Item 5

Staff Recommendation
June 15, 2021

Consideration of Authorization to Disburse Funds to Reduce the Risk of Whale and Sea Turtle Entanglement in Fishing Gear

Lindsay Bonito, Program Manager

RECOMMENDED ACTION: Authorization to disburse up to $1,649,459 to Pacific States Marine Fisheries Commission (PSMFC) to fund the following grantees to reduce the risk of whale and sea turtle entanglement in fishing gear:

5.a Up to $599,661 to the Farallon Institute to enhance and integrate whale distribution data to reduce entanglement risk;

5.b Up to $499,456 to Cascadia Research Collective to provide real-time whale observations and validate models to assess entanglement risk; and

5.c Up to $550,342 to Upwell Turtles to monitor leatherback turtle distribution and migration to reduce entanglement risk.

LOCATION: Statewide

STRATEGIC PLAN OBJECTIVE(S): Goal 3: Enhance Coastal and Marine Biodiversity; Target 3.3.5 and associated actions

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EXHIBITS:

Exhibit A: Letter(s) of Support

FINDINGS AND RESOLUTION:

Staff recommends that the Ocean Protection Council (OPC) adopt the following findings:

"Based on the accompanying staff report and attached exhibit(s), OPC hereby finds that:

1) The proposed projects are consistent with the purposes of Division 26.5 of the Public Resources Code, the Ocean Protection Act;

2) The proposed projects are consistent with the Budget Act of 2018, which included a $7.5 million General Fund appropriation to address whale and sea turtle entanglement; and
3) The proposed projects are not 'legal projects' that trigger the California Environmental Quality Act (CEQA) pursuant to Public Resources Code section, section 15378."

Staff further recommends that OPC adopt the following resolution pursuant to Sections 35500 *et seq.* of the Public Resources Code:

> "OPC hereby approves the disbursement of up to $1,649,459 to the Pacific States Marine Fisheries Commission to fund the following grantees to reduce the risk of whale and sea turtle entanglement in fishing gear:
> - Up to $599,661 to the Farallon Institute to enhance and integrate whale distribution data to reduce entanglement risk;
> - Up to $499,456 to Cascadia Research Collective to provide real-time whale observations and validate models to assess entanglement risk; and
> - Up to $550,342 to Upwell Turtles to monitor leatherback turtle distribution and migration to reduce entanglement risk.
>
> This authorization is subject to the condition that prior to disbursement of funds, the grantees listed above shall submit for the review and approval of the Executive Director of the OPC detailed work plans, schedules, staff requirements, budgets, and the names of any contractors intended to be used to complete the projects, as well as discrete deliverables that can be produced in intervals to ensure the projects are on target for successful completion. All projects will be developed under a shared understanding of process, management and delivery."

EXECUTIVE SUMMARY:

Staff recommends that the OPC approve the disbursement of up to $1,649,459 to fund three projects that will advance entanglement science and reduce the risk of whale and sea turtle entanglement in fishing gear, consistent with OPC's investment strategy (as described in more detail below). The projects being recommended for approval were selected through a competitive process administered by the Pacific States Marine Fisheries Commission, a project funded by the OPC at its June 19, 2020 meeting[1]. All projects being considered will refine and integrate data streams critical to assessing entanglement risk for endangered and threatened whale and turtle species along California's coastline. These projects are collaborative in nature, bringing together researchers conducting at-sea monitoring, refining habitat and occurrence models for whale, turtle, and forage species, and integrating data to enhance risk assessment for resource managers. In addition to providing real-time data for fisheries management, this suite of projects will inform, calibrate, and validate predictive models for the presence of

[1] www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20200619/Item7_Reducing_the_Risk_of_Entanglement_in_Fishing_Gear_Staff_Recommendation_June_19_2020.pdf

endangered whales and sea turtles in California state and adjacent federal waters. Under the guidance of OPC and PSMFC, these efforts will be highly collaborative in developing scientific consensus and utilizing new and existing data streams to enhance species distribution models, thereby providing much needed information for State managers as they consider management strategies to sustain fishing activity and prevent marine life entanglements.

PROJECT SUMMARY:

Background

California's coast and oceans encompass thriving marine ecosystems and support a multitude of ocean-based industries. To conserve both the natural biodiversity of the seas and the coastal economies that rely on it, OPC is committed to protecting endangered and threatened whale and sea turtle species while supporting commercial and recreational state-managed fisheries. As a part of this commitment, OPC developed the *Strategy for Protecting Whales and Sea Turtles & Ensuring Thriving Fisheries: Reducing the Risk of Entanglement in California Fishing Gear*[2] (Strategy), which outlines investment priorities to reduce the risk of entanglement in California fishing gear and is one component of a more comprehensive effort to protect whales and sea turtles in California. This Strategy is consistent with Target 3.3.5 of OPC's Strategic Priorities to Protect California's Coast and Ocean for 2020-2025[3].

Building on research priorities identified in OPC's Entanglement Strategy and a recent entanglement science workshop[4], the OPC awarded Pacific States Marine Fisheries Commission up to $2 million to fund and administer projects identified through a competitive process to reduce the risk of entanglement in California fishing gear. The project was approved by the OPC at its June 19, 2020 meeting.

PSMFC developed a request for proposals[5] which was released on February 8, 2021 and solicited proposals that would develop, align and improve information to reduce entanglement risk to whales and sea turtles and minimize impacts to the fishing industry. Specifically, the competitive call prioritized projects that would:

- develop improved observational data streams and models (regarding whales, sea turtles, ecosystem, prey and fishing gear location and dynamics) at finer spatial and temporal scales,
- perform analyses to inform current management or improves adaptive management approaches,
- develop improved socio-economic science for evaluating entanglement mitigation strategies, or

[2] www.opc.ca.gov/webmaster/_media_library/2020/01/Strategy_Reducing-the-Risk-of-Entanglement-in-California-Fishing-Gear_OPC-2019.pdf
[3] www.opc.ca.gov/webmaster/ftp/pdf/2020-2025-strategic-plan/OPC-2020-2025-Strategic-Plan-FINAL-20200228.pdf
[4] www.opc.ca.gov/west-coast-entanglement-science-workshop
[5] www.psmfc.org/wp-content/uploads/2021/02/Entanglement-Science-Call-for-Proposals-2-7-21.pdf

- advance risk assessment and decision support tools that inform adaptive management approaches.

PSMFC organized a review panel that consisted of researchers with expertise in entanglement science, whale biology and ecology, socioeconomics, and fisheries management, as well as resource managers from state and federal agencies and commercial fishers to evaluate proposals. The three projects within this staff recommendation were selected through the PSMFC competitive process in close partnership with OPC staff, and in close consultation with the review panel. The projects selected will advance science informing management with the aim to protect California's marine ecosystem and ensure thriving commercial and recreational fisheries.

Project Timeline (for all projects)
July 2021 – March 2024

5a. Up to $599,661 to Farallon Institute to enhance and integrate whale distribution data to reduce entanglement risk

Project Summary
This project will advance the field of entanglement risk assessment by using a synthesis of observational data and models to predict the distribution of prey and whale predators within fishing grounds across the state. The goal of this project is to develop new risk assessment tools for whale and turtle entanglements by synthesizing data on species distributions with oceanographic and prey observations using Species Distribution Models (SDMs). SDM predictions will be integrated with existing physical ecosystem indicators, including the Habitat Compression Index, Multivariate Ocean Climate Index and others. The project will provide the State of California with near-real time ecosystem and economic data on species distributions in an easy-to-use decision-support tool for assessing risk of whale entanglements and economic hardships for California's crab fisheries.

About the Grantee
The Farallon Institute is a nonprofit scientific organization dedicated to the understanding and preservation of healthy marine ecosystems. The project team, in partnership with NOAA, has experience developing and testing species distribution predictions and their synthesis to create entanglement risk indicators. The team also has expertise with hydroacoustic data and synthesizing data streams into relevant management products. Farallon Institute has also led the development of many oceanographic and ecological indicators currently used in ecosystem-based fisheries management by state and federal agencies.

5b. Up to $499,456 to Cascadia Research Collective to provide real-time whale observations and validate models to assess entanglement risk

Project Summary

Cascadia Research Collective will address major gaps in data and entanglement science needed for effective reduction and management of entanglements in fixed gear fisheries. The overarching goals of this project include:

- Providing real-time distribution and occurrence data of whales critical to evaluating whale presence and risk to inform the Dungeness crab fishery, with an emphasis on surveys during fall and spring seasons when whales are in higher concentrations in fishing grounds,
- Evaluating the level of under-reporting and bias in whale entanglement reports that currently serve as a critical measure of the severity and scope of the problem and monitors progress in reducing entanglements,
- Validating and test models and other information sources on whale presence and entanglement risk, and
- Adding to critical data on whale abundance, movements, and distinct population segment status.

About the Grantee

Cascadia Research Collective (CRC), a non-profit organization based in Olympia, Washington, has led long-term research efforts on humpback and blue whales along the US West Coast, including a whale photo identification catalogue that began in 1986. This project is a collaborative effort between CRC, Sealife Response, Rehab and Research (a non-profit that specializes in research and entanglement response), and The Marine Mammal Center, a non-profit that rescues and rehabilitates marine mammals and conducts research. The project is led by highly experienced whale researchers, all of whom are also experienced with entanglement response.

5c. Up to $550,342 to Upwell Turtles to monitor leatherback turtle distribution and migration to reduce entanglement risk

Project Summary

This project will identify areas of leatherback concentration and document the timing of leatherback arrival and departure off California, in support of leatherback entanglement risk assessments throughout the year. Upwell will provide the best available science on West Pacific leatherbacks' use of the California Current Large Marine Ecosystem from Point Arena to Point Sur, to fishers and fisheries managers to aid them in making important management decisions based on scientific data to minimize economic impacts to nearshore fisheries while protecting leatherbacks. Project objectives include:

- Assessing the distribution and abundance of western Pacific leatherbacks through aerial line-transect surveys and develop methods for the use of unmanned aerial surveillance to reduce future costs and risks associated with aerial surveys.
- Determining the distribution, seasonal movements and dive patterns of tagged West Pacific leatherbacks.
- Examining trends in leatherback abundance relative to oceanographic conditions.

- Comparing leatherback movements and dive behavior relative to existing Dungeness crab pot fisheries and fisheries targeting swordfish off the U.S. West Coast.
- Adapting the leatherback turtle model in EcoCast at finer resolution for nearshore habitats to identify potential areas of leatherback presence based upon real-time, remotely sensed environmental data.
- Providing data on leatherback distribution and abundance to fisheries managers and relevant government agencies to support management decision-making.

About the Grantee
Upwell Turtles is a non-profit organization whose mission is to protect endangered sea turtles by reducing threats at sea, including fisheries bycatch, ship strikes, pollution, climate change and other detrimental human activities. Upwell and collaborators at NOAA bring decades of experience tracking leatherbacks and analyzing movement data and related environmental variables as they pertain to management.

PROJECT FINANCING:

Staff recommends that the Ocean Protection Council (OPC) authorize encumbrance of up to $1,649,59 to grantees listed below to conduct projects summarized above.

Ocean Protection Council – General Fund	**$1,649,459**
Farallon Institute	$599,661
Cascadia Research Collective	$499,456
Upwell Turtles	$550,342
TOTAL	**$1,649,459**

The anticipated source of funds will be from the Ocean Protection Council's General Fund appropriation from the 2018 Budget Act, which included $7.5 million for whale and sea turtle entanglement. Below is an overview of projects funded to date using the $7.5 million for whale and sea turtle entanglement funding:

- Solar Logger Pilot Project, The Marine Mammal Center: $170,000.00
- Sea Lion and Seal Rescue and Rehabilitation, Marine Mammal Rescue and Rehabilitation Network: $1,000,000.00
- Dungeness Crab Working Group Support in 2020, Strategic Earth: $169,403.00
- California Emergency Responder Trainings for Whale Disentanglement, National Marine Sanctuary Foundation: $60,406.00
- Entanglement Science Workshop: Reducing the risk of marine life entanglements through accessible and scalable science, The Nature Conservancy: $96,714.00
- Entanglement Response Network Support, The Marine Mammal Center: $110,000.00

- Drift Gillnet Transition Program, Pacific States Marine Fisheries Commission: $1,000,000.00
- Competitive Grant Program for Reducing Entanglement Risk, Pacific States Marine Fisheries Commission: $2,000,000.00
- Gear Innovations Testing, National Marine Sanctuary Foundation: $500,000.00
- Small Vessel Surveys, Cascadia Research Collective: $300,000.00
- Whale Abundance Data Assessment, Point Blue Conservation Science: $100,000.00

The projects above total $5,506,523.00 with a remaining $1,993,477.00 available to support entanglement reduction efforts in California.

OPC authorized the use of these funds at its June 19, 2020 meeting through a $2,000,000 grant to Pacific States Marine Fisheries Commission for the administration of projects identified through a competitive process that directly support OPC's strategy for *Reducing the Risk of Entanglement in California Fishing Gear*, pending Council approval of selected projects.

CONSISTENCY WITH CALIFORNIA OCEAN PROTECTION ACT:

The proposed projects are consistent with the California Ocean Protection Act, Division 26.5 of the Public Resources Code as they will improve the management of fisheries and foster sustainable fisheries. The proposed projects will provide monitoring and scientific data to improve state efforts to protect and conserve ocean resources, as well as improve management, conservation, and protection of coastal waters and ocean ecosystems.

CONSISTENCY WITH THE OPC'S STRATEGIC PLAN:

These projects are consistent with Target 3.3.5 of OPC's Strategic Priorities to Protect California's Coast and Ocean for 2020-2025.

COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (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 will file a Notice of Exemption upon approval by the OPC.