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**OCEAN
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California Ocean Protection Council Once-Through Cooling Interim Mitigation Program Annual Report: Fiscal Year 2021-2022

Program Background

The State Water Resources Control Board (State Water Board) established the statewide “Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling” (Policy)¹ in 2010 requiring power generating facilities in California to significantly reduce using once-through cooling (OTC) technology. The Policy requires that interim mitigation payments assessed against power plants for using OTC technology as they come into final compliance with the Policy support “mitigation projects directed toward increases in marine life associated with the state’s marine protected areas (MPAs) in the geographic region of the facility.” Per the Policy, the California Ocean Protection Council (OPC) receives up to \$5.4 million annually from interim mitigation payments made by power plants that are still operating.

These funds are distributed through the OTC Interim Mitigation Program (Program) at OPC’s discretion and in close coordination and collaboration with the State Water Board and the State Coastal Conservancy. The funds can be distributed through two funding mechanisms: 1) a competitive award program, and 2) discretionary awards including but not limited to interagency contracts and other projects addressing timely or emerging problems. Funds will decrease as power plants come into compliance with the Policy, and the Program is expected to end in 2030 when all power plants are required to be in compliance.

To offset the negative impacts of OTC on coastal environments, the Program prioritizes mitigation payment investment over four categories to ensure increases in marine life through effective management of California’s MPA network:

- **Enforcement of MPA regulations statewide**

Enforcement of relevant MPA regulations is specifically mentioned in the Marine Life Protection

¹ https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/docs/otcpolicy_2017.pdf

Act² as essential to ensure a successful MPA network that has the best chance to achieve ecological goals. Recurring poaching of marine life in MPAs decreases diversity, populations, and reproductive output, and can therefore affect an ecosystem's ability to recover from or mitigate negative impacts.³

- **Outreach and education to improve compliance of MPA regulations statewide**

Outreach and education to the public is a critical component of establishing and maintaining compliance with MPA regulations. Improved public awareness of MPA regulations can serve as OTC impact mitigation because it results in increased compliance with MPA regulations and increases protection of marine life within MPAs, which in turn maximizes the expected ecological benefits from these areas.⁴

- **Research to establish and quantify the expected ecological benefits of the MPA network and understand what additional mitigation may be required to offset OTC impacts**

The Marine Life Protection Act Master Plan⁵ identifies research and monitoring as a key focal area to ensure that cutting-edge science informs adaptive management of the MPA network. Research to establish and quantify the expected ecological benefits of the MPA network is critical to understanding what additional mitigation projects may be required to offset for OTC impacts. A Working Group⁶ of the OPC Science Advisory Team (OPC-SAT), convened by the California Ocean Science Trust, identified this type of research as being essential to achieve the goals of the Policy.⁷ Research supported by Program funds will help evaluate and quantify the degree to which the MPA network may be mitigating for OTC impacts and document ecological benefits provided by the increasing biomass and reproductive output.

- **Restoration that increases marine life in the geographic region of the facility**

The OPC-SAT Working Group⁶ - scientists with expertise in mitigation, restoration, larval dynamics, oceanography, kelp forests, MPAs, and OTC impacts - identified an ecological framework that would evaluate restoration projects that would have a high likelihood of meeting the requirements of the Policy to increase marine life associated with California's MPA

2 http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=FGC&division=3.&title=&part=&chapter=10.5.&article

3 IUCN World Commission on Protected Areas (IUCN-WCPA) (2008). Establishing Marine Protected Area Networks—Making It Happen. Washington, D.C.: IUCN-WCPA, National Oceanic and Atmospheric Administration and The Nature Conservancy. 118 p

https://cmsdata.iucn.org/downloads/mpanetworksmakingithappen_en.pdf

4 <https://www.jstor.org/stable/j.ctt1657v5d.27>

5 <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=133535&inline>

6 <http://www.oceansciencetrust.org/projects/scientific-guidance-for-once-through-cooling-mitigation-funds>

