a result, southern sea otters are coming increasingly into contact with humans, especially in harbors and estuaries, where the charismatic species is a primary attraction for ecotourists. Recent research on the energy expenditures of reproductive female sea otters has demonstrated that individuals in this stage are physiologically challenged, suggesting that repeated disturbance can be harmful to sea otters by depleting their critical energy reserves. In extreme cases, the additional stress caused by human disturbance may lead to pup abandonment or even death. Wildlife tour operators, kayakers, photographers, and other marine recreationists often approach too closely, causing the repeated disturbance of sea otters throughout the day.

The goal of the “Be Sea Otter Savvy” program is to reduce sea otter disturbance by inspiring responsible viewing of wild sea otters. The program will accomplish this goal by engaging and educating the wildlife-viewing public, either directly or indirectly through operators of marine recreation and ecotourism businesses. USFWS will employ multiple strategies, including

meetings with marine operators, initiating a volunteer education program, developing a cause-marketing campaign similar to NOAA's Dolphin SMART campaign (<http://sanctuaries.noaa.gov/dolphinSMART/>), and using social media tools. USFWS aims to reduce the frequency of disturbance to sea otters that results from the proximity and behavior of marine recreation and wildlife viewing activities by at least 50% by the end of the grant period.

Improved Diagnosis of Sea Otter Intoxication from Algal Blooms: Researchers at UCD will develop recommendations on the best diagnostic methods for detecting microcystin intoxication in sea otters. Toxic algal blooms caused by cyanobacteria (blue-green algae) are a growing health problem in communities around the world. Increased development in coastal areas, with associated land-sea runoff, has resulted in increased amounts of environmental contaminants being introduced into freshwater and marine ecosystems. In combination with drought and climate change, these human activities have created optimal environments for toxic algal blooms in ponds, lakes and rivers. Once formed, these toxins can flow downstream, harming animals, plants and people.

UCD researchers first identified toxic algal blooms as a cause of sea otter mortality in 2010, but the extent of the issue is not well understood. As part of ongoing sea otter population recovery efforts that strive to identify, understand and, where possible, mitigate factors limiting sea otter population growth, there is a critical need to improve the ability to confirm and acutely measure blue-green algal bloom impacts in sea otters. Improving diagnosis of what seems to be an ongoing and possibly increasing cause of mortality in sea otters will inform on the relative importance of this cause of mortality to the sea otter population and help inform potential management actions.

The proposed research will evaluate, based on reliability and cost, different methods for diagnosing microcystin intoxication in sea otters. The research will include comparative testing of samples from otters that had been previously autopsied. This will also result in a more robust database of confirmed microcystin cases which can then be used to help identify geographic areas of particular concern.

Site Description: Southern sea otters historically ranged from Oregon to Baja, but are currently found only from Pt. Conception in Santa Barbara County to just below Half Moon Bay in San Mateo County. Inhabiting rocky, sandy, and mixed shores, they are most common in near shore areas with large kelp beds. They are generally found in water depths of sixty-five feet or less, facilitating foraging along the ocean floor. The U.C. Davis mortality study will research dead otters collected from throughout the otters' range.

The USFWS campaign will initially target areas with a high frequency of disturbance reports (as recorded by USFWS and California Department of Fish and Wildlife (CDFW)), specifically, the Cannery Row area of Monterey and the harbors of Moss Landing and Morro Bay, where the highest number of marine recreation participants are in proximity to the highest densities of sea otters (Exhibit 1). As data on disturbance are collected and analyzed, USFWS may expand or further refine the target activities and disturbance hot spots.

Project History: In 1972, Congress passed the Marine Mammal Protection Act prohibiting the take of protected marine mammals in U.S. waters, including the southern sea otter. In 1977, the animal was placed on the federal endangered species list as a threatened species, and in 1982, the U.S. Fish & Wildlife Service released a sea otter recovery plan. Concerns about slow pace of sea

otter recovery prompted environmental groups to lobby for legislation to address this problem. In 2006, the California legislature passed AB 2485 which focuses on sea otter mortality. Among other provisions, this bill established the California sea otter tax check-off fund (see Project Financing below). Fifty percent of the funds (after administration costs taken by the Controller and Franchise Tax Board) may be used by the Conservancy for sea otter-related projects as described in the Financing section below. The remaining 50% is provided to the Department of Fish and Wildlife for sea otter-related purposes.

