

# Scientific Consensus Statement for Mapping the Oregon Territorial Seafloor

Agenda Item D.1.a  
SUDD. Attachment 2  
June 2004



**F**or Oregon, as for most coastal states, the sea represents both a valuable resource and a potential threat. The sea provides many Oregonians with a livelihood, food, and recreation, and it attracts visitors to our coastal communities. The sea also represents a significant threat in the form of an inevitable earthquake-generated tsunami, akin to the recent one in Indonesia.

Understanding the nature of Oregon's Territorial Sea is critical to sustaining sport and commercial fisheries, coastal tourism, and a broad range of other ocean derived ecosystem services valued by Oregonians, in addition to addressing the threat posed by a major tsunami.

Presently, we have detailed bottom mapping of only about 5% of the area of the Oregon Territorial Sea, which extends 3 nautical miles from the coast and comprises approximately 950 square nautical miles. Effective decisions concerning the management and conservation of ocean resources and the modeling of shoreline inundation and erosion from storm waves or a tsunami all depend upon better knowledge of the nearshore waters.

This consensus statement expresses the belief that completing seafloor mapping of Oregon's coastal nearshore ocean is of the highest priority. We, the undersigned academic and government agency scientists, urge State and Federal officials to support and expedite ocean floor mapping of Oregon's territorial sea within the next two years. Oregon Statewide Planning Goal 19 (12/1/2000) calls for stewardship and conservation of ocean resources in Oregon's Territorial Sea. This consensus statement is consistent with and inspired by Goal 19.

Seafloor mapping of the Oregon continental margin is presently underway through a variety of efforts. However, the nearshore area is commonly left out due to the difficulty of mapping in shallow waters and insufficient resource allocations. As a group of leading scientists engaged in all aspects of study of our coastal ocean, we

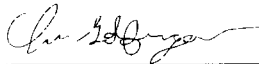
urge an initiative to map the seafloor of our coastal territorial sea. The costs are not excessive (under \$6 million), and the benefits are inestimable. Presently, there is no State or Federal agency charged with this responsibility. Over the last several years, new sonar technologies, and the associated data management infrastructure, have moved what was once prohibitively expensive within our reach. Nevertheless, current efforts to accomplish this important work are insufficient. Without a coordinated effort, it will take 50 years or more at the present rate of progress. This pace is much too slow to meet the needs of coastal erosion studies, tsunami planning and resource management decision-making.

Specifically, we recommend mapping of the seafloor of the Oregon Territorial Sea for the following reasons:

- Oregon, along with Northern California, Washington, and Vancouver Island, faces a 20% probability of experiencing a magnitude-9 subduction earthquake and tsunami in the next 50 years, much like the 2004 disaster in Indonesia. We are just now beginning to understand what this disaster will mean for the Oregon coast. For the many towns along the coast, we presently cannot say how far the waters will rise, because the modeling of tsunami waves depends on detailed knowledge of coastal water depths that presently does not exist. Managing the hazards posed by this inevitable geological event requires this knowledge.
- We now understand that many Oregon nearshore fisheries and other marine life are dependent upon spatially explicit, yet limited, habitat features. Describing and classifying nearshore habitats are essential components of effectively assessing and managing Oregon's marine resources, including nearshore fish populations for both the Federal Essential Fish Habitat and State nearshore management processes.

• Governor Kulongoski has tasked the Oregon Ocean Policy Advisory Council (OPAC) with further developing and advising him on two challenging spatial management topics. First, is the continuation of the 2002 OPAC recommendation for a limited system of marine reserves within Oregon State waters to evaluate their efficacy in meeting nearshore conservation and management goals. Second, in December 2005, the Governor proposed the establishment of a National Marine Sanctuary off the Oregon coast, and has tasked OPAC with identifying and evaluating information and issues to guide this proposal. A detailed seafloor map depicting geologic and habitat features is essential as a scientific support tool for discussion and informed decision-making

We, the undersigned, urge the implementation of an Oregon state waters seafloor mapping plan to support the resolution of these issues at the earliest possible time. This consensus group has already outlined a working plan to utilize idled fishing vessels staffed by university, State and Federal agency scientists. Efforts supported by NOAA to augment those already made by ODFW will begin in Summer, 2006.



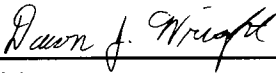
Chris Goldfinger  
College of Oceanic and Atmospheric Sciences, Oregon State University



Chris Romsos



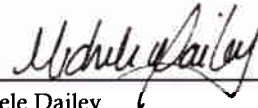
Andy Lanier



Dawn Wright  
Department of Geosciences, Oregon State University



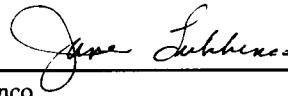
Bob Yeats



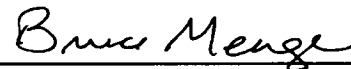
Michele Dailey



Mark Hixon  
Department of Zoology, Oregon State University



Jane Lubchenco



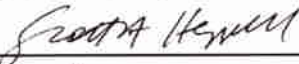
Bruce Menge



Sherman Bloomer, Dean  
College of Science, Oregon State University



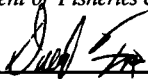
Mark Abbott, Dean  
College of Oceanic and Atmospheric Sciences, Oregon State University



Scott Heppell  
Department of Fisheries & Wildlife, Oregon State University



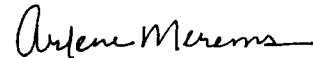
Selena Heppell



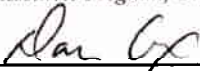
Dave Fox  
Marine Resources Program, Oregon Department of Fish & Wildlife



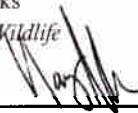
Hal Weeks



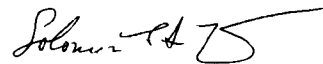
Arlene Merems



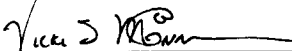
Dan Cox  
Coastal and Ocean Engineering Program, O.H. Hinsdale Wave Research Laboratory, Oregon State University



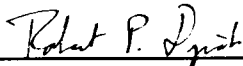
Harry Yeh



Solomon Yim



Vicki McConnell  
State Geologist and Director, Oregon Department of Geology and Mineral Industries



Bob Dziak  
Pacific Marine Environmental Lab, National Oceanic & Atmospheric Administration (NOAA)