
Washington Marine Resources Advisory Council

Meeting Summary

November 21, 2013, 1:30 pm to 4:30 pm

General Administration Building, Results Washington Room
Olympia, WA

Meeting documents are available on the WA Dept. Ecology Ocean Acidification webpage:

<http://www.ecy.wa.gov/water/marine/oceanacidification.html>

Meeting Attendance and Objectives

The Washington Marine Resources Advisory Council (MRAC) held its inaugural meeting on November 21, 2013. The meeting was open to the public and facilitated by Lara Whitely Binder, University of Washington Climate Impacts Group.

MRAC members in attendance: Martha Kongsgaard (Chair), Senator Kevin Ranker, Representative Larry Seaquist, Representative Dave Hayes, Greig Arnold (Makah Tribal Council alternate for TJ Greene), Terry Williams, Bill Dewey, Dick Sheldon, Paul Dye, Joel Carben, Peter Goldmark, Philip Anderson, Maia Bellon, James Peters, Christine Woodward, Kelly T. Wood, Lisa Graumlich, David Allnut (EPA Region 10 alternate for Dennis McLerran), Phil Rockefeller, Steve Hollenhorst, Congressman Norm Dicks (via conference call), and Libby Jewett (via conference call).

MRAC members not in attendance: Senator Steve Litzow, Brian Allison, Tony Floor, and Tom Davis.

MRAC members still pending: Representatives for recreational fishing and the Washington Coastal Marine Advisory Council have not been identified yet.

Meeting objectives:

- Council member introductions and an opportunity for members to briefly share what perspectives they bring to the MRAC;
- Brief Council members on the 2012 Washington State Blue Ribbon Panel on Ocean Acidification process, key recommendations, and post-Panel accomplishments to date;
- Brief Council members on the current understanding of ocean acidification science and impacts in Washington State marine waters; and
- Share initial thoughts on the goals and objectives of the MRAC, how it will function, and logistics.

Materials distributed:

- *Background documents:* Governor Christine Gregoire's Executive Order 12-07 directing agencies to implement the Blue Ribbon Panel's recommendations, the Blue Ribbon Panel report, a table summarizing work to date on the Panel's recommendations, and a handout on the Washington Ocean Acidification Center and its current work plan.
- *Logistics documents:* a copy of the legislation establishing the MRAC, list of Council members, and a draft charter.

Welcome and Introductions

Martha Kongsgaard opened the meeting by welcoming MRAC members and thanking them for their participation in the MRAC. JT Austin also welcomed MRAC participants on behalf of Governor Jay Inslee's office.

In more extended opening remarks, Martha spoke of the urgent need to make progress on the problem of ocean acidification because it is affecting "livelihoods, cultures, and creatures" in the state. Martha noted that Washington is leading internationally on this issue because of how quickly the problem has emerged on the Washington coast, because we have local scientific expertise that has sounded the alarm on ocean acidification globally and locally, and because we have political leadership that has been willing to look beyond politics to address this real and pressing issue.

Martha emphasized the need to create a shared space to "think big", have "hard conversations", and to be the champions of the work done by the Washington State Blue Ribbon Panel on Ocean Acidification. As noted in her closing comment, "Let's do this work in the public's interest, the economy's interest, the planet's interest, which I think, in the end, is in our interest."

Presentations: Policy and Science Grounding

Two presentations provided MRAC members with background information on Washington's responses to date on ocean acidification and the science of ocean acidification. The presentations were preceded by brief opening comments from Bill Dewey regarding how and why the issue of ocean acidification became so important to the shellfish industry.

Hedia Adelman (Dept. of Ecology) gave the policy presentation. Hedia's presentation summarized what is at stake for Washington's economy and coastal tribes, key recommendations from the Blue Ribbon Panel on Ocean Acidification, and what has been happening to address ocean acidification since the Panel concluded its work in November 2012.

