



Meeting summary

July 25, 2023

12:00 p.m. to 3:00 p.m.

Virtual meeting

Meeting attendance and objectives

The Marine Resources Advisory Council (MRAC) held its 27th meeting on July 25, 2023, online and by conference call. The meeting was facilitated by Martha Kongsgaard, MRAC Chair, Angie Thomson, Thomson Strategic Consulting, and Cory Archer, True Wind Collaborative.

Members in attendance: Martha Kongsgaard (Chair), Cynthia Catton (Department of Natural Resources), Meg Chadsey (WA Sea Grant), Bill Dewey (Taylor Shellfish Farms), Aaron Dufault (Washington Department of Fish and Wildlife, alternate), Annette Hoffmann (Washington Department of Ecology, alternate), Mike Rechner (Washington Department of Natural Resources), Marilyn Sheldon (Coastal Shellfish Grower), Senator Keith Wagoner (Washington State Senate)

MRAC members not in attendance: Brian Allison (Puget Sound Commercial Crab Association), Mike Cassinelli (Mayor of Ilwaco), Alan Clark (Northwest Straights Commission), Brian Cochrane (WA State Conservation Commission, