

COASTAL CONSERVANCY

Staff Recommendation  
November 21, 2024

**SEA OTTER RECOVERY GRANTS 2025**

Project No. 08-079-14  
Project Manager: Irvin Tang

**RECOMMENDED ACTION:** Authorization to disburse a total of up to \$179,260 to Sea Otter Savvy, University of California at Santa Cruz, and U.S. Geological Survey to implement three separate projects to aid in the recovery of the southern sea otter.

**LOCATION:** Nearshore waters from Del Norte County to Santa Barbara County

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EXHIBITS

- Exhibit 1: [Project Location Map](#)
  - Exhibit 2: [California Sea Otter Fund – Summary of Projects](#)
  - Exhibit 3: [Project Letters](#)
  - Exhibit 4: [December 1, 2022 Staff Recommendation](#)
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**RESOLUTION AND FINDINGS**

Staff recommends that the State Coastal Conservancy adopt the following resolution and findings.

Resolution:

The State Coastal Conservancy hereby authorizes the disbursement of an amount not to exceed one hundred seventy-nine thousand two hundred sixty dollars (\$179,260) to implement three separate projects to aid in the recovery of the southern sea otter, specifically as follows, to:

- Sea Otter Savvy: fifty-thousand dollars (\$50,000) to educate the public on the historic role of sea otter and potential future role of reintroduction within their historical habitat range in northern California and San Francisco Bay.
- University of California at Santa Cruz: fifty-eight thousand one hundred twenty-five dollars (\$58,125) to augment the grant authorized by the Conservancy on December 1, 2022, for a total authorized amount of one hundred ninety-nine thousand four hundred sixty five dollars (\$199,465) to carry out the final year of the research on sea otter social

structure and stressors to inform sea otter reintroduction planning, subject to the conditions of the December 1, 2022, authorization.

- U.S. Geological Survey: seventy-one thousand one hundred thirty-five dollars (\$71,135) to develop alternative methods of sea otter monitoring using environmental DNA and RNA (eDNA and eRNA) to improve monitoring of sea otter populations.

Sea Otter Savvy, University of California at Santa Cruz, and U.S. Geological Survey are collectively referred to as the “grantees.”

Prior to commencement of the project, each grantee shall submit for the review and written approval of the Executive Officer of the Conservancy (Executive Officer) the following:

1. A detailed work program, schedule, and budget.
2. Names and qualifications of any contractors to be retained in carrying out the project.

Findings:

Based on the accompanying staff recommendation 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.
3. Sea Otter Savvy is a nonprofit organization organized under section 501(c)(3) of the U.S. Internal Revenue Code.

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## **STAFF RECOMMENDATION**

### **PROJECT SUMMARY:**

Staff recommends that the Conservancy disburse a total of up to \$179,260 to implement three separate projects to aid in the recovery of the southern sea otter. The total is anticipated to be distributed as follows: \$50,000 to Sea Otter Savvy, \$58,125 to the University of California at Santa Cruz (UCSC), and \$71,135 to the U.S. Geological Survey (USGS). Sea Otter Savvy will educate the public on the historic role of sea otter and potential future role of reintroduction within their historical habitat range in northern California and San Francisco Bay. The recommended funding to UCSC will augment an existing grant authorized by the Conservancy on December 1, 2022 (Exhibit 4) to fund the final year of the three-year research project on sea otter social structure and stressors to inform sea otter reintroduction planning. USGS will develop alternative methods of sea otter monitoring using environmental DNA and RNA (eDNA and eRNA) to improve monitoring of sea otter populations.

The southern sea otter (*Enhydra lutris nereis*) is an ecologically important species that faces numerous challenges, from disease and shark bite mortality to resource limitations 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 2,962 animals inhabiting the near-shore marine environments

adjacent to San Mateo County south to Santa Barbara County. This is far less than the historic southern sea otter population levels estimated at approximately 16,000-20,000 animals, which inhabited a range along the entire California coast and south into Baja California. To address this decline and slow recovery, 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 that will assist in the recovery of sea otters.

In May 2024, the Conservancy solicited project proposals aimed at recovery of the southern sea otter. Staff recommends funding the three projects described below.