Jan Newton (University of Washington), Terrie Klinger (University of Washington), and Richard Feely (NOAA) gave the presentation summarizing the science of ocean acidification. Jan reviewed how ocean acidification occurs, how it is projected to change in the coming decades,

why Washington is particularly vulnerable to ocean acidification, and how marine food webs may be affected. Terrie provided an overview of the new Washington Ocean Acidification Center, which Terrie and Jan are co-directing, and its near-term research priorities. Dick highlighted how federal, regional, and state resources are being leveraged to increase regional research and adaptation capacities.

Highlights from the questions and discussion that followed the presentations include the following:

- Some areas will see faster or slower amounts of acidification because of regional and local factors that can influence the pace of acidification. The potential for regional and local variations underscores the need for long-term monitoring in a variety of places.
- None of the science experts were prepared to address whether potential coal exports from the region would undermine the MRAC's efforts. What is clear, according to Dr. Feely, is that coal burned elsewhere has an impact on acidification of Washington's marine waters.
- We can assume that acidification is happening in freshwater although we do not have good data on the degree to which this may be occurring. It is difficult to make general conclusions about rivers and streams because water chemistry is highly variable, even when in close proximity. Acidification has been detected in Lake Superior.
- Coastal upwelling is the dominant factor influencing ocean acidification on the Washington coast. The next most significant factor is the air-sea exchange of carbon dioxide (direct absorption of carbon dioxide into the ocean from the atmosphere). Nutrient inputs and other local factors can become increasingly important at smaller scales. We need to understand how these different factors interact.
- The water upwelling along the Washington coast is 30 to 50 years old. This means that it is reflecting atmospheric carbon dioxide concentrations from 30 to 50 years ago. Even if we were to stop all carbon dioxide emissions today, we would continue to see increasing acidification on the Washington coast for several more decades because of this lag time.
- Agricultural biogas projects on the Tulalip reservation are proving to be very effective. Is it possible to get increase funding to help local governments and farmers put more of these systems in place as a way of reducing nutrient inputs that can exacerbate acidification at local scales? The MRAC needs to be thinking about the next legislative session and these kinds of potential requests.
- The Washington Center on Ocean Acidification is working on a model for forecasting corrosive conditions. This model can also provide quantitative information on nutrient loading from land. The challenge is that different estuaries behave differently (some have good light penetration while others are deep, some are well flushed while others are not, etc.). This can make it challenging to generalize. Models help with these assessments.

- Jan and Dick looked at Puget Sound mooring data during the Blue Ribbon Panel process to see if there was a detectable influence in carbon dioxide loading from local sources. They found significant local sources of carbon dioxide in the Seattle-Tacoma area (when compared to levels from moorings on the outer coast), primarily from transportation. There is not enough data to show how regionally distributed this influence is, however. Nitrous oxide and sulfur dioxide also lowered pH but we do not have enough local data to assess patterns of local deposition of these gases.
- The MRAC response has to be science driven and we have to have models that clearly point out the importance of one driver over another. We need to understand the specifics of place so the MRAC and the state can prioritize.

Discussion on MRAC Duties, Responsibilities, and Logistics

Martha briefly reviewed the MRAC's draft charter and her initial thoughts on ground rules, meeting frequency, and the use of workgroups to keep things moving forward. The charter will be finalized over the next few meetings. Quarterly meetings are planned once the MRAC is established. In the near-term, more frequent meetings are likely in order to get the MRAC up and running. The next two meetings are likely to be scheduled for late January and April. An RFP is currently out for facilitation services. Martha expects to have the facilitator hired before the next meeting.

Public Comment

Three people provided public comments. These included suggestions that ocean acidification data be integrated into marine spatial planning tools being developed in Pacific County and that West Coast efforts on ocean acidification be extended to Baja California (the Blue Ribbon Panel report was translated into Spanish). A third comment expressed concern with the problem of ocean acidification and its potential impact on the distinctive tribal culture of the Makah, which has been "on the water" for 4,000 years.