



Oregon State
University

**The Cooperative Institute for Marine Ecosystem and
Resources Studies**
Oregon State University
Hatfield Marine Science Center, 2030 SE Marine Science Dr.
Newport, Oregon 97365-5229

P 541-867-2059
F 541-867-7044

February 4, 2023

The Honorable Ken Helm, Chair
House Committee on Agriculture, Land Use, Natural Resources, and Water
Oregon State Legislature

Dear Chairman and Members of the Committee,

My name is Francis Chan. I am an Associate Professor in the Department of Integrative Biology, and the Director of the Cooperative Institute for Marine Ecosystem and Resources Studies at Oregon State University. As a marine scientist, I have the privilege of examining firsthand, Oregon's exceptionally productive and biologically-diverse coastal ocean. I very much appreciate the committee's attention to the value of our state's marine reserves as a legacy to Oregonians who will continue to discover new ways to sustain productive ecosystems and vibrant fisheries.

Oregon's marine reserves have been an invaluable classroom for my students and an incomparable laboratory for understanding how our oceans are changing. Oregon's coastal oceans are on the frontlines of ocean acidification and hypoxia or low oxygen conditions. Each summer, our nearshore ecosystems, and fisheries are subject to increasingly stressful episodes of ocean hypoxia that can result in Dungeness crab die-offs and displacement of groundfish from key habitats. Knowing when these events occur and which areas of our coast are affected are important pieces of information for commercial and recreational fishermen, and resource managers. We can't monitor all parts of our ocean and marine reserves serve as vital sentinel stations for detecting and tracking ecological changes. Marine reserves give us a window for focused measurements of ocean chemistry and the natural population structure and growth of nearshore fish species. These crucial pieces of scientific information will help guide wise management of coastal resources but are only currently being collected together in marine reserves.

In my work, I have also seen marine reserves serve as a unique nexus for new collaborative ocean monitoring and engagement. Support from the Legislature's investments (2021 HB 3114) in Oregon science has enabled commercial fishermen and coastal residents to be essential partners in detecting and tracking ocean changes. Just last summer, we began working with central and south coast commercial fishermen to deploy dissolved oxygen sensors in crab pots in waters adjacent to marine reserves. Information from this collaboration served as a crucial early warning of a sudden deterioration of oxygen levels on the central coast. In another effort, Oregon residents are working hand in hand with OSU scientists to monitor for ocean acidification stress events in all five of the State's marine reserves. These models of ocean monitoring partnerships are now being emulated across the nation and are allowing OSU scientists to leverage federal funding to bolster science that addresses the needs of our coast.

Oregon's marine reserves are an invaluable part of our state's natural resource legacy. HB2903 enables us to protect and enrich that legacy. I thank this committee and the chief sponsors of the bill, Representative Gomberg, Senators Smith, Anderson, and Weber for leadership in a shared vision of a productive and vibrant coastal ocean for future generations of Oregonians.

Sincerely,

A handwritten signature in black ink, appearing to read "Francis Chan". The signature is fluid and cursive, with the first name "Francis" and the last name "Chan" clearly distinguishable.

Francis Chan, PhD

Associate Professor, Department of Integrative Biology

Director, Cooperative Institute for Marine Ecosystem and Resources Studies

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