



**CONSENT ITEM**  
Staff Recommendation  
June 15, 2021

## **Additional Funds for Urchin Removal to Support Potential Kelp Forest Recovery**

Michael Esgro, OPC Marine Ecosystems Program Manager & Tribal Liaison

**RECOMMENDED ACTION:** Staff recommends that OPC approve the disbursement of up to \$117,013 to Reef Check Foundation to allow for a six-month extension of a pilot kelp restoration project currently under way on California's north coast. This extension is required due to delays associated with the COVID-19 pandemic.

**LOCATION:** Mendocino County, California

**STRATEGIC PLAN OBJECTIVE(S):** 3.2: Restore and protect kelp ecosystems

### **EXECUTIVE SUMMARY:**

Staff recommends that OPC approve the disbursement of up to \$117,013 to Reef Check Foundation to allow for a six-month extension of a pilot kelp restoration project currently under way on California's north coast. In February 2020, OPC approved the disbursement of \$499,951 to launch this highly collaborative project<sup>1</sup>, which is being managed by Reef Check in partnership with OPC, the California Department of Fish and Wildlife, and academic partners. The project is providing a scientific basis for evaluating the efficacy of large-scale purple urchin removal as a kelp restoration tool; it is an integral component of the pilot research and restoration work highlighted in OPC's recently released Interim Kelp Action Plan. The project is also employing commercial fishermen in Mendocino County whose livelihoods have been significantly impacted by kelp declines.

Unfortunately, due to public health restrictions associated with the COVID-19 pandemic, the start of restoration activities was delayed by several months. To fully complete all project deliverables, an additional six months of work is now required, including both urchin removals and ecological monitoring. The approval of this consent item will support that additional work and ensure that project results can meaningfully inform kelp management efforts as planned.

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<sup>1</sup> [https://www.opc.ca.gov/webmaster/ftp/pdf/agenda\\_items/20200226/Item%205\\_Kelp-Staff-Recommendation-Final.pdf](https://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20200226/Item%205_Kelp-Staff-Recommendation-Final.pdf)

## **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; and
- 2) 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 \$117,013 to Reef Check Foundation to allow for a six-month extension of a pilot kelp restoration project currently under way on California’s north coast. This extension is required due to delays associated with the COVID-19 pandemic.

This authorization is subject to the condition that prior to disbursement of funds, California Sea Grant 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 DESCRIPTION:**

### **Background and Progress to Date**

California’s north coast has been devastated by recent unprecedented declines in bull kelp. Surveys conducted by the California Department of Fish and Wildlife (CDFW) and The Nature Conservancy show that more than 95% of the kelp canopy along the Mendocino-Sonoma coastline was lost during the 2014-2019 period, with extremely limited recovery observed in 2020. The collapse of kelp forests in this region has generally been attributed to a “perfect storm” of climate-related factors, including the 2014-2016 marine heat wave, the loss of a key predator due to sea star wasting disease, and an explosion in kelp-eating purple sea urchin populations. In many locations along the north coast, urchins have grazed once-lush kelp forests down to bare rock or “urchin barrens.”

## Staff Recommendation – Additional Funds for Urchin Removal to Support Potential Kelp Forest Recovery

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The loss of kelp has had significant impacts on ecological function and the provision of ecosystem services in northern California. For example, commercial red sea urchin landings in 2016 were 80% lower in northern California than the 2006-2015 average, leading the U.S. Secretary of Commerce to issue a federal fishery disaster declaration for the northern California red sea urchin fishery in 2019. Populations of red abalone, California's only remaining abalone fishery, have declined so substantially that the \$44 million recreational red abalone fishery was closed by the California Fish and Game Commission in 2017 and will likely remain closed until populations begin to recover. The north coast's tourism industry, which has historically depended on diving and fishing, has been heavily impacted.

Evidence suggests that urchin removal can serve as an effective method of kelp forest restoration. Commercial sea urchin fishermen are skilled at harvesting urchins underwater and can be extremely effective at clearing urchin barrens, which may facilitate kelp regrowth. In February 2020, OPC approved the disbursement of \$499,951 to Reef Check Foundation, a nonprofit organization dedicated to the conservation of California's rocky reefs and kelp forests through community science, to launch a pilot urchin removal project in support of kelp restoration in Mendocino County. This project represents a unique partnership between OPC, CDFW, Reef Check, and north coast commercial red sea urchin fishermen, who have largely been unable to fish since the collapse of their fishery in 2016. To date, fishermen have cleared nearly 10 acres in Noyo Bay, one of two targeted restoration locations, and have removed over 26,000 lbs of purple urchin. Reef Check divers are tracking changes in ecological metrics at both Noyo Bay and an unmanipulated reference site (including urchin density, kelp density, and community composition) to evaluate the efficacy of large-scale urchin removal as a kelp restoration tool. Additional outcomes of this project will include the development of best practices for this restoration method, as well as significant and direct economic benefit to north coast fishermen. This project is an integral component of the pilot research and restoration work highlighted in OPC's recently released Interim Kelp Action Plan<sup>2</sup> and the extension recommended here is consistent with the priorities outlined in that document. Note that a final Kelp Action Plan will be presented to OPC for consideration and possible adoption in Spring 2022.