7 <http://www.opc.ca.gov/webmaster/OST-Ocean-Restoration-Methods-Final-HighRes.pdf>

Network. The Working Group also applied the best science available to interpret the Policy's key terms: "increases in marine life", "associated with the state's marine protected areas", and "geographic region of the facility".⁷ Further explanation of these key policy terms is provided in OPC's Program Award Guidelines.⁸

OPC allocates funds across these four categories as determined by an ongoing needs assessment and the MPA Statewide Leadership Team Work Plan.⁹ All projects funded through the Program are subject to Council review and approval. A minimum of a 10-day public comment period is made available prior to the Council meeting for public review of the recommended projects.

Project Eligibility

All projects funded through the Program must be consistent with the State Water Board OTC Policy. Projects must demonstrate that the expected outcomes increase marine life associated with the State's marine protected areas and fall within at least one of the four Program priorities categories described above. Projects should be focused within the geographic region of the facilities as defined by the OPC-SAT Working Group as Big Sur to San Diego including islands, wetlands, and estuaries within that region. Projects with a statewide application are eligible to receive funding if the expected outcomes are connected to the geographic region. Projects that address water quality issues must show direct long-term benefits to MPAs in the geographic region. Projects must be ready to start work upon approval, though planning activities that will lead to the successful design and implementation of projects may be included in an award. Such activities may include project development, implementation strategy development, watershed assessments, and project-specific activities such as design and baseline data collection.

Funded Projects

As of July 2023, OPC has received a total of \$27,000,000 in mitigation payments for Operating Years 15/16 (FY17/18), 16/17 (FY18/19), 17/18 (FY 19/20), 18/19 (FY 20/21), and 19/20 (FY 21/22). OPC has financed 16 projects with these funds spanning the four priority categories. Of the funds received thus far, OPC has encumbered \$24,355,871.81. An overview of the projects that have been funded through the Program and the distribution of funds across priority categories are listed in the accompanying table and pie chart.

OPC received complete payments for Operating Year 21/22 (FY 22/23) in July 2023. These funds have yet to be transferred or encumbered.

⁸https://opc.ca.gov/webmaster/media_library/2018/10/OTCAwardGuidelines_OceanProtectionCouncil_FINAL.pdf

⁹ <http://www.opc.ca.gov/programs-summary/marine-protected-areas/partnerships>

Future Investments

To best invest the nearly \$54.5 million originally anticipated to be received by OPC over the timeframe of the current OTC Policy, OPC set the following funding guidelines across the Program's priority categories:

- Outreach & Education: \$10,570,741
- Enforcement & Compliance: \$14,000,000
- Research & Monitoring: \$10,000,000
- Restoration: \$16,000,000
- Staff support: \$3,900,000

In agreement with the State Coastal Conservancy and the State Water Board, OPC has dedicated \$6 million of the approximately \$9 million it anticipates receiving from the Los Angeles Department of Water and Power for mitigation payments for the Haynes Generating Station to restoration projects in the greater Los Angeles area. These funds have yet to be expended and are dependent on final project approval by the State Coastal Conservancy.

The amounts listed above are anticipated to change following pending power plant compliance deadline extensions or unanticipated funding needs for emerging concerns. OPC, in coordination with the State Water Board and State Coastal Conservancy, is in the process of revisiting Program priorities, project criteria, and a public process for project recommendations to inform future expenditure of interim mitigation payments. Whenever possible, OPC will continue to leverage other funds and partnerships to further amplify the impact of the Program's investments.

Contact

Visit the OTC Interim Mitigation Program website for more information:

<https://www.opc.ca.gov/once-through-cooling-interim-mitigation-program>.

