



Staff Recommendation
October 25, 2018

Item 6b1

Solar Logger Pilot Project: Informing the Risk Assessment and Mitigation Program (RAMP) of the Dungeness Crab Fishing Gear Working Group
Paige Berube, Program Manager

RECOMMENDED ACTION: Authorization to disburse up to \$170,000 to California Whale Rescue to support fishing dynamics and whale concentration data collection and analysis through a solar-powered vessel tracking system, or solar logger, pilot project to inform the Risk Assessment and Mitigation Program (RAMP) of the California Dungeness Crab Fishing Gear Working Group.

LOCATION: Port San Luis/Avila to Crescent City

STRATEGIC PLAN OBJECTIVES: Sustainable Fisheries and Marine Ecosystems, and Science-Based Decision-Making

EXHIBITS

Exhibit A: Dungeness Crab Fishing Gear Working Group - October 2018 Recommendations Memo
Exhibit B: Example output (map) generated from solar logger data collection and analysis, solar logger photo, and diagram of how a solar logger gathers data and outputs data
Exhibit C: Support Letters

FINDINGS AND RESOLUTION:

Staff recommends that the Ocean Protection Council (OPC) adopt the following findings:
"Based on the accompanying staff report and attached exhibits, the Ocean Protection Council hereby finds that:

1. The proposed project is consistent with the purposes of Division 26.5 of the Public Resources Code, the California Ocean Protection Act.
2. The proposed project is consistent with the Budget Act of 2018, which included a \$7.5 million General Fund appropriation to address whale and sea turtle entanglement.
3. The proposed project is not a 'legal project' that triggers the California Environmental Quality Act (CEQA) pursuant to Public Resources Code section 21068 and Title 14 of the California Code of Regulations, section 15378. If it were determined to be a 'legal project' under CEQA, the proposed project is categorically exempt from review under CEQA pursuant to 14 Cal. Code of Regulations Section 15306 because the project involves information collection, consisting of data collection, research, and resource evaluation activities that will not result in a serious or major disturbance to an environmental resource."

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

“The California Ocean Protection Council hereby approves the disbursement of up to \$170,000 to California Whale Rescue to support fishing dynamics and whale concentration data collection and analysis through a solar-powered vessel tracking system, or solar logger, pilot project to inform the Risk Assessment and Mitigation Program (RAMP) of the California Dungeness Crab Fishing Gear Working Group.

This authorization is subject to the condition that prior to disbursement of funds, California Whale Rescue 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.”

PROJECT SUMMARY:

Reducing the risk of whale entanglement in California fishing gear is a priority for the State of California. In September 2015, the California Department of Fish and Wildlife (CDFW), in partnership with the California Ocean Protection Council (OPC) and the National Marine Fisheries Service (NMFS), convened the California Dungeness Crab Fishing Gear Working Group (Working Group). The Working Group is a collaboration among diverse stakeholder groups who have come together to tackle the challenge of reducing the risk of whale entanglements in Dungeness crab fishing gear. This Working Group strives to find solutions that support thriving whale populations along the West Coast and a thriving and profitable Dungeness crab fishery.

The Working Group provided a joint recommendation to OPC in support of this project to support fishing dynamics and whale concentration data collection and analysis through a solar-powered vessel tracking system, or solar logger, pilot project to inform the Risk Assessment and Mitigation Program (RAMP). This recommendation is included in the Working Group’s October 2018 Recommendations Memo: “Recommendation #1: Request to the OPC to Direct General Funds for RAMP Operations and Support, Including Data Gathering, Gear Innovation, and Evaluation” as shown in Exhibit A.

In alignment with the Working Group’s recommendation, this project will equip up to 40 commercial fishing vessels, and up to 20 whale watch boats or commercial passenger fishing vessels from Port San Luis/Avila to Crescent City, with solar loggers to collect and analyze fishing dynamics and whale concentration data to inform the Working Group’s Risk Assessment and Mitigation Program (RAMP). Solar loggers are solar-powered vessel tracking information systems that record vessel positions every few seconds¹. This project will expand and strengthen an initial pilot project that was conducted during the 2017-2018 Dungeness crab

¹ See Exhibit B for Example output (map) generated from solar logger data collection and analysis, solar logger photo, and diagram of how a solar logger gathers data and outputs data

fishing season which included 12 Dungeness crab commercial and recreational fishing vessels. This iteration of the pilot project will strengthen the experimental design by equipping 3-4 vessels per port or port complex with a solar logger to expand the geographic coverage of data collection and utility of analysis within the RAMP. After analyzing data from the solar loggers across vessels and ports/port complexes, heat maps of Dungeness crab fishing and whale watching activities, amongst other analytics and visualizations, can be created on a monthly basis to inform the relative risk of whale entanglements in accordance with the RAMP.