Since 2008, the Conservancy has provided over \$900,000 of sea otter tax check-off funds for projects to aid in the recovery of southern sea otters. Conservancy staff have worked closely with the Sea Otter Alliance, a multi-agency partnership focused on sea otter recovery, and other stakeholders to identify high priorities for tax-check off funding. Projects funded to date include a multi-year study to examine the effects of contaminants and human-caused stressors on central coast sea otter populations. This study found that overall food availability was the most significant limiting factor on sea otter populations leading to lower rates of successful reproduction. A high density of female otters and pups have been observed in Elkhorn Slough in the past decade and it is believed that the warmer waters and haul out spots allow otters in the slough to reduce their food intake needs. A study of sea otters in Elkhorn Slough investigated otter feeding habits, prey availability and contamination and the findings will be used to inform future restoration efforts at the slough. The Conservancy is also funding researchers at UCD to update a landmark epidemiological study about impacts of coastal contamination on sea otters in order to pinpoint high-risk areas for exposure. Early findings from this study identified microcystin, a freshwater toxic algae, as a cause of otter deaths and linked them to drainage from Pinto Lake in Watsonville. As a result of this, the Conservancy funded a project in 2014 to help reduce microcystin levels in Pinto Lake.

The projects recommended for funding this year build off of the research from previous years and were identified as the highest priorities for sea otter recovery by the Sea Otter Alliance, which includes the USFWS, the U.S. Geological Survey, CDFW, researchers from UC Santa Cruz, UCD, and the Monterey Bay Aquarium.

PROJECT FINANCING

Coastal Conservancy	\$118,000
USFWS	\$50,000
Project Total	\$168,000

The anticipated source of Conservancy funds for these projects is an appropriation from the California Sea Otter Fund. Established in 2006, the California Sea Otter Fund is an income tax check-off program allowing taxpayers to dedicate funds to facilitate sea otter recovery. (Revenue and Taxation Code (RTC) §18754). The funds may be used for “research, science, protection projects or programs related to the Federal Sea Otter Recovery Plan or improving the nearshore ocean ecosystem, including, but not limited to, program activities to reduce sea otter mortality.” (RTC §18754.2(a)(3)). The proposed authorization is consistent with the requirements of the California Sea Otter Fund in that funds will be used to further the following objectives of the Final Revised Federal Southern Sea Otter Recovery Plan (2003):

- 1.2 Evaluate the causes of mortality of otters that strand on California beaches;
- 4.3 Determine concentrations and possible effects of disease, stress, toxic trace elements, and organochlorines on sea otters.
 - 4.3.1 Analyze tissues from southern sea otters for environmental contaminants and archive tissues for future analysis.
 - 4.3.4 Analyze tissues for evidence of stress or disease.
 - 4.3.6 Implement all reasonable and prudent measures to minimize factors causing stress or disease in the southern sea otter population.
- 7 Develop and implement a public education and outreach program.

RTC Section 18754.2(b) requires the Conservancy to solicit available federal, private, matching, and other dollars to maximize or leverage funds benefitting sea otters. The California Department of Fish and Wildlife will provide approximately \$13,000 of in-kind staff time support (approximately 5% of Dr. Melissa Miller's time) and an estimated \$24,000 of laboratory testing. UCD will provide approximately \$14,531 of in-kind staff time support (approximately 10% of Professor Woutrina Smith's time). In total, CDFW, USFWS, UCD and their partners will contribute over ~\$100,000 towards the two projects.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

This project would be undertaken consistent with Division 21, Chapter 5.5 (Coastal and Marine Resources) of the Conservancy's enabling legislation (Public Resources Code § 31220).