1. **Sea Otter Savvy's Sea Otter Recovery Community Engagement Program:** Sea Otter Savvy will implement its "Sea Otter Recovery Community Engagement" (SORCE) to educate the public on the historic role of sea otter and potential future role of sea otters if they are reintroduced within their historical habitat range in northern California and San Francisco Bay. As the concept of sea otter reintroduction is explored as a feasible recovery action for southern sea otters, there is a need to foster public understanding of their ecological importance as a keystone species and build support for their recovery, specifically in northern California and the San Francisco Bay Area which are expected to be potential reintroduction locations. With the proposed project, Sea Otter Savvy will create accessible, science-based resources on sea otter history, ecology, and cultural significance, to provide the public and stakeholders with the tools needed to understand the implication of sea otter recovery in northern California and the San Francisco Bay Area. Outreach materials developed will include artwork, digital media, public presentation, and surveys. In addition, Sea Otter Savvy will host youth programs to engage inner-city youth and underserved groups in these locations to engage in sea otter recovery efforts and foster the next generation of wildlife stewards. As part of the proposed project, Sea Otter Savvy will continue to build its relationship with Tribes to advance sea otter recovery, including with Ohlone members (*Chochenyo & Rumsen*), the Tolowa Dee-ni', the Northern Chumash Tribal Council, and members of the Marine Tribal Stewardship Network to integrate their cultural perspective into Sea Otter Savvy outreach materials and invite the Tribe's participation in outreach events.
2. **UCSC's Study on Habitat Use, Stressors, and Social Structure in an Estuarine Sea Otter Population Year 3.** The recommended augmentation of the existing UCSC grant is to address a funding gap for Year 3 of the three-year research on sea otter social structure and stressors to inform sea otter reintroduction planning. The original grant for Year 1 and 2 of the research was authorized by the Conservancy on December 1, 2022 (Exhibit 4). The scope of work for the final Year 3 of the study is critical to finish tracking otter survival, reproductive status, weaning success, and foraging as it relates to understating the social structure and stressors of the sea otter population in Elkhorn Slough. In addition, in Year 3, UCSC will complete additional genomics work to estimate gene flow to compare relatedness between animals in Elkhorn Slough and the outer coast. The project will culminate in a report analyzing: (1) the findings of the differences in cumulative stressors across different years and locations; and (2) the findings of patterns of behavior, social interactions, and the genetic relatedness of study animals. This information will be utilized in sea otter reintroduction planning efforts.

3. **USGS's Study on the use of eDNA and eRNA in monitoring sea otter population dynamics.** USGS will carry out a pilot study to develop alternative methods of sea otter monitoring using environmental DNA and RNA (eDNA and eRNA) to improve monitoring of existing sea otter populations. Existing methods to monitor sea otter populations using visual surveys are limited and difficult due to logistical, financial, and environmental constraints. This project proposes to use eDNA and eRNA to overcome the limitations of traditional visual surveys, as eDNA and eRNA allows researchers to detect the presence of sea otters and other species by analyzing water and sediment samples for genetic material. This method has the potential for providing a cost-effective, efficient, and non-invasive monitoring tool. Through this study, water and sediment samples will be collected in Elkhorn Slough, a known sea otter habitat and analyzed for genetic material. The project will develop targeted eDNA and eRNA assay, which can provide the capability of monitoring sea otter in their habitat including their presence/absence, health conditions, and composition of their prey communities. This advance monitoring technology will allow for a better understanding of sea otter populations and ecosystem dynamics over time, which will be utilized in sea otter recovery planning efforts. Tools developed in this study will help to evaluate the extent of range expansion of southern sea otters critical for sea otter recovery. Through this pilot study, USGS will deliver a report on the development and validation of sea otter specific eDNA assay for monitoring sea otter presence/absence and potential applications of eDNA and eRNA assays targeted at sea otter reintroduction efforts.

**Site Description:** Southern sea otters' historic range is from Oregon to Baja, but the species currently inhabit only San Mateo County to Santa Barbara County. They are mostly found in kelp beds in the nearshore environment, generally found in water depths of sixty-five feet or less so that they can forage along the ocean floor. Over the last 20 years, otters have also been found to thrive in salt marshes and eelgrass beds in estuaries.

1. Sea Otter Savvy's program focuses outreach and education efforts in historical range of sea otter habitat in northern California and the San Francisco Bay Area where otters are currently absent and have the greatest potential for reintroduction.
2. UCSC's project will take place in Elkhorn Slough. Elkhorn Slough is the only estuary that has been fully recolonized by southern sea otters and as such, it is the best source of information on what to expect if southern sea otters are reintroduced to California estuaries in the future. Elkhorn Slough was the site of a previous sea otter research project that was conducted from 2013 to 2016, with the support of the Conservancy, which captured the population dynamics in Elkhorn Slough as the sea otter population reached carrying capacity in 2016. This project is expanding on that study to understand what happens after a sea otter population reaches carrying capacity.
3. USGS's project will also take place in Elkhorn Slough to collect sediment and water samples. The extraction and development of eDNA and eRNA assay will take place at laboratories across California including: USGS Davis Field Station and UC Davis Vet Genetics Laboratories in Davis; and Genidaqs Laboratories in West Sacramento.

