



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
West Coast Region  
1655 Heindon Road  
Arcata, California 95521-4573

May 20, 2024

Refer to NMFS No: 10012WCR2024AR00028

Via Electronic Mail

The Honorable Wade Crowfoot, Chair  
California Ocean Protection Council  
California Natural Resources Agency  
715 P Street, 20th Floor  
Sacramento, California 95814  
[COPCPublic@resources.ca.gov](mailto:COPCPublic@resources.ca.gov)

Re: Support for the proposed Wigi (Humboldt Bay) Eelgrass Distribution Mapping and Spatial Modeling Project (June 4, 2024 Ocean Protection Council Meeting Agenda Item 8c)

Dear Secretary Crowfoot and members of the Ocean Protection Council,

The purpose of this letter is to express NOAA's National Marine Fisheries Service (NOAA Fisheries) support for the proposed Wigi (Humboldt Bay) Eelgrass Distribution Mapping and Spatial Modeling project (Project). NOAA Fisheries is the lead federal agency responsible for the stewardship of the nation's living marine resources and their habitats. NOAA Fisheries implements the Endangered Species Act (ESA) to support the conservation and recovery of protected species and their habitats. NOAA Fisheries is also the lead federal agency responsible for federal fisheries management under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), which includes provisions for essential fish habitat (EFH) conservation. Federally-managed fisheries provide an important source of food and recreation for the nation, as well as thousands of jobs, and a traditional way of life and essential nutrients for many tribal nations and coastal communities.

Eelgrass meadows within Humboldt Bay provide habitat to support a host of aquatic species, including economically and culturally significant species of fish and shellfish. Eelgrass meadows have been identified as EFH and as Habitat Areas of Particular Concern for both the Pacific Salmon Fishery Management Plan (FMP) and Pacific Coast Groundfish FMP by the Pacific Fishery Management Council. NOAA Fisheries' [2014 California Eelgrass Mitigation Policy](#) outlines our policy for no net loss of eelgrass habitat function in California and requires that eelgrass impacts be avoided, minimized, or offset and compensated for. Eelgrass health can be greatly impacted by changes in environmental conditions, such as the Pacific coast marine heat wave in 2014-2016 or other climate change related factors that have contributed to declines of eelgrass in some areas caused by a combination of stressors and disease.

The Project will 1) Update eelgrass distribution mapping bay wide including subtidal bathymetry; 2) Collect temperature and photosynthetically active radiation (PAR) data to refine an existing calibrated/validated hydrodynamic model which informs habitat modeling; and



3) Develop spatial modeling for eelgrass to identify future suitable habitat. The Project will fill an important knowledge gap regarding recent baywide trends in eelgrass habitat in Humboldt Bay, which has not been assessed since 2009. Improved techniques proposed by the Project will also provide a more comprehensive evaluation of eelgrass parameters in the Bay relative to previous surveys. Likewise, the previous spatial model developed for Humboldt Bay eelgrass dates back to 2008, and requires updating to be informative for management of this resource.

We believe there is a critical need for this Project to be funded and implemented soon. One of many reasons for swift action is that large-scale changes are proposed for the Port of Humboldt Bay in the near future to support offshore wind energy development. The Project's survey and modeling data will provide an update on the status of eelgrass parameters within the Bay, serve as baseline information to detect future changes, and directly inform mitigation strategies needed for potential eelgrass impacts. These results will be extremely informative for future management of eelgrass resources. Similar data needs and goals were also identified within the Humboldt Bay Harbor, Recreation, and Conservation District's [2017 Humboldt Bay Eelgrass Comprehensive Management Plan](#).

The Project is consistent with the Ocean Protection Council's mission to protect California's coast and ocean by advancing innovative, science-based policy and management, making strategic investments, and catalyzing action through partnerships and collaboration. NOAA Fisheries respectfully encourages the Ocean Protection Council to fund this important Project, which would provide critical information in order to support the effective management and conservation of eelgrass resources in Humboldt Bay. Thank you for this opportunity to express our support.