For additional questions or information, please contact:

Kaitlyn Kalua
Deputy Director
California Ocean Protection Council
Kaitlyn.Kalua@resources.ca.gov

Once-Through Cooling Interim Mitigation Program: Grants and Contracts

Outreach and Education								
Grant / Contract #	Grantee	Project	Project Amount	Funding Source Fiscal Year	OTC Plant Operating Year	Start Date	Termination Date	Geographic Area
OCA17009	California Department of Parks and Recreation	State Parks MPA Outreach & Education Projects <ul style="list-style-type: none"> Year-round interpretive and educational programs at seven park districts associated with the MPA network. Expand distance learning platforms and digital educational opportunities through the Parks Online Resources for Teachers and Students (PORTS) Program to provide MPA content for K-12 classrooms throughout the state. Translate MPA published materials into Spanish and Asian languages. Deliver full-time summer interpretive and campfire programs on MPA-related topics. 	\$1,206,515.00	FY 17/18	OY 15/16	6/12/2018	11/30/2022	Statewide
C0302101	California Marine Sanctuary Foundation	MPA Outreach and Education Improvement Program 2 <ul style="list-style-type: none"> Enhance MPA regulation education to increase compliance in fishing communities and ocean recreation businesses, across the state through digital and physical MPA toolkits. 	\$195,573.00	FY 18/19	OY 16/17	3/21/2019	5/31/2021	Statewide
C0302102	California Marine Sanctuary Foundation	MPA Outreach and Education Improvement Program 3 <ul style="list-style-type: none"> Design and install 15 new signs and 4 new exhibits for trade shows and fishing events that communicate MPA regulations and maps and contribute to ocean conservation messaging. Collaborate with State Parks to develop local educational presentations to increase compliance statewide. Develop and implement a statewide MPA social media campaign focused on MPA regulations and conservation messaging. 	\$498,435.00	FY 17/18	OY 15/16	7/12/2019	9/30/2021	Statewide
C0302103	Coastal Quest	MPA Outreach and Education Small Grants Program <ul style="list-style-type: none"> Coastal Quest supports OPC to administer a competitive small grants program for 10 MPA outreach and education projects ranging from \$25,000-\$100,000 over two years. Coastal Quest secured additional funding from The David and Lucile Packard Foundation and the Marila Foundation for projects in areas outside of the geographic region of OTC facilities and with a focus on serving disadvantaged communities. These project awards total \$144,000. Projects include a boater education program, MPA science cruise, bringing MPAs to life with augmented reality coloring pages, supporting indigenous people traditional knowledge, and more. 	\$273,199.75 \$642,800.25 TOTAL \$916,000.00	FY 17/18 FY 18/19	OY 15/16 OY 16/17	8/9/2019	12/31/2022	Big Sur to San Diego
C0302107	California Marine Sanctuary Foundation	Improving Marine Protected Area Signage in California <ul style="list-style-type: none"> Work with the MPA Collaborative Network, CDFW, and OPC to assess statewide signage needs and evaluate existing signage effectiveness. Develop and finalize a web-based application and online data portal for tracking and updating access points and signage at all MPAs. Host a Collaborative forum engaging Tribes and local stakeholders. Design, permit, create and install 75-100 signs at select locations statewide. 	\$497,700.36	FY 20/21	OY 18/19	1/31/2022	12/31/2024	Statewide
C0302110	California Department of Parks and Recreation	Marine Protected Area Outreach & Education Project <ul style="list-style-type: none"> Expand current MPA outreach across nine (9) coastal State Parks districts to develop interpretive programming and digital education resources to help the public understand the value of the state's MPA network, encourage compliance with regulations, and inspire stewardship of California's coastal and marine resources. 	\$858,009.00 \$641,991.00 TOTAL \$1,500,000.00	FY 20/21 FY 21/22	OY 18/19 OY 19/20	2/23/2023	3/31/2025	Statewide
C0302108	Coastal Quest	MPA Small Grants Program Round 3 <ul style="list-style-type: none"> Administer up to 15 small grants ranging from \$25,000 - \$100,000 for the purpose of supporting projects that increase marine life associated with the state's MPAs in the geographic region of OTC facilities. Selected projects will advance outreach and education to improve compliance of MPA regulations. 	\$1,000,000.00	FY 20/21	OY 18/19	6/13/2022	3/31/2025	Statewide
Outreach and Education TOTAL			\$5,814,223.36					

