

COASTAL CONSERVANCY

Staff Recommendation

December 6, 2018

**SEA OTTER RECOVERY GRANTS 2019**

Project No. 08-079-08

Project Manager: Hilary Walecka

**RECOMMENDED ACTION:** Authorization to disburse up \$118,000 to Sonoma State University and the Friends of the Sea Otter to implement two separate projects to aid in recovery of the southern sea otter.

**LOCATION:** Nearshore waters from southern San Mateo County to northern Santa Barbara County and Pt. Reyes National Seashore, Marin County.

**PROGRAM CATEGORY:** Integrated Coastal and Marine Resources

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**EXHIBITS**

Exhibit 1: [Project Location Maps](#)

Exhibit 2: [Southern Sea Otter Population Trend and Range](#)

Exhibit 3: [California Sea Otter Fund - Summary of Projects](#)

Exhibit 4: [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 an amount not to exceed one hundred eighteen thousand dollars (\$118,000) to implement two projects to assist in the recovery of the southern sea otter, specifically as follows, to the:

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- Sonoma State University: sixty thousand dollars (\$60,000) to develop a predictive population growth model and baseline food web model for potential sea otter recolonization of Drakes Estero and Tomales Bay in Pt. Reyes National Seashore.
- Friends of the Sea Otter: fifty-eight thousand dollars (\$58,000) to reduce sea otter disturbance through a public education campaign on responsible viewing of wild sea otters in San Luis Obispo, Monterey, and Santa Cruz counties.

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

- a. A detailed work program, schedule, and budget.
- b. Names and qualifications of any contractors to be employed in carrying out the project.
- c. A plan for acknowledgement of Conservancy funding.
- d. Evidence that all permits and approvals required to implement the project have been obtained.”

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.
3. The Friends of the Sea Otter is a nonprofit organization organized under section 501(c)(3) of the U.S. Internal Revenue Code, with purposes consistent with Division 21 of the Public Resources Code.”

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### **PROJECT SUMMARY:**

Staff recommends that the Conservancy disburse \$60,000 to Sonoma State University (SSU) and \$58,000 to the Friends of the Sea Otter (FSO) to undertake two separate projects to aid the recovery of the southern sea otter. SSU will undertake an analysis of the potential number of sea otters that Drakes Estero and Tomales Bay could support with its habitat and prey availability to inform potential sea otter recolonization efforts, and FSO will continue its public education programs focused on reducing stress on otters induced by interactions with humans within their range (Exhibit 1).

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 3,128 animals inhabiting the near-shore marine environments adjacent to San

Mateo County south to Santa Barbara County (Exhibit 2). This is far less than the historic levels estimated at approximately 16,000-20,000 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 that will assist in the recovery of sea otters.

In July 2018, 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.

**1. Predictive Population Growth of Sea Otters in Drakes Estero and Tomales Bay, Pt. Reyes National Seashore.** SSU will research the population potential of sea otters in Drakes Estero and Tomales Bay in Pt. Reyes National Seashore based on habit and prey availability to inform managers about the suitability of these estuaries for potential recolonization of sea otters. California sea otters exceeded their Endangered Species Act recovered-status threshold of 3,090 individuals for the first time in May 2016. However, their geographic extent still represents only 13% of their historically occupied range and has remained unchanged for the past five years. Recent research has found that sea otters are near the limit of the maximum number of individuals that can be supported in their current range due to food and resource availability. For continued population recovery, sea otters need to expand beyond their range into new, resource-abundant territories. Estuaries have been identified as potential hotspots for population growth because of the demonstrated success sea otters have had recolonizing Elkhorn Slough, which over the last 15 years has grown to support a population of over 100 thriving otters. As recently discovered in Elkhorn Slough, estuaries provide easy access to abundant food-supplies, haul out areas to rest and raise their pups, and refugia from predators, including white sharks which are currently the leading cause of death for sea otters. Recent research has also shown that sea otters in estuaries also benefit salt marsh and sea grass ecosystems in return through their role as a keystone predator, restoring food webs and providing resiliency from nutrient pollution, algal blooms, and eroding salt marsh shorelines.