Please contact me at (707) 825-5173, or via email at [Jeffrey.Jahn@noaa.gov](mailto:Jeffrey.Jahn@noaa.gov) if you have any questions concerning this letter of support, or if you require additional information.

Sincerely,



Jeffrey Jahn  
South Coast Branch Supervisor  
Northern California Office



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Marine Region  
1933 Cliff Drive, Suite 9  
Santa Barbara, CA 93109  
[wildlife.ca.gov](http://wildlife.ca.gov)

**GAVIN NEWSOM, Governor**  
**CHARLTON H. BONHAM, Director**



May 15, 2024

Wade Crowfoot, Secretary for Natural Resources  
Chair, California Ocean Protection Council  
California Natural Resources Agency  
715 P St, 20<sup>th</sup> Floor  
Sacramento, CA 95814

**SUBJECT: Support for the Humboldt Bay Eelgrass Distribution Mapping and Spatial Modeling (Item 8c)**

Dear Secretary Crowfoot and members of the Ocean Protection Council:

The Department of Fish and Wildlife (Department) has worked closely with Ocean Protection Council (OPC) staff to develop funding priorities and supports the authorization for disbursement of funding for **Item 8c: The Humboldt Bay Eelgrass Distribution Mapping and Spatial Modeling**. The Department, with our state and federal partners, assists in the protection and conservation of eelgrass under a variety of state and federal statutes and regulations. Eelgrass was designated by the federal government as Essential Fish Habitat and a Habitat of Particular Concern under the Magnuson-Stevens Fishery Conservation and Management Act in 1996. Eelgrass provides a broad range of critical ecosystem services including nursery areas for important commercial species like Dungeness crab and food for a broad range of marine species.

Humboldt Bay supports significant eelgrass meadows, estimated at close to 30% of the extant eelgrass remaining in California. The proposed project will fill an important gap in our understanding of the current distribution of eelgrass in the Bay, with the last comprehensive mapping occurring in 2009. Understanding the current distribution of eelgrass in Humboldt Bay will improve the Department's consultation and permit reviews for development and restoration projects. Additionally, the habitat suitability model will inform our understanding of current and future conditions that will help determine the opportunities for successful restoration and mitigation projects under our changing climate.

*Conserving California's Wildlife Since 1870*

Wade Crowfoot, Secretary for California Natural Resources Agency

May 15, 2024

Page 2

The proposed project brings together a team of qualified technical experts to complete this critical and timely work. Importantly, the project team includes local and Tribal partners that have been involved in shaping this project since its inception.

If you have any questions or need additional information, please contact me at (805) 568-1246 or by email at [r7regionalmgr@wildlife.ca.gov](mailto:r7regionalmgr@wildlife.ca.gov).

Sincerely,



Craig Shuman, D. Env.  
Marine Regional Manager

ec: Becky Ota, Environmental Program Manager  
California Department of Fish and Wildlife  
[Becky.Ota@wildlife.ca.gov](mailto:Becky.Ota@wildlife.ca.gov)

Kirsten Ramey, Environmental Program Manager  
California Department of Fish and Wildlife  
[Kirstin.Ramey@wildlife.ca.gov](mailto:Kirstin.Ramey@wildlife.ca.gov)

Eric Wilkins, Senior Environmental Scientist Supervisor  
California Department of Fish and Wildlife  
[Eric.Wilkins@wildlife.ca.gov](mailto:Eric.Wilkins@wildlife.ca.gov)

Cyndi Dawson, Senior Environmental Scientist Specialist  
California Department of Fish and Wildlife  
[Cyndi.Dawson@wildlife.ca.gov](mailto:Cyndi.Dawson@wildlife.ca.gov)

Cal Poly Humboldt



Sea Level Rise Institute

May 15, 2024

The Honorable Wade Crowfoot, Chair  
California Ocean Protection Council  
California Natural Resources Agency  
715 P Street, 20th Floor  
Sacramento, CA 95814

