

COASTAL CONSERVANCY

Staff Recommendation  
December 4, 2014

**SEA OTTER RECOVERY 2015 GRANTS**

Project No. 08-079-03  
Project Manager: Trish Chapman

**RECOMMENDED ACTION:** Authorization to grant up to \$118,000 to the University of California to implement projects focused on the conservation and 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

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**EXHIBITS**

Exhibit 1: [Project Location Map](#)

Exhibit 2: [Project Letters](#)

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**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 to the Regents of the University of California at the following locations:

- The U.C. Santa Cruz campus (UCSC) fifty eight thousand three hundred thirty three dollars (\$58,333) to: 1) assess the use of Elkhorn Slough by southern sea otters; and 2) conduct a public education program on the recovery of southern sea otters.
- The U.C. Davis campus (UCD) fifty nine thousand six hundred sixty seven dollars (\$59,667) to assess southern sea otter mortality patterns and identify key causes of premature mortality.

Prior to the disbursement of funds each project 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:

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“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.”
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### **PROJECT SUMMARY:**

The proposed authorization would provide funding to the University of California, Santa Cruz Campus (UCSC) and the University of California, Davis Campus (UCD) to undertake separate projects to aid the recovery of the southern sea otter.

Southern sea otters (*Enhydra lutris nereis*,) currently inhabit near-shore marine environments adjacent to San Mateo County south to Santa Barbara County. They were hunted to near extinction in the early part of the 20th century, and listed as a federally threatened species in 1977. The population currently numbers between 2,000 and 2,941 animals, far below the historic levels estimated at approximately 16,000 animals. In recent years, multiple organizations have undertaken studies to better understand otter population dynamics, including the causes of early mortality and low birth rates.

In August 2014, 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 two proposals and the recommended grants would fund both proposals, as described below.

**Sea Otter Ecology in Elkhorn Slough.** UCSC, in collaboration with the Elkhorn Slough Foundation will continue to investigate how sea otters use the Elkhorn Slough and investigate otter feeding habits, prey availability and contamination. This information has several purposes. With an understanding of how otters benefit from or are impacted by the slough environment, future restoration projects could incorporate components that enhance or increase high quality otter habitat. In addition, water quality regulations (Total Daily Maximum Loads) are currently being developed for Elkhorn Slough and its source tributaries. These regulations could be informed by knowledge of contaminant effects on otters in the estuary. Currently, too little is known about estuarine habitat use by otters to allow restoration and regulatory strategies to be designed and implemented to support sea otter needs. The recommended grant would provide the last year of funding for a three year study.

In addition to the research at Elkhorn Slough, UCSC, in coordination with the Friends of the Sea Otter, will continue efforts to inform the public, including policy makers and regulators, about the status of sea otters, their habitat, and additional research needed to adequately manage problems plaguing the population. Development and implementation of a public education and outreach campaign was identified as Recovery Objective #7 in the 2003 Recovery Plan for the Southern Sea Otter. The public education efforts will focus in particular on Sea Otter Awareness Week, September 2015. In addition, the program will include outreach activities to educate the

public on what constitutes harassment of sea otters, the harm to sea otters that may result, and how to avoid harassment while still enjoying observing sea otters.

**Investigating Sea Otter Mortality Patterns:** U.C. Davis will continue to perform in-depth investigations of the causes and patterns of mortality in southern sea otters. This grant would fund the final year of a three-year study. The study expands on an landmark epidemiological study conducted in 2003 of 105 dead sea otters collected from 1998-2001. This previous study provided critical information about impacts of coastal contamination on sea otters. The new study expands on this research and incorporates more complete diagnostic testing to provide a broader understanding of sea otter disease processes. Data from approximately 600 otters will be included in this study. During the third year of the study, extensive modeling and epidemiological analyses will be completed in collaboration with veterinary epidemiologists and biostatisticians at U.C. Davis and the U.S. Geological Survey (USGS). Analysis of this large and comprehensive 15-year dataset will provide a much broader understanding of causes of southern sea otter mortality and far greater statistical power for identifying disease patterns, coastal “hot spots” and pathogen/ toxin synergy.

Researchers from UCSC and UCD have been integrally involved in efforts to recover southern sea otter populations and helped form the Sea Otter Alliance, a partnership of state and federal agencies, research institutions, and community organizations focused on sea otter recovery. Both institutions have partnered on previous recovery efforts with a range of stakeholders, including Friends of the Sea Otter, the Department of Fish and Wildlife, the U.S. Geological Survey, and the Monterey Bay Aquarium. The researchers at the University of California are well qualified to undertake the proposed projects.

**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.

Elkhorn Slough, a National Estuarine Research Reserve, is regarded as critically important habitat for marine and nearshore wildlife on California’s Central Coast. The slough, including Moss Landing Harbor, has the highest concentration of southern sea otters on the California coast with counts exceeding 100 animals. They can be found in open water or hauled out on the mudflats in the main slough channel, from Moss Landing Harbor to Hudson Landing. Males are most common in the north harbor area. Groups of sea otter mothers and pups are more commonly found further in the slough where the protected waters provide both food sources and refuge.