Drakes Bay and Tomales Bay have been identified as potentially significant locations for sea otter range expansion as they are relatively pristine habitat, are the 9<sup>th</sup> and 3<sup>rd</sup> largest estuaries in CA, and have fewer sources of human conflicts than nearby San Francisco Bay (the largest CA estuary). It is currently unknown how many otters Drakes Estero and Tomales Bay could support and what the cascading impacts sea otters would have on the estuaries' resources and ecosystems. SSU's research will include (1) assessing the habit and prey potential for sea otters in these estuaries through habitat modeling and prey sampling, (2) developing a predictive population growth model of recolonization, and (3) generating a baseline food web model for both estuaries pre-recolonization. Researchers from the United States Geological Survey's (USGS) Western Ecological Research Center, National Park Service, Nhydra Ecological Consulting, University of Virginia, and UC Santa Barbara will collaborate to complete the project. This research is necessary to understand the potential sites for future sea otter recovery efforts and what ecosystem-level impacts may result from sea otter recolonization. The analysis will enable managers to develop a portfolio of potential sites for future sea otter recovery efforts.

**2. "Be Sea Otter Savvy" Program.** FSO will reduce stress on otters through continued implementation and expansion of its "Be Sea Otter Savvy" educational program. This program

promotes responsible viewing of wild sea otters to reduce disturbance and harassment. The Conservancy has funded this program for three years (2016-2018) to implement the public outreach and education recommended as a recovery action in the Federal Southern Sea Otter Recovery Plan. Human disturbance to sea otters has become a growing problem as sea otters have expanded their population in harbors, estuaries, and other heavily-trafficked nearshore areas and the public has developed an increased interest in these sea-otter viewing opportunities. Wildlife tour operators, kayakers, photographers, and other marine recreationists often approach too closely, creating repeated disturbances to sea otters throughout the day. Sea otters have high metabolisms to keep them warm, which requires them to eat approximately 25% of their body weight in food each day and spend most of their day foraging or resting to conserve their critical energy reserves. Female sea otters are physiologically stressed during their reproductive stage, therefore are especially vulnerable to disturbance. Research conducted during the first two years of the “Be Sea Otter Savvy” program revealed that female otters are 30% more likely to be active when marine recreation crafts are nearby. In extreme cases, the additional stress caused by human disturbance may lead to pup abandonment or death. In addition, as sea otters become acclimated to regular proximity of humans, they lose their natural fearfulness, leading to unwanted, potentially aggressive interactions and the creation of “problem otters”—which in some cases has necessitated permanent removal of a wild sea otter from the population.

The goal of the “Be Sea Otter Savvy” program is to reduce sea otter disturbance by inspiring responsible viewing of wild sea otters and keeping boats, kayaks and other viewers further from otters. The program will accomplish this goal by engaging and educating the wildlife-viewing public through a multi-faceted outreach program, including:

- Expand the Be Otter Savvy outreach program through social media, videos, public presentations, school programs, events, a business certification program, and direct engagement with diverse groups such as SCUBA divers and local Harbor Districts.
- Increase distribution of decals designed for placement on rental kayaks and stand-up paddleboards that provide clear guidelines for safe otter-viewing behavior.
- Conduct research on the effects of marine recreation on sea otter activity and behavior.

Prior to “Be Sea Otter Savvy”, no long-term, systematic efforts to mitigate the problem of sea otter disturbance and harassment existed. Although law enforcement may investigate the most egregious cases of disturbance, the problem is vast, diffuse, ongoing, and far beyond the capability of law enforcement to address. FSO aims to reduce the frequency of disturbance to sea otters by fostering a sense of stewardship and modifying the expectation of wildlife viewers of proximity to sea otters to realistically incorporate the spatial needs of otters. Without continued intervention, the problem of sea otter disturbance and harassment in densely populated areas is likely to continue to increase.

**Site Description:** Southern sea otters historically ranged from Oregon to Baja, but currently inhabit only from Pt. Conception, in Santa Barbara County, to just below Half Moon Bay, in San Mateo County. They are most common in near shore areas with large kelp beds and over the last 20 years have been found to inhabit salt marshes and sea grass beds in estuaries. They are generally found in water depths of sixty-five feet or less, facilitating foraging along the ocean floor.

SSU's proposed study will investigate the population potential of sea otters resettling Drakes Estero and Tomales Bay in Pt. Reyes National Seashore (PRNS) in coastal Marin County, 35 km west of San Francisco Bay. Drakes Estero and Tomales Bay are the two largest estuaries in PRNS and have extensive eelgrass and saltmarsh habitats and relatively pristine, undeveloped watersheds. Both estuaries are protected under the auspices of the National Park Service (NPS) and Drakes Estero is also a State Marine Conservation Area and congressionally designated Marine Wilderness where motorized boats are restricted.

The Be Otter Savvy program focuses on areas with a high frequency of disturbance reports (as recorded by the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife (CDFW)), including the Cannery Row area of Monterey, Moss Landing, San Simeon, Morro Bay, and Port San Luis. Outreach efforts will continue in these areas but the program will expand throughout the range of the otters to establish comprehensive outreach to marine recreation businesses, and collaborate with groups working on marine wildlife conservation education.

**Grantee Qualifications:** Sonoma State University (SSU) is a public university, part of the California State University system. The Office of Research and Sponsored Programs (ORSP) at SSU supports faculty, students, and staff engaged in externally and internally funded research. ORSP provides comprehensive pre- and post-award assistance covering the entire lifecycle of an award and currently has a portfolio of 122 active awards valued at over \$30 million. The team of researchers on this proposed project have a long track record of developing high impact and novel research with regard to the ecology and conservation of sea otters in California.

Friends of the Sea Otter (FSO) is a nonprofit organization committed to the conservation of sea otters and the preservation of their habitat through education, research, and policy decisions. FSO is well qualified to carry out the project as they have three years of experience receiving Conservancy grants for the "Be Sea Otter Savvy" program and have demonstrated they can successfully manage grants and implement the goals of the project. The "Be Sea Otter Savvy" program began in 2015 and since has cultivated relationships and diverse partnerships among business, wildlife organizations, and other concerned parties to promote good stewardship for sea otters and has become a known, trusted partner in these coastal communities.

**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 (USFWS) released a sea otter recovery plan. The threshold for southern sea otters to be considered for de-listing from the federal endangered species list is if the population exceeds 3,090 individuals for three consecutive years. Although the southern sea otter population count has decreased each of the past two years (3,272 otters in 2016; 3,186 in 2017; 3,128 in 2018) (Exhibit 2), it is the third year in a row that the population is over the 3,090 threshold; therefore, the USFWS will need to conduct a full analysis pursuant to the criteria of the Federal Endangered Species Act to determine if the threats to the species have been sufficiently ameliorated to warrant delisting.

In 2006, the California legislature passed AB 2485 after concerns about the slow pace of sea otter recovery prompted environmental groups to lobby for legislation to address this problem. 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 \$1.25 million 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 critical research for sea otter recovery, education, and reduction of environmental stressors impacting sea otters. One multi-year study examined the effects of contaminants and human-caused stressors on central coast sea otter populations and found that overall food availability was the most significant limiting factor on sea otter populations. Another recently completed study analyzed 15 years of sea otter mortality data and found that primary causes of death include: shark bites (primarily at either margin of their range), *Acanthocephalan* parasitic worms (primarily in the central portion of their range), and domoic acid intoxication. 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. 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 multi-year study recently completed this year investigated otter feeding habits, prey availability and contamination, and the findings will be used to inform future restoration efforts at the slough and sea otter recolonization in other estuaries. The projects recommended for funding this year build on the research and programs from previous years.