The RAMP is a risk assessment tool designed to facilitate continual, coordinated evaluation of the risk of entanglement in California Dungeness crab fishing gear, as well as identify mitigation options that allow for a collaborative recommendation to CDFW regarding options to reduce risk of entanglement. The RAMP was tested as a pilot during the 2017-18 Dungeness crab fishing season, and was designed to be flexible and responsive to considering new information, technology, and approaches to reducing the risk of entanglements. In September 2017, the Working Group finalized a draft risk assessment framework (RAF) for the RAMP that identifies four priority factors that evaluate elevated risk of whale entanglements in Dungeness crab fishing gear: forage/ocean conditions, whale concentrations, fishing or fleet dynamics, and rate of entanglements. CDFW and NMFS continually evaluate these priority risk factors during the California Dungeness crab fishing season. During the RAMP pilot in 2017-2018, the full Working Group convened to assess the relative risk of entanglement, guided by the RAF, during the pre-season, mid-season, and post-season. An Evaluation Team, composed of Working Group members, was also convened by the agencies on an as-needed basis when risk was elevated during the Dungeness crab fishing season.

Each risk factor within the RAMP utilizes the best available scientific information. During the 2016-2017 fishing season, the Working Group piloted three different electronic monitoring tools - including the solar logger - to provide fishing dynamics information with the hypothesis that having a better understanding of the co-occurrence of fishing gear and whale concentration and distribution would inform the relative risk of whale entanglement in fishing gear. Four commercial fishing vessels piloted the solar logger tool during the 2016-2017 season. The solar logger was initially identified as a promising tool because it does not require any manual, active data entry or logging by a fisherman when fishing. Twelve fishing vessels piloted the solar logger during the 2017-2018 season; however, there were limitations on data analysis and outputs due to the relatively small number of volunteers and data confidentiality requirements.

This project will scale up the experimental design of the initial pilot project to provide enhanced fishing dynamics information by equipping up to 40 additional Dungeness crab commercial fishing vessels with solar loggers across all ports and port complexes in California. This project will also provide enhanced whale concentration and distribution information by expanding the solar logger pilot project to include up to 20 whale watch vessels. Equipping whale watch vessels with solar loggers will provide spatial information, or vessel tracks, for the whale watch operations, in addition to data on whale sightings collected during these trips. Based on whale watch vessel activity, data analysis will indicate if the whale watch vessel was staying in one area and watching whales. By coupling the position of whale watch vessels with whale watch sightings data, this will provide an additional, geographically comprehensive data source to

inform the whale concentration risk factor of the Working Group's RAMP. It will also allow the Working Group to evaluate the utility of further scaling up the use of solar loggers in terms of the loggers providing spatial fishing dynamics information to inform fisheries management decisions. The project will also allow the Working Group to compare various whale concentration data streams and identify next steps for integrating or pairing data streams to inform the most efficient, accurate, and geographically comprehensive information on whale concentration and distribution within the RAMP. The RAMP aims to reduce the risk of whale entanglement in Dungeness crab fishing gear to maintain thriving whale populations and thriving and profitable crab fishing off California.

Funding Source:

The Budget Act of 2018 included a General Fund appropriation to the California Ocean Protection Council of \$7.5 million to address whale and sea turtle entanglement, with a provision for \$1,000,000 which, "shall be made available for the Marine Mammal Rescue and Rehabilitation Network for the purposes of sea lion and seal stranding rescue activities."

Background:

In recent years, reports of whale entanglements off California have been higher than at any time since NOAA Fisheries started keeping records in 1982. A variety of factors may contribute to the increase in the number of reported entanglements, including changes in the distribution and abundance of whales, changes in fishing effort, and an increase in public awareness and reporting. Although there are many unknown causes of entanglements, fishing gear from multiple fixed-gear fisheries have been identified as entangling whales, including the California Dungeness crab fishery. To gain a better understanding of this issue and develop solutions to reducing the risk of whale entanglements, the California Dungeness Crab Fishing Gear Working Group (Working Group) was convened. The CDFW, in partnership with the OPC and the National Marine Fisheries Service (NMFS), convened the Working Group in September 2015. The 21-member Working Group is a unique coalition of diverse stakeholders, including commercial and recreational Dungeness crab fishermen, environmental organization representatives, members of the whale entanglement response network, and state and federal agencies. Additionally, the group is supported by outside expertise including whale researchers, scientists, legislative staff, gear manufacturers, and others. The Working Group aims to provide guidance and recommendations to the California Dungeness crab fishing industry, the California Dungeness Crab Task Force, and the state of California – specifically the CDFW, the OPC, the Fish and Game Commission, and the Legislature – to reduce the risk of whale entanglements and identify measures to address the entanglement issue. The Working Group has united with the common goal of supporting thriving whale populations along the West Coast and a thriving and profitable California Dungeness crab fishery. The group developed a Risk Assessment and Mitigation Program (RAMP) to identify and assess elevated levels of entanglement risk and determine the needs for management options to reduce the risk of entanglement. The program utilizes the overlap of fishing effort and whale spatial distribution as key components to assessing risk.