Sea otter recovery outreach and education efforts will be focused within the coastal counties within the sea otters’ range (Santa Barbara north to San Mateo) and at aquariums and marine education centers throughout the state.

**Project History:** In the 1700s, sea otters ranged from Baja California along the west coast of the United States into Alaska and around the Pacific to the eastern coast of Russia and down into waters off Japan. Relentlessly hunted for their luxuriant fur, by the early 1900s southern sea

otters (those previously found from Baja California to the Pacific Northwest) were believed extinct. In 1938, about fifty animals were unexpectedly discovered along the Big Sur coast.

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. At that time, resource managers predicted that the southern sea otter population would rebound to about 13,000 animals. Throughout the 1980s and early 90s, the population grew at a healthy rate of about five to seven percent a year and by the mid-1990s population levels had reached about 2,000 animals. Shortly thereafter, however, managers noted a worrisome slow-down in population growth, and in more recent years, no growth at all.

Concerns about stagnation of the sea otter population 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 prohibits the disposal of substances known or believed to have deleterious effects on fish, plant life, mammals or bird life in state waters. (Fish and Game Code § 5650(a)(6)). Additionally, the bill established the California sea otter tax check-off fund (see Project Financing below) to allow taxpayers to contribute to funding solutions to this problem. 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 \$800,000 of sea otter tax check-off funds for projects to aid in the recovery of southern sea otters. From 2008-2011, the Conservancy funded an extensive study to determine the effects of contaminants and human-caused stressors on southern sea otter populations. The final report was published in late 2013. Researchers were surprised to find that food supply rather than contaminants and human-caused stressors appears to be the limiting factor for otter populations along the central coast. Thus, range expansion is now seen as critical to achieving recovery of southern sea otters. The Conservancy also funded a study in 2012 evaluating potential contributing factors to help explain an observed significant increase in sea otter mortality from shark bites. The study found that age and body condition were significant predictors of shark bite risk: older otters were significantly more likely to die of causes other than shark bite, and sea otters in better body condition had increased probability of being shark bit (meaning that otters in poor condition were significantly more likely to die of causes other than shark bite). The study also concluded that exposure to parasites and disease did not significantly contribute to the likelihood that an otter would die from a shark bite. Work funded by the Conservancy in 2013 and 2014 is still ongoing.

## **PROJECT FINANCING**

<b>Coastal Conservancy</b>	<b>\$118,000</b>
<b>Project Total</b>	<b>\$118,000</b>

The anticipated source of Conservancy funds for this project 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 §18751). 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 understanding of sea otter habitat use and mortality patterns in order to guide future recovery efforts. The public education activities will further the recommendations of the Final Revised Federal Southern Sea Otter Recovery Plan (2003), Objective 7 (develop and implement a public education and outreach program).

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 University of California, USGS, Elkhorn Slough National Estuarine Research Reserve and other partners will provide in-kind staff and laboratory resources worth approximately \$148,000.

#### **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)(5) states that the Conservancy may undertake a project that “[p]rovides for monitoring and mapping of coastal currents, marine habitats, and marine wildlife, in order to facilitate the protection and enhancement of resources within the coastal zone. A project considered under this paragraph shall be implemented in consultation with the Department of Fish and [Wildlife].” 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.” Projects under this section must be consistent with the Clean Beaches Program administered with the State Water Resources Control Board.

Consistent with Section 31220(b)(5), the proposed project will provide for monitoring of southern sea otter to facilitate their protection and enhancement within the coastal zone. Consistent with Section 31220(b)(7), the public outreach portion of the project will also assist in the protection of marine resources from impacts caused by humans. The Department of Fish and Wildlife has been consulted with regard to this project, as required by Section 31220(b)(5). The project addresses a marine species and thus is not directly addressed in local watershed management plans. Conservancy staff has consulted with the State Water Resources Control Board in the development of this project in order to ensure consistency with the Clean Beaches Program.

#### **CONSISTENCY WITH CONSERVANCY’S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

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. 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. Specific actions identified in the plan applicable to the proposed projects include: Task 1.2 - Evaluate the causes of mortality of otters that strand on California beaches; Task 4.3.1 - Analyze tissues from southern sea otters for environmental contaminants and archive tissues for future analysis; and Task 7 - Develop and implement a public education and outreach program.
4. **Support of the public:** The proposed research is supported by U.S. Fish and Wildlife Service, the California Department of Fish and Wildlife, the Monterey Bay Aquarium, and the State Water Quality Control Board (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 this study.
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 such as this 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 research and education components of the project 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. **Cooperation:** This project is a cooperative effort between many resource agencies and organizations focusing on sea otter health and recovery.
12. **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 by commuting research workers, but these emissions would be limited and not cumulatively significant.

**COMPLIANCE WITH CEQA:**

The proposed research projects considered for funding under this authorization are 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 sea otters as only dead sea otters will be handled. The UCSC study will involve only observational studies of sea otter behavior and educational activities.

The public outreach effort proposed for funding 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 a public outreach effort concerning southern 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 project.