Re: Support for the Wigi (Humboldt Bay) Eelgrass distribution mapping and spatial modeling project

Dear Secretary Crowfoot and members of the Ocean Protection Council,

I am writing on behalf of the Cal Poly Humboldt Sea Level Rise Institute (SLRI) in support of the project titled: “Wigi (Humboldt Bay) Eelgrass distribution mapping and spatial modeling.” The SLRI is an academic-Tribal-community partnership related to SLR on California’s North Coast (roughly the coastlines of Mendocino, Humboldt, and Del Norte counties). It envisions “a diverse network of collaborators working together across disciplines, sectors, and ways of knowing to develop sea-level rise research and planning that informs equitable, sustainable, and community-centered local climate action.” Our membership of over 50 individuals includes representatives from academic institutions, Tribes, government agencies, NGOs, the private sector, and civic and community groups in the region. Members have expertise in a variety of areas including Indigenous knowledge and rights, engineering, geosciences, marine and coastal ecology, social science, planning, policy, and law.

To date, much of the SLRI efforts have focused on Humboldt Bay or Wigi – the Wiyot name for the bay – which is at the center of the ancestral territory of the Wiyot people. Due to tectonic processes, the land around Humboldt Bay is subsiding at the same time as the seas are rising, causing Humboldt Bay to be experiencing one of the fastest rates of relative sea-level rise anywhere on the California Coast, with up to four additional inches of sea level rise projected by 2050 compared to the state average. Since our membership is focused on the health and resilience of Wigi, we place tremendous value on the long-term sustainability of eelgrass habitat. In a recent publication by our membership, Richmond et al. 2023, note that with out proper adaptation measures, sea-level rise has the potential to drown out eelgrass habitat. If seas rise and barriers like dikes and levees are left in place that do not allow for those habitats to migrate inland. In the face of this change, it is more important than ever to understand the current status of eelgrass populations in the Bay to be able to assess future change and to plan to effective adaptation and protection measures.


**1 Harpst Street • Arcata, California 95521-8299 • 707.826.4147 • fax 707.826.4145 • [www.humboldt.edu](http://www.humboldt.edu)**

**THE CALIFORNIA STATE UNIVERSITY • Bakersfield • Channel Islands • Chico • Dominguez Hills • Fresno • Fullerton • Hayward • Humboldt • Long Beach • Los Angeles • Maritime Academy • Monterey Bay • Northridge • Pomona • Sacramento • San Bernardino • San Diego • San Francisco • San Jose • San Luis Obispo • San Marcos • Sonoma • Stanislaus •**

This project will fill an important knowledge gap regarding recent trends in eelgrass habitat in Humboldt Bay, which supports the largest eelgrass population in the state of California, but which has not been assessed since 2009. The Humboldt Bay Area is experiencing the most rapid rate of relative sea level rise (SLR) within the state (Patton et al. 2013) and with proposed marine terminal port development planning efforts advancing, it is important to understand the current status of this critically important resource, as well as the bay's capacity to support eelgrass habitat conservation and mitigation under changing conditions. The SLRI is committed to research and planning that can support the long-term resilience of Wigi and coastal communities and we believe that this project can help to support that overall mission.

In summary, we urge you to fund this important project, which supports the Ocean Protection Council's goals of promoting coastal resilience, stewardship of public trust resources, and effective management of this foundational estuarine habitat and the numerous species that rely upon it. This project will be critical to allow the state to reach the recently released acreage Nature-Based Solutions Climate Targets for the conservation and restoration of eelgrass. Thank you for this opportunity to express our support.

Sincerely,

A handwritten signature in cursive script, appearing to read "Laurie Richmond".

Laurie Richmond  
Co-Chair Humboldt State University Sea Level Rise Initiative  
Professor, Department of Environmental Science and Management  
Cal Poly Humboldt  
laurie.richmond@humboldt.edu

May 20, 2024

The Honorable Wade Crowfoot, Chair  
California Ocean Protection Council  
California Natural Resources Agency  
715 P Street, 20th Floor  
Sacramento, CA 95814

Re: Support for the Wigi (Humboldt Bay) Eelgrass distribution mapping and spatial modeling project

Dear Wade Crowfoot and Members of the Council:

Audubon California is writing to provide support for funding of Item 8c. Consideration and Approval of Disbursement of Funds for Humboldt Bay Eelgrass Distribution Mapping and Spatial Modeling, Sreeja Gopal, Ph.D., Coastal Habitats Program Manager.

It is our understanding the Wigi (Humboldt Bay) Eelgrass distribution mapping and spatial modeling project will

1. Update eelgrass distribution mapping bay wide including subtidal bathymetry.
2. Collect temperature and photosynthetically active radiation (PAR) data to refine an existing calibrated/validated hydrodynamic model which informs habitat modeling; and
3. Develop spatial modeling for eelgrass to identify future suitable habitat.

Humboldt Bay is believed to hold approximately 30% of the state's eelgrass, based on data from 2009. Eelgrass provides dozens of ecosystem services and provides essential habitat for coastal birds and other wildlife. Data from Keith Merkel and Associates are showing recent declines in eelgrass in some areas of Bay. Combined with threats to eelgrass due to climate change, disease and erosion, the need exists for a more thorough and comprehensive survey of eelgrass distribution. There is also a need to understand how environmental changes are altering conditions now for eelgrass as well as in the future. With the advancement of planning efforts for marine terminal port development, developing a habitat suitability model, similar to the one recently created by Audubon, Merkel and Associates and Kathy Boyer/SFSU for San Francisco Bay (and funded by OPC), is urgently needed in order to inform future management and conservation of eelgrass beds as well as to help inform sites for future restoration and protection.

This research and subsequent conservation of eelgrass contributes to OPCs strategic plan and the state's recently released acreage in Nature-Based Solutions Climate Targets for the conservation and restoration of eelgrass. We hope OPC will consider this funding to support Merkel and Associates, Wiyot Tribe, Northern Hydrology and Engineering, Yurok Condor Aviation, and other partners, to undertake this important work.

Thank you for your consideration.

Sincerely,



Andrea Jones, Director of Conservation and Dan Orr, Director of Geospatial Science





May 23, 2024

The Honorable Wade Crowfoot, Chair,  
and Honorable Members  
California Ocean Protection Council  
California Natural Resources Agency  
715 P Street, 20th Floor  
Sacramento, CA 95814

**Re: June 4 OPC Agenda item 7: 30x30 Decision-Making Framework for Coastal Waters;  
and Agenda item 8.c: Consideration and Approval of Disbursement of Funds for  
Humboldt Bay Eelgrass Distribution Mapping and Spatial Modeling**

Dear Secretary Crowfoot and members of the Ocean Protection Council,

Thank you for your ongoing leadership pursuing durable protection and management of the state's coasts and waters through 30x30 and other initiatives. The Pew Charitable Trusts (Pew) respectfully submits the following comments regarding two agenda items before the Ocean Protection Council (Council) at its June 4, 2024, meeting.

**Agenda item 7: 30x30 Decision-Making Framework for Coastal Waters**

Pew's U.S. conservation program seeks to sustain biodiversity and climate resilient ecosystems by collaborating with Tribal Nations, local communities, businesses, state and federal policymakers, and others to achieve balanced, commonsense policy solutions.

Consistent with these objectives, Pew hopes that 30x30 in California will seek to mitigate the threats most impacting the state's valuable lands and waters and supports strong criteria for "conserved areas". These criteria will set a precedent for conservation of coastal waters outside of marine protected areas and as such, we strongly recommend they are aligned with internationally approved criteria for Other Effective Conservation Measures,<sup>1</sup> which are an analog to California's Spatial Management Measures.

It is also important to consider how best to address land-based impacts on nearshore waters. For example, incompatible development and water pollution pose a major

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<sup>1</sup>Convention on Biological Diversity (2018). Protected areas and other effective area-based conservation measures. Decision adopted by the Conference of the Parties to the Convention on Biological Diversity, November 30, 2018. <https://www.cbd.int/doc/decisions/cop-14/cop-14-dec-08-en.pdf>

See also: Technical Note: Frequently Asked Questions on Establishing Marine OECMs under the Convention on Biological Diversity. 2024. <https://www.iucn.org/sites/default/files/2024-04/technical-note-marine-oecms.pdf>



threat to tidal wetlands, eelgrass meadows, and overall estuary health — sometimes more than impacts from unsustainable fishing. Additionally, sea level rise means tidal wetlands need room to migrate inland if they are to continue providing co-benefits to people and nature, including carbon storage and flood protection.

To address these challenges, the 30x30 effort must prioritize coordination across state government agencies and tap the expertise and experience across agencies, research institutions, NGOs, stakeholders, and Tribal Nations. Pew coordinates with scientists who have deep knowledge of estuarine ecology and management interventions in California. We, and our science partners, are interested in working closely with OPC and its Technical Advisory Panel, to ensure estuaries, coastal wetlands, and bays in California are durably protected as part of California's 30x30 Initiative, and we look forward to engaging in the upcoming public comment process.

### **Agenda item 8.c: Consideration and Approval of Disbursement of Funds for Humboldt Bay Eelgrass Distribution Mapping and Spatial Modeling**

Pew enthusiastically supports the proposed Humboldt Bay Eelgrass Distribution and Spatial Monitoring project and encourages the Council to approve full funding of this important effort.

Eelgrass is one of the most important plants in the ocean. These habitats capture and store carbon, filter excess nutrients from the water, produce oxygen, and help protect coastal communities from floods and storm surge. Healthy eelgrass meadows also provide vital habitat for salmon, Dungeness crab, and other wildlife that are important to the region's economy.

This project will update eelgrass distribution mapping bay-wide (which has not occurred for over 15 years) and refine habitat models to inform restoration and mitigation opportunities. It will also develop spatial modeling to predict areas where eelgrass is most likely to thrive under future environmental conditions, which is critically important given the rapidly changing climate.

Pew has long advocated for science and ecosystem-based policy and management of eelgrass and other submerged aquatic vegetation at the local, state, and federal levels. This includes advocating for the successful development of the eelgrass habitat suitability modeling for San Francisco Bay, upon which this Humboldt Bay project is based. The proposed project is a natural next step to scale up eelgrass conservation efforts across the state. And given Humboldt Bay has the highest rate of sea level rise (SLR) in California,<sup>2</sup> combined with planning for offshore wind, agenda item 8.b is timely.

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<sup>2</sup> Sullivan, Robert M. et al. (2022). Sea level rise vulnerability assessment for State wildlife areas surrounding Humboldt Bay, northern California. *California Fish and Wildlife Journal* 108: e24.

Protecting eelgrass in Humboldt Bay, home to more than one-third of California's remaining eelgrass,<sup>3</sup> is also critical if the state is to achieve its ambitious eelgrass targets included in OPC's "Strategic Plan to Protect California's Coast and Ocean: 2020-2025,"<sup>4</sup> protecting 30% of California's lands and coastal waters by 2030 and achieving the state's Nature-Based Solutions Climate Targets.<sup>5</sup>

Pew applauds California for its leadership in building a stronger and more adaptable environment for people and nature. In summary, we encourage the Council to pursue strong criteria for conserved coastal waters that align with international criteria; coordinate across agencies to address land-based impacts on nearshore waters; engage with scientists and other experts to determine how best to achieve those goals; and support the proposed "Humboldt Bay Eelgrass Distribution Mapping and Spatial Modeling" project as an important next step in protecting eelgrass in our state and encourage the council to fund this critical endeavor.

Thank you for your commitment to protect California's coast and ocean and for your consideration of these comments.

Sincerely,



Jos Hill  
Project Director, U.S. Conservation - California  
The Pew Charitable Trusts  
415.994.7693  
jhill@pewtrusts.org  
<https://www.pewtrusts.org/en/projects/us-conservation>

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<https://journal.wildlife.ca.gov/2022/11/22/sea-level-rise-vulnerability-assessment-for-state-wildlife-areas-surrounding-humboldt-bay-northern-california/>

<sup>3</sup> Gilkerson, Whelan A. and Keith W. Merkel (2017). Humboldt Bay Eelgrass Comprehensive Management Plan. Prepared for Humboldt Bay Harbor, Recreation, and Conservation District, October 30, 2017, pgs 6-8.

[https://humboltdbay.org/sites/humboltdbay2.org/files/documents/Humboldt%20Bay%20Eelgrass%20Management%20Plan\\_10-30-17.pdf](https://humboltdbay.org/sites/humboltdbay2.org/files/documents/Humboldt%20Bay%20Eelgrass%20Management%20Plan_10-30-17.pdf)

<sup>4</sup> Ocean Protection Council (2020). Strategic Plan to Protect California's Coast and Ocean: 2020-2025. Feb. 28, 2020: <https://www.opc.ca.gov/webmaster/ftp/pdf/2020-2025-strategic-plan/OPC-2020-2025-Strategic-Plan-FINAL-20200228.pdf>

<sup>5</sup> California Natural Resources Agency (2024). Nature-Based Solutions Climate Targets: as required by Assembly Bill 1757 (2022. C. Garcia): <https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Expanding-Nature-Based-Solutions/Californias-NBS-Climate-Targets-2024.pdf>



May 17, 2024

The Honorable Wade Crowfoot, Chair  
California Ocean Protection Council  
California Natural Resources Agency  
715 P Street, 20th Floor  
Sacramento, CA 95814

**Re: Support for the Wigi (Humboldt Bay) Eelgrass distribution mapping and spatial modeling project**

Dear Secretary Crowfoot and members of the Ocean Protection Council,

I am writing you to express support for the proposed Humboldt Bay Eelgrass distribution mapping and spatial modeling project. Eelgrass (*Zostera marina*) is critical to the health of the Humboldt Bay ecosystem, providing important nursery habitat, foraging for brant, and mitigating the effects of ocean acidification. This project will fill an important knowledge gap regarding recent trends in eelgrass habitat in Humboldt Bay, which supports the largest eelgrass population in the state of California, but which has not been assessed since 2009. The Humboldt Bay Area is experiencing the most rapid rate of relative sea level rise (SLR) within the state (Patton et al. 2013) and with proposed marine terminal port development planning efforts advancing, it is important to understand the current status of this critically important resource, as well as the bay's capacity to support eelgrass habitat conservation and mitigation under changing conditions.

The Conservancy is working with partners to support sea level rise adaptation for Humboldt Bay's natural and human communities, and eelgrass restoration and management is a key piece of that effort. I urge you to fund this important project, which supports the Ocean Protection Council's goals of promoting coastal resilience, stewardship of public trust resources, and effective management of this foundational estuarine habitat and the numerous species that rely upon it. This project will be critical to allow the state to reach the recently released acreage Nature-Based Solutions Climate Targets for the conservation and restoration of eelgrass. Thank you for this opportunity to express our support.

Sincerely,

*Amy Hutzel*

Amy Hutzel  
Executive Officer

1515 Clay Street, 10<sup>th</sup> Floor  
Oakland, CA 94612-1401  
510-286-1015



CA Oceans Program  
830 S. Street  
Sacramento, CA 95811

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nature.org  
nature.org/california

May 30, 2024

The Honorable Wade Crowfoot, Chair  
California Ocean Protection Council  
California Natural Resources Agency  
715 P Street, 20th Floor  
Sacramento, CA 95814

**Re: Support for the Wigi (Humboldt Bay) Eelgrass distribution mapping and spatial modeling project**

Dear Secretary Crowfoot and members of the Ocean Protection Council,

The Nature Conservancy CA Oceans Program supports the proposed Humboldt Bay Eelgrass distribution mapping and spatial modeling project. Eelgrass (*Zostera marina*) is critical to the health of the Humboldt Bay ecosystem. This project will fill an important knowledge gap regarding recent trends in eelgrass habitat in Humboldt Bay, which supports the largest eelgrass population in the state of California, but which has not been assessed since 2009. The Humboldt Bay Area is experiencing the most rapid rate of relative sea level rise (SLR) within the state (Patton et al. 2013) and with proposed marine terminal port development planning efforts advancing, it is important to understand the current status of this critically important resource, as well as the bay's capacity to support eelgrass habitat conservation and mitigation under changing conditions.

The Nature Conservancy is a global organization whose mission is to protect the lands and waters upon which all life depends. Our California Oceans Program is keenly interested in supporting work that contributes to the recovery of native species and habitats in California, including eelgrass. We are confident this work will contribute to a better understanding of eelgrass habitat which in turn will allow for a science informed process to prioritize and restore this critical habitat, as necessary.

In summary, we urge you to fund this important project, which supports the Ocean Protection Council's goals of promoting coastal resilience, stewardship of public trust resources, and effective management of this foundational estuarine habitat and the numerous species that rely upon it. This project will be critical to allow the state to reach the recently released acreage Nature-Based Solutions Climate Targets for the conservation and restoration of eelgrass. Thank you for this opportunity to express our support.

Respectfully

Jono Wilson  
Director of Ocean Science, The Nature Conservancy, CA  
[JonoWilson@tnc.org](mailto:JonoWilson@tnc.org)  
(805) 708-7571

CC: Jenn Eckerle, Executive Director California Ocean Protection Council



May 9, 2024

The Honorable Wade Crowfoot, Chair  
California Ocean Protection Council  
California Natural Resources Agency  
715 P Street, 20th Floor  
Sacramento, CA 95814

**Re: Support for the Wigi (Humboldt Bay) Eelgrass distribution mapping and spatial modeling project**

Ha'wa'lou (greetings) Secretary Crowfoot and members of the Ocean Protection Council,

The Wiyot Tribe Natural Resources Department is writing you to express support for the proposed Humboldt Bay Eelgrass distribution mapping and spatial modeling project, traditionally known as Wigi in the Soulatluk Wiyot language, and whose ancestral lands and waters encompass the bay and adjacent watersheds. As a culturally important Tribal trust species, dadulh or eelgrass (*Zostera marina*) is critical to the health of the Wigi ecosystem. This project will fill an important knowledge gap regarding recent trends in eelgrass habitat in Humboldt Bay, which supports the largest eelgrass population in the state of California, but which has not been assessed since 2009. The Humboldt Bay Area is experiencing the most rapid rate of relative sea level rise (SLR) within the state (Patton et al. 2013) and with proposed marine terminal port development planning efforts advancing, it is important to understand the current status of this critically important resource, as well as the bay's capacity to support eelgrass habitat conservation and mitigation under changing conditions.

The Wiyot Tribe has the mission of protecting and restoring its ancestral lands, waters, and species, and a history of successful projects working with diverse partnerships throughout Wiyot ancestral territory, including supporting past efforts to better understand the distribution and ecological importance of eelgrass and wants to continue this important work through supporting the proposed project.

In summary, we urge you to fund this important project, which supports the Ocean Protection Council's goals of promoting coastal resilience, stewardship of public trust resources, and effective management of this foundational estuarine habitat and the numerous species that rely upon it. This project will be critical to allow the state to reach the recently released acreage Nature-Based Solutions Climate Targets for the conservation and restoration of eelgrass. Thank you for this opportunity to express our support.

Rra'dutwas (respectfully),

Adam Canter, Natural Resources Director  
Wiyot Tribe Natural Resources Department  
[adam@wiyot.us](mailto:adam@wiyot.us)  
707-733-5055 x105 (office)  
707-499-3423 (cell)

CC: Jenn Eckerle, Executive Director  
California Ocean Protection Council



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Arcata Fish and Wildlife Office  
1655 Heindon Road  
Arcata, California 95521



In Reply Refer To: AFWO-WIGI

Wade Crowfoot, Secretary for Natural Resources  
Chair, California Ocean Protection Council  
California Natural Resources Agency  
715 P St, 20<sup>th</sup> Floor  
Sacramento, CA 95814

May 16, 2024

Re: Letter of Support for the Humboldt Bay Eelgrass Distribution Mapping and Spatial Modeling  
(Item 8c)

Dear Secretary Crowfoot and members of the Ocean Protection Council

On behalf of the U.S. Fish and Wildlife Service's Arcata Fish and Wildlife Office, we would like to offer our support for the Humboldt Bay Eelgrass Distribution Mapping and Spatial Modeling Project. This project will lead to an updated map of eelgrass distribution in Humboldt Bay and refine current modeling tools that can be used to improve understanding of eelgrass dynamics in light of changes in sea-level rise, marine heat waves, and the impacts of restoration and development projects. Eelgrass has been designated as Essential Fish Habitat and a Habitat of Particular Concern by the Magnuson-Stevens Fishery Conservation and Management Act of 1996, provides many critical ecosystem functions, and benefits a broad range of fish and bird species. The last comprehensive mapping of eelgrass distribution in Humboldt Bay occurred in 2009, and the proposed project will improve our understanding of the current distribution and aid in determining opportunities for mitigation and successful restoration.

The bay wide eelgrass and bathymetric survey along with temperature and light data will provide invaluable data for refining a hydrodynamic model of the bay and development of a spatial distribution model for eelgrass.

This project is consistent with the goal of the National Fish Habitat Partnership program and The Service's Fish and Aquatic Conservation Program's FY2016-2020 strategic plan. Understanding the eelgrass habitats of Humboldt Bay is a worthwhile investment in building awareness of ecosystem health and offers potential to produce real results toward ecosystem recovery.

Please contact me if you have any additional questions.

Sincerely,

VICKY RYAN  
Digitally signed by VICKY RYAN  
Date: 2024.05.16 13:37:25  
-0700

Vicky Ryan  
Acting Field Supervisor





May 16, 2024

The Honorable Wade Crowfoot  
Chair California Ocean Protection Council  
California Natural Resources Agency  
715 P Street, 20th Floor  
Sacramento, CA 95814

Re: Support for the Humboldt Bay Eelgrass Distribution Mapping and Spatial Modeling Project  
(June 4 Agenda Item 8c)

Greetings Secretary Crowfoot and Members of the Ocean Protection Council,

I am writing on behalf of Humboldt Waterkeeper to express our strong support for the proposed Humboldt Bay Eelgrass Distribution Mapping and Spatial Modeling Project, which would be the first bay-wide eelgrass mapping effort since 2009.

Eelgrass (*Zostera marina*) is a foundational species, forming intertidal meadows that provide habitat for culturally, commercially, and recreationally important fish and bird species. Humboldt Bay's eelgrass beds are the largest between Willapa Bay, Washington, and Baja California, Mexico, and provide an array of food sources for hundreds of thousands of migrating shorebirds and waterfowl. Eelgrass has been found to ameliorate ocean acidification in bays and estuaries by increasing pH levels over extended periods, which is beneficial for our thriving oyster industry.

The Humboldt Bay ecosystem is already experiencing the impacts of climate change, and has the fastest rate of sea level rise in California. And with the proposed development of offshore wind energy, it is especially important to update our knowledge of the distribution and health of the bay's eelgrass, given how long it has been since bay-wide surveys were conducted here.

Thank you for your consideration.

Sincerely,

Jennifer Kalt, Executive Director  
[jkalt@humboldtwaterkeeper.org](mailto:jkalt@humboldtwaterkeeper.org)



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