SB 1309 (McGuire, 2018) requires CDFW, in consultation with the Working Group and other stakeholders to adopt regulations requiring criteria and protocols to evaluate and respond to the

potential risk of marine life entanglement. The regulations shall include, but are not limited to the RAMP.

In October 2016, the OPC awarded \$200,000 to The Nature Conservancy (TNC) to support Working Group activities through December 2018, including the implementation of various collaborative projects. These projects were identified by the Working Group as priorities. Council funds are being leveraged by additional funding that TNC has secured to support the administration of the Working Group. Additional funding secured by Working Group advisors and in-kind contributions from Working Group participants to carry out projects and inform the Working Group's goals and priorities have also occurred. Since October 2016, the Working Group has been supporting the design and implementation of collaborative projects to collect new information to enhance our understanding of whale distribution and fishing dynamics, as well as test fishing gear modifications.

The Working Group continues to develop effective communications materials and conduct outreach to the Dungeness crab fleet, agencies and interested constituents. The Working Group has developed a Best Practices Guide to minimize the risk of whale entanglement, which includes a number of voluntary "best practices" focused on surface gear, such as improved buoy setup, reducing slack surface line, and limiting the number of trailer buoys. Additionally, the Working Group, in partnership with NMFS, California Whale Rescue, and TNC, have provided trainings to commercial and recreational fishermen in whale entanglement response. More information, including Working Group meeting summaries and recommendations, as well as RAMP status updates, is available on the Working Group webpage and RAMP webpage.

About the Grantee:

California Whale Rescue is a non-profit organization whose goal is to organize, unify, and advance the entangled whale response network in California, with a focus on best practices, prevention, and safety. In conjunction with supporting and participating in disentanglement efforts, California Whale Rescue aims to increase public awareness of the issue of whale entanglement through collaboration with stakeholders to reduce the number of future entanglements through education, training, and scientific research. California Whale Rescue is currently a project of Oceanic Society, a non-profit organization which aims to improve ocean health by deepening the connections between people and nature. One of the Oceanic Society's focus areas is sustainable fisheries and aquaculture. A representative from California Whale Rescue is a member of the California Dungeness Crab Fishing Gear Working Group.

Project Timeline: November 2018 – October 2020

This project timeline will allow for the pilot project to span two commercial Dungeness crab fishing seasons: the 2018-2019 and 2019-2020 fishing seasons. The Dungeness crab fishing season occurs from November to July, depending on fishing district.

PROJECT FINANCING:

Staff recommends that the Ocean Protection Council (OPC) authorize encumbrance of up to \$170,000 to California Whale Rescue to support fishing dynamics and whale concentration data collection and analysis through a solar-powered vessel tracking system, or solar logger, pilot

project to inform the Risk Assessment and Mitigation Program (RAMP) of the California Dungeness Crab Fishing Gear Working Group.

Ocean Protection Council	\$170,000
California Department of Fish and Wildlife	Staff time support
National Marine Fisheries Service	Staff time support
TOTAL	\$170,000

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.

Leverage of OPC funds

This project leverages information and expertise garnered from the 2016-2017 and 2017-2018 Dungeness crab fishing seasons, during which the California Dungeness Crab Fishing Gear Working Group advanced various collaborative research projects to reduce the risk of whale entanglement in Dungeness crab fishing gear. One of these collaborative research projects was the preliminary pilot of the solar logger tool, which included four, and twelve Dungeness crab commercial fishing boats testing the solar loggers on their vessels throughout the 2016-2017 and 2017-2018 seasons, respectively. These fishermen, who already have solar loggers on their fishing vessels, will continue to participate in this phase of the solar logger pilot project during the upcoming 2018-2019 Dungeness crab fishing season to gather information to inform the fishing dynamics factor of the RAMP. Additionally, staff from the California Department of Fish and Wildlife and the National Marine Fisheries Service of the National Oceanic and Atmospheric Association will provide in-kind services and staff time support for this project.

CONSISTENCY WITH CALIFORNIA OCEAN PROTECTION ACT:

The proposed project is consistent with the California Ocean Protection Act, Division 26.5 of the Public Resources Code, because it is consistent with trust-fund allowable projects, defined in Public Resources Code Section 35650(b) as projects which:

- Improve the management of fisheries
- Foster sustainable fisheries
- Improve management, conservation, and protection of coastal waters and ocean ecosystems
- Provide monitoring and scientific data to improve state efforts to protect and conserve ocean resources

CONSISTENCY WITH THE OPC'S STRATEGIC PLAN:

This project implements Focal Area A: Science-Based Decision-Making and Focal Area C: Sustainable Fisheries and Marine Ecosystems.

COMPLIANCE WITH CEQA:

The proposed project is not a 'legal project' that triggers the California Environmental Quality Act (CEQA) pursuant to Public Resources Code section 21068 and Title 14 of the California Code of Regulations, section 15378. If it were determined to be a 'legal project' under CEQA, the proposed project is categorically exempt from review under CEQA pursuant to 14 Cal. Code of Regulations Section 15306 because the project involves information collection, consisting of 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.