**Grant Applicant Qualifications:**

1. Sea Otter Savvy has successfully implemented Conservancy grants for Sea Otter Savvy program from 2016-2019 and in 2022-2023. Sea Otter Savvy is uniquely positioned to carry out this project as their mission and experienced staff is focused on increasing awareness about sea otter conservation through outreach. The concept for Sea Otter Savvy originated from a collaboratively identified need for a new outreach program, by representatives from U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, Monterey Bay Aquarium, and Friends of the Sea Otter. Sea Otter Savvy began in 2015 when it received its first grant from U.S. Fish and Wildlife Service.

2. UCSC is an academic institution that has extensive experience conducting research projects and has a fiscal system and staff dedicated to financial operations that can administer a state grant. The project will be completed by Dr. Terrie William's lab, which is comprised of qualified researchers including 1) Dr. Terrie Williams, a comparative eco-physiologist with 35 years of research experience and who has managed millions of dollars in grants during her career; and 2) Lilian Carswell, the Southern Sea Otter Recovery and Marine Conservation Coordinator for the U.S. Fish and Wildlife Service, where she has worked on sea otter and marine policy issues since 2002.

3. USGS routinely manages numerous scientific projects and has a long history of sea otter research and stewardship. This project will be conducted by a team of interdisciplinary researchers out of the USGS southern sea otter program including 1) Dr. Julie Yee, PI of the USGS southern sea otter program and manages decades-long monitoring of the distribution and abundance of southern sea otters; and 2) Dr. Bowen, research ecologist who has pioneered research in the eDNA field.

**CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA:**

The proposed project is consistent with the Conservancy's Project Selection Criteria, last updated on September 23, 2021, in the following respects:

**Selection Criteria**

**1. Extent to which the project helps the Conservancy accomplish the objectives in the Strategic Plan.**

See the "Consistency with Conservancy's Strategic Plan" section below.

**2. Project is a good investment of state resources.**

The proposed projects will implement recommendations in the Federal Recovery Plan for the California Sea Otter using funds targeted for the recovery of these species. The purpose of the funding source is the primary criteria used to select these projects. The three proposed projects leverage non-state resources and provide new information for sea otter recovery efforts through engaging volunteer support, researching sea otter behavior, and develop alternative methods of sea otter monitoring. These are important and cost-effective steps to recover and protect the southern sea otter population.

**3. Project includes a serious effort to engage tribes. Examples of tribal engagement include good faith, documented efforts to work with tribes traditionally and culturally affiliated to the project area.**

Sea Otter Savvy will engage with the Tribal Marine Stewards Network and its constituent tribes to introduce the SORCE program where tribes will have the opportunity to incorporate their regional history and cultural significance of sea otter within the outreach program. As part of outreach program, Sea Otter Savvy will work with tribes to expand the SORCE website to include a tribal and cultural significant section where tribal sites and names are represented. UCSC will continue working with Tolowa Dee-Ni' Nation and the Yurok Tribe on sea otter reintroduction consideration and invite members of the two tribes to visit the field site. USGS will include opportunities for tribal groups to share project results.

**4. Project delivers multiple benefits and significant positive impact.**

Recovery of sea otter populations is not only important for the species, but healthy sea otter populations have been shown to benefit a variety of coastal and marine habitats including kelp forests, salt marsh, and sea grass ecosystems. Recovery of sea otters will enhance ecosystem health that may also benefit other wildlife species. Both the USCS and USGS studies will deliver a positive impact by contributing to academic research that increase our understanding of sea otter population dynamics which will inform sea otter recovery efforts. The Sea Otter Savvy project will educate the public about the value of sea otters and establish a foundation of public support for the conservation of sea otters and other nearshore ecosystem species.

**5. Project planned with meaningful community engagement and broad community support.**

The Sea Otter Savvy project is community outreach and engagement based with a focus on building public awareness of sea otter conservation. Sea Otter Savvy develops outreach material that disseminates science-based information to the public including posters, murals, and interactive websites. Further, Sea Otter Savvy partners with inner-city youth programs and underserved groups to a field-based learning experience. Both the UCSC and USGS studies are supported by a collaborative network of conservation groups and agencies including Monterey Bay Aquarium, Elkhorn Slough National Estuarine Research Reserve, and academic and government researchers.