Under Section 31220 of the Public Resources Code, the Conservancy may undertake water quality and living marine resource protection projects that meet any of the objectives specified in subsection (b) of that section. Section 31220(b)(7) states that the Conservancy may undertake a project that "[r]educes the impact of population and economic pressures on coastal and marine resources." The proposed projects would reduce stress on sea otters by reducing conflicts between otters and humans and would also undertake research to aide in future conservation of ocean ecosystems in which otters are a keystone species.

CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S), AS REVISED JUNE 25, 2015:

Consistent with **Goal 5, Objective H**, the proposed authorization will result in two grants that will support the recovery of the southern sea otter.

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 October 2, 2014, 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. **Promotion and implementation of state plans and policies:** The proposed projects would advance the objectives of the U.S. Fish and Wildlife Service (USFWS) 2003 Final Revised Recovery Plan for the Southern Sea Otter (see “Project Financing” section). Under the terms of a 1991 cooperative agreement between the California Department of Fish and Wildlife and USFWS, the State will assist in pursuing the objectives of federal recovery plans.
4. **Support of the public:** The proposed projects are supported by the U.S. Geological Survey, U.S. Fish and Wildlife Service (UCD grant), California Department of Fish and Wildlife, the State Water Quality Control Board, the San Francisco Regional Water Quality Control Board, the Florida Fish and Wildlife Commission, City of Watsonville, and the Monterey Bay Aquarium, (See Exhibit 2).
5. **Location:** The proposed projects would be located within the coastal zone of San Mateo, Santa Cruz, Monterey, San Luis Obispo and Santa Barbara Counties.
6. **Need:** Funds for this project will be derived from monies appropriated to the Conservancy from the Sea Otter Recovery Fund. On their own, the proposed grantees do not have sufficient funds to undertake these projects.
7. **Greater-than-local interest:** The southern sea otter is a federally-listed threatened species. Like all threatened and endangered species, the otter’s recovery is of great significance, both from a biological and cultural perspective. As a sentinel species in the food chain, the sea otter is a measure of the entire marine ecosystem. Thus, sea otter recovery is an important component of marine resource restoration and protection overall. Additionally, because of its preferred habitat in near shore kelp beds, and its habit of feeding on the surface of the water, the sea otter is highly visible from the shore. Wildlife viewing opportunities attract millions of tourists. The southern sea otter exhibit at the Monterey Bay Aquarium is one of the most popular in the facility, revealing the high level of public interest in this animal.
8. **Sea level rise vulnerability:** The proposed projects will not be affected by sea level rise considerations.

Additional Criteria

9. **Leverage:** See the “Project Financing” section above.
10. **Readiness:** The proposed grantees are ready to move forward with this study immediately.
11. **Minimization of greenhouse gas emissions:** The proposed authorization is not expected to have any long-term green house gas emissions. The project has the potential to generate short-term greenhouse gas emissions associated with vehicles used to conduct outreach efforts.

COMPLIANCE WITH CEQA:

The proposed research by UCD considered for funding under this authorization is exempt from the California Environmental Quality Act (CEQA) pursuant to 14 California Code of Regulations (CCR) Section 15306. Section 15306 exempts basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource and which may lead to an action which the Conservancy has not yet approved, adopted or funded. The UCD study will not result in a major disturbance to the environment because tissue samples used to evaluate the various testing techniques will be taken from otters that had been previously autopsied.

The USFWS “Be Otter Savvy” campaign is not a project subject to CEQA review. Under the CEQA Guidelines, a “project” is defined as an action that can cause either direct physical change or reasonably foreseeable indirect change in the environment and is an activity directly undertaken or funded by a public agency, or involves the issuance of a permit or other entitlement. (14 CCR §15378). Development and implementation of an outreach effort and public education campaign concerning responsible viewing of wild sea otters as described in this staff recommendation does not have the potential to cause direct or indirect physical change to the environment and therefore does not constitute a project necessitating review under CEQA.

Upon approval, staff will file a Notice of Exemption for the UCD study.