### **Need for Extension**

Reef Check hired project staff and initiated pre-restoration ecological monitoring shortly following the approval of this funding by OPC. However, the start of urchin removal operations was delayed by several months due to public health restrictions associated with the COVID-19 pandemic. To fully complete all project deliverables, an additional six months of work will be required, including both urchin removals and associated ecological monitoring. The approval of this consent item will support that additional work and ensure that project results can meaningfully inform kelp management efforts as planned.

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<sup>2</sup>

[https://www.opc.ca.gov/webmaster/ftp/pdf/agenda\\_items/20210216/Item7\\_KelpActionPlan\\_ExhibitA\\_FINAL.pdf](https://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20210216/Item7_KelpActionPlan_ExhibitA_FINAL.pdf)

## **Project Tasks**

In coordination with OPC and CDFW, Reef Check will continue to oversee removals of purple urchin by commercial fishermen, conduct quality control monitoring to ensure that fishermen are achieving desired reductions in purple urchin densities, and conduct pre- and post-restoration ecological surveys to assess ecosystem response to urchin removal. Work will continue at Noyo Bay and, in June 2021, urchin removals and associated monitoring will begin at a second targeted restoration location, Albion Cove. Work at both locations will conclude in Fall 2021.

## **Site Description**

Bull kelp collapse has had the most severe ecological and economic effects in Mendocino and Sonoma Counties. This project is targeting two restoration sites in Mendocino County: Noyo Bay and Albion Cove. These sites were chosen strategically based on ecological significance, historical persistence of kelp, cultural/economic importance, and logistical considerations such as accessibility, exposure, and diver safety.

Note that the original staff recommendation for this project proposed three restoration sites: Noyo Bay, Caspar Cove, and Portuguese Beach. Shortly after the approval of funding, OPC and CDFW jointly determined that undertaking restoration activities at three sites was not feasible given the capacity of state agency staff, Reef Check staff, and commercial fishermen. Additionally, some commercial fishermen expressed significant concerns about potential impacts of restoration activities to healthy, fishable red urchins at Caspar Cove. This resulted in an adaptive management decision to 1) shift from Caspar Cove to Albion Cove, and 2) eliminate Portuguese Beach as a restoration site. Potential future efforts could consider the feasibility of undertaking restoration at Caspar Cove and Portuguese Beach.

## **About the Grantee**

Reef Check Foundation is an international 501(c)3 nonprofit dedicated to the conservation of the world's tropical and temperate reef systems through grassroots research, conservation, and education. Reef Check has built a global network of volunteers that monitor reefs worldwide. With a staff of 10 employees, Reef Check coordinates coral reef conservation in over 50 countries and territories, as well as temperate rocky reef and climate change monitoring in California.

Since 2005, Reef Check California (RCCA) has worked to ensure the long-term sustainability of California's nearshore rocky reefs and kelp forests. RCCA trains recreational scuba divers to monitor and protect reefs through scientific data collection and conservation in their local communities. It is now the largest statewide citizen science monitoring program for California's marine protected areas (MPAs) and nearshore rocky reef ecosystems, training over 300 volunteers each year and conducting surveys at 100

## Staff Recommendation – Additional Funds for Urchin Removal to Support Potential Kelp Forest Recovery

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sites statewide. RCCA was involved in California’s MPA baseline monitoring program in all Marine Life Protection Act study regions as MPAs were implemented and is currently one of the collaborators in the statewide long-term monitoring of California’s MPA network.

### Project Timeline

- February 2020: grant awarded
- March–May 2020: project staff hired, target restoration locations established, pre-restoration ecological surveys conducted
- August 2020: initial commercial removals and associated quality control monitoring efforts begin at Noyo Bay
- Fall 2020–Fall 2021: commercial removals and quality control monitoring continue on an ongoing basis, with work beginning at Albion Cove in June 2021
- Fall 2020: First post-restoration ecological survey conducted
- Spring 2021: Second post-restoration ecological survey conducted
- Fall 2021: Third post-restoration ecological survey conducted
- Ongoing: outreach efforts, community engagement

### PROJECT FINANCING:

Staff recommends that OPC authorize encumbrance of up to \$117,012.50 to California Sea Grant to conduct the project summarized above.

Ocean Protection Council	\$117,013
<b>TOTAL</b>	<b>\$117,013</b>

The anticipated source of funds will be OPC’s FY 2018/2019 appropriation of Proposition 68 funds (Chapter 9 – Ocean, Bay, and Coastal Protection). Per OPC’s Proposition 68 Grant Guidelines, this funding source prioritizes projects intended to conserve, protect, and restore marine wildlife and healthy ocean and coastal ecosystems.

### CONSISTENCY WITH CALIFORNIA OCEAN PROTECTION ACT:

The proposed project is consistent with the Ocean Protection Act, Division 26.5 of the Public Resources Code. Specifically, this project will contribute to the following:

- Eliminate or reduce threats to coastal and ocean ecosystems, habitats, and species
- 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

**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.