**PROJECT FINANCING**

<b>Coastal Conservancy</b>	<b>\$179,260</b>
Oiled Wildlife Care Network	\$14,959
Revive and Restore/Morris Foundation	\$180,601
Dry Creek Foundation	\$13,975
<b>Project Total</b>	<b>\$388,795</b>

The anticipated source of Conservancy funds for the proposed project is an appropriation from the California Sea Otter Fund. Established in 2006, the California Sea Otter Fund is a state income tax check-off program allowing taxpayers to dedicate funds to facilitate sea otter recovery (Revenue and Taxation Code (RTC) Section 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 Section 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 objectives of the Final Revised Federal Southern Sea Otter Recovery Plan (2003)(“Recovery Plan”).

Sea Otter Savvy’s education and outreach program will directly implement Task 7 of the Recovery Plan to “Develop and implement a public education and outreach program.”

USGS’s eDNA monitoring project will implement Task 1 of the Recovery Plan to “Monitor existing and translocated populations.”

In 2015, the U.S. Fish and Wildlife Service completed a five-year review of the status of the Southern Sea Otter, as required by section 4(c)(2) of the Endangered Species Act. The review identified additional recovery actions that should be taken including, “develop and implement a plan to enhance natural range expansion through releases of small numbers of rehabilitated live-stranded sea otters.” The UCSC project will inform site selection and animal selection for sea otter reintroduction planning, which will ultimately enhance natural range expansion, consistent with the recommendations in the Recovery Plan.

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. Match funding for the UCSC project includes support from Revive and Restore/Morris Foundation and Oiled Wildlife Care Network. In-kind contributions for the UCSC project is estimated at \$48,000 for staff time of UCSC and its partner entities. The Sea Otter Savvy project has \$13,975 of match funding secured from the Dry Creek Foundation. Additional in-kind contributions to the Sea Otter Savvy is not quantified but includes staff time from the programs advisors including U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and Defenders of Wildlife.

Unless specifically identified as “Required Match,” the other sources of funding and in-kind contributions described above are estimates. The Conservancy does not typically require matching funds or in-kind services, nor does it require documentation of expenditures from other funders or of in-kind services. Typical grant conditions require grantees to provide any funds needed to complete a project.

**CONSISTENCY WITH CONSERVANCY’S ENABLING LEGISLATION:**

The proposed project is consistent with Division 21, Chapter 5.5 (Integrated 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 living marine

resource protection and restoration projects in order to improve and protect coastal and marine water quality and habitats.

Section 31220 states that a project must meet one or more of the objectives specified in subsection (b) of that section. Each project “[r]educes threats to coastal and marine fish and wildlife” as each project will inform sea otter reintroduction efforts. Sea otters are a threatened species that have reached the carrying capacity in their current range, and reintroduction may allow them to expand their range and increase their population. Additionally, range expansion reduces the threat of a catastrophic disaster such as an oil spill, because not all of the population would be affected by such an event.

Section 31220(c) requires projects funded pursuant to this section to include a monitoring and evaluation component. A monitoring and evaluation component is not relevant to Sea Otter Savvy’s education and outreach program because the project will not have a direct physical impact that can be monitored. The UCSC project includes a monitoring and evaluation component, which is to monitor sea otters and evaluate their social dynamics and stress response. The USGS project includes a monitoring and evaluation component, which is to research alternate methods of monitoring the presence of sea otters.

**CONSISTENCY WITH CONSERVANCY’S [2023-2027 STRATEGIC PLAN](#):**

Consistent with **3.2 Restore or Enhance Habitats** of the Conservancy’s 2023-2027 Strategic Plan, the proposed project will result in three grants that will support the recovery of the southern sea otter.

**CEQA COMPLIANCE:**

The Sea Otter Savvy educational program is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Title 14 CCR section 15322 (Educational or Training Programs Involving No Physical Changes), which exempts the “adoption, alteration, or termination of educational or training programs which involve no physical alteration in the area affected.” Implementation of the proposed outreach and public education campaign concerning responsible viewing of wild sea otters does not involve the physical alteration of the environment.

The USGS project is categorically exempt from the provisions of CEQA pursuant to Title 14 CCR section 15306 (Information Collection), which exempts the “basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource.” The proposed USGS project consists of collecting water and sediment samples in Elkhorn Slough, which will have no direct effect on the environment and will not disturb any environmental resources.

The UCSC project remains exempt from CEQA, as discussed in the December 1, 2022 Staff Recommendation (Exhibit 4). The scope of the project has not changed, and there are no changed circumstances or information that trigger the need for additional CEQA documentation.



Upon approval of the project, Conservancy staff will file a Notice of Exemption.