Enforcement and Compliance								
Grant / Contract #	Grantee	Project Name	Project Amount	Funding Source Fiscal Year	OTC Plant Operating Year	Start Date	Termination Date	Geographic Area
OCA17016	California Department of Fish & Wildlife	Law Enforcement Division MPA Enforcement Pulse Project <ul style="list-style-type: none"> Increase resources of the California Department of Fish and Wildlife's Law Enforcement Division to patrol and deter violations occurring within the MPA network statewide. Provide MPA enforcement training seminars for law enforcement personnel. Maintain patrol equipment and operational costs. 	\$3,000,000.00	FY 17/18	OY 15/16	10/29/2018	12/31/2022	Statewide
C0302104	Resources Legacy Fund	Marine Protected Area Compliance Initiative <ul style="list-style-type: none"> Support the MPA Collaborative Network to work with its membership and local agencies to increase compliance with MPA regulations in specific problem areas through educational materials and training seminars. Create training materials for district attorneys and judges to better uphold MPA regulations. Support the MPA Watch Network of locally-based community science programs to track, analyze, and share information about MPA compliance. 	\$2,532,262.00	FY 19/20	OY 17/18	9/9/2019	11/31/2022	Statewide
C0302109	Resources Legacy Fund	Marine Protected Area Compliance Initiative 2 <ul style="list-style-type: none"> Conduct trainings for California Department of Fish and Wildlife's Law Enforcement Division and local enforcement agencies. Update training materials and Officer Reference Guides, as needed. Pilot standardized data system to report and track enforcement and compliance contacts, warnings, and citations with MPAs adjacent to State Parks. Support MPA Watch implementation. 	\$2,500,000.00	FY 21/22	OY 19/20	12/14/2022	12/31/2025	Statewide
Enforcement and Compliance TOTAL			\$8,032,262.00					

Research and Monitoring								
Grant / Contract #	Grantee	Project Name	Project Amount	Funding Source Fiscal Year	OTC Plant Operating Year	Start Date	Termination Date	Geographic Area
C0302700	UC San Diego	MPA Long-Term Monitoring Projects <ul style="list-style-type: none"> California Sea Grant supports OPC to issue a call for proposals to implement a monitoring program for specific habitat types and species within the state's MPA network. Leveraging other OPC funds, a total of \$9,500,000 have been disbursed to fund 7 long-term MPA monitoring projects that are grounded in the state's MPA Monitoring Action Plan. Projects track priority ecological measures and metrics inside and outside MPAs in key habitats as well as assess the effect of MPAs on consumptive human uses. These projects will provide the State with critical information to inform adaptive management of the MPA network. 	\$3,581,182.27 \$1,626,768.48 TOTAL \$5,207,950.75	FY 18/19 FY 20/21	OY 16/17 OY 18/19	7/25/2018	12/31/2023	Statewide
C0752003	San Jose State University Research Foundation	California Collaborative Fisheries Research Program <ul style="list-style-type: none"> Leveraging other OPC funds, a total of \$1,000,000 have been disbursed to monitor top priority MPA sites statewide through hook-and-line surveys using rigorous standardized scientific protocols and volunteer anglers. Evaluate MPA performance and ecosystem changes for abundance, species diversity, trophic structure, occurrence of special status species, spillover and fish movement patterns, and attitude/perception of MPAs in the recreational fishing community. Continue to expand community outreach efforts to inform the public about MPA regulations. 	\$130,945.25 \$1,000,000.00 TOTAL \$1,130,945.25	FY 19/20 FY 20/21	OY 17/18 OY 18/19	9/1/2020	5/31/2022	Statewide
C0752004	California Indian Environmental Alliance	Tribal Marine Stewards Network Pilot Program <ul style="list-style-type: none"> Develop Tribal Marine Stewards Program Monitoring Plan that includes monitoring tracking tools and workplan for each partner tribe. Develop and identify existing monitoring methodologies and data templates. Perform monitoring and research activities. <p>Note: split funded with 20/21 MPA GF</p>	\$84,000.00	FY 17/18	OY 15/16	9/30/2020	12/31/2023	Statewide
OCA15031a	San Jose State University Research Foundation	Marine Data Collection in Central Coast MPAs <ul style="list-style-type: none"> Support continued data collection by the California Collaborative Fisheries Research Program (CCFRP) on ecosystem changes in fish populations in existing Central Coast MPA sites. 	\$3,241.85	FY 19/20	OY 17/18	6/10/2016	3/30/2020	Central Coast
C0752002	UCSC	Improved Connectivity Modeling for California's MPA Network <ul style="list-style-type: none"> Application of the integrated population-connectivity model (IPCM) to provide estimates of regional population size, resilience, and an evaluation of network performance. 	\$28,499.00	FY 20/21	OY 18/19	4/10/2020	6/30/2023	Statewide
Research and Monitoring TOTAL			\$6,454,636.45					