**PROJECT FINANCING**

<b>Coastal Conservancy</b>	<b>\$118,000</b>
Others (List all sources on separate lines)	\$0
<b>Project Total</b>	<b>\$118,000</b>

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 *Final Revised Federal Southern Sea Otter Recovery Plan (2003)* states that “[t]he primary objectives of this recovery plan are to create the conditions that will allow the southern sea otter to increase in numbers and distribution and to identify appropriate conservation actions to address the threats to this species”. 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)* as described below:

- Predictive Population Growth of Sea Otters in Drakes Estero and Tomales Bay: 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 include, “Develop and implement a plan to enhance natural range expansion through releases of small numbers of rehabilitated live-stranded sea otters”. This project will further understanding of suitable locations for sea otter range expansion. This information is important for developing a plan to enhance natural range expansion.
- “Be Sea Otter Savvy” program will implement Task 7 of the Federal Sea Otter Recovery Plan to “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. In addition to the funding shown above, in-kind contributions to the SSU project will be provided by the National Park Service (\$15,950) for lodging for researchers, additional habitat surveys, and staff time and by the USGS (\$26,100) for staff time and equipment for sampling. The “Be Sea Otter Savvy” program is supported by volunteers for outreach and research and has hours contributed by its advisory committee comprised of US Fish and Wildlife Service, California Department of Fish and Wildlife, Monterey Bay Aquarium, and UC Santa Cruz/US Geological Survey.

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

These projects are 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) authorizes projects that “[r]educe the impact of population and economic pressures on coastal and marine resources.” The proposed projects would reduce stress on sea otters (a marine resource) by reducing conflicts between otters and humans and undertaking research to inform the potential for sea otter range expansion to alleviate resource limitation stress of sea otters in their current range. Expansion of the range could allow the otters to populate less populated areas of the coast.

#### **CONSISTENCY WITH CONSERVANCY’S [2018-2022 STRATEGIC PLAN](#) GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 6, Objective H**, of the Conservancy’s 2018-2022 Strategic Plan, 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. Fish and Wildlife Service, California Department of Fish and Wildlife, National Park Service, California State Parks, UC Santa Cruz, Moss Landing Chamber of Commerce, and Monterey Bay Aquarium. (See Exhibit 4).
5. **Location:** The proposed projects would be located within the coastal zone of Marin, San Mateo, Santa Cruz, Monterey, San Luis Obispo and Santa Barbara Counties. (See Exhibit 1).
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 from both a biological and cultural perspective. As a keystone species in the food chain, the sea otter is a measure of the entire marine ecosystem. Thus, sea otter recovery is an important for marine resource restoration and protection overall. Additionally, because of its preferred habitat in nearshore kelp beds and its feeding on the surface of the water, the sea otter is highly visible from the shore. Wildlife viewing opportunities attract millions of tourists.
8. **Sea level rise vulnerability:** The proposed projects are not subject to impacts from sea level rise.

**Additional Criteria**

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



**CEQA COMPLIANCE:**

The SSU proposed project to develop a predictive population growth model for sea otters recolonizing Drakes Estero and Tomales Bay is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Title 14 California Code of Regulations (CCR) § 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.” This exemption may be used for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted or funded. Implementation of the project includes benthic prey sampling at targeted habitats within the estuaries using common and standardized techniques—including crab trapping, suction-dredging, beach seines, and grab collections—none of which will result in serious or major disturbance to an environmental resource.

The Friends of the Sea Otter’s “Be Otter Savvy” educational program is categorically exempt from the provisions of the CEQA pursuant to 14 CCR § 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.” Examples provided by the exemption include the development of, or changes in curriculum or training methods (*Id.* § 15322(a)). Implementation of the outreach effort and public education campaign concerning responsible viewing of wild sea otters as described in this staff recommendation does not involve the physical alteration of the environment. In addition, the project is exempt pursuant to 14 CCR § 15306 (Information Collection) (described above) as the project involves data collection of sea otter disturbance events and these data collection activities do not result in a serious major disturbance to an environmental resource.

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