Restoration								
Grant / Contract #	Grantee	Project Name	Project Amount	Funding Source Fiscal Year	OTC Plant Operating Year	Start Date	Termination Date	Geographic Area
C0302105	WILDCOAST	Restoration of 42 acres of wetland habitat in San Diego County <ul style="list-style-type: none"> Restore 41.7 acres of degraded wetlands adjacent to the Batiquitos Lagoon and the San Dieguito Lagoon State Marine Conservation Areas in San Diego County, which contain a total of 396.8 acres of wetland ecosystem. Increase marine life associated with MPAs by enhancing critical habitat adjacent to MPAs. Engage a diverse audience including students, youth programs, local tribes, and non-profit organizations in outreach and education to improve public awareness of MPA regulations and participate in an annual on-the-water cleanup day. 	\$1,081,061.00 \$80,106.60 TOTAL \$1,161,167.60	FY 19/20 FY 21/22	OY 17/18 OY 19/20	10/11/2019	3/31/2024	San Diego County
C0302106	UC Santa Barbara	Restoring Rocky Intertidal Foundation Species in California <ul style="list-style-type: none"> Restore impacted rockweed at 9 sites from Big Sur to San Diego, including the Channel Islands, to provide key ecosystem functions and benefits to rocky intertidal ecosystems and increase marine life in the geographic region of the OTC facilities. In addition to the restoration, tasks include site reconnaissance, genetic analysis, biological surveys, data analysis, and reporting and communications. 	\$337,850.25 \$1,355,731.75 TOTAL \$1,693,582.00	FY 17/18 FY 19/20	OY 15/16 OY 17/18	4/14/2020	3/30/2024	Big Sur to San Diego
Restoration TOTAL			\$2,854,749.60					

Staff Support								
Grant / Contract #	Grantee	Project Name	Project Amount	Funding Source Fiscal Year	OTC Plant Operating Year	Start Date	Termination Date	Geographic Area
N/A	N/A	MPA Program staff support	\$296,758.15	FY 19/20	OY 17/18	7/1/2019	6/30/2020	Sacramento
N/A	N/A	MPA Program staff support	\$300,000.00	FY 20/21	OY 18/19	7/1/2020	6/30/2021	Sacramento
N/A	N/A	MPA Program staff support	\$425,291.82	FY 21/22	OY 19/20	7/1/2021	6/30/2022	Sacramento
N/A	N/A	MPA Program staff support	\$170,918.00	FY 22/23	OY 20/21	7/1/2022	6/30/2023	Sacramento
Staff Support TOTAL			\$1,192,967.97					

TOTAL PROGRAM AMOUNT \$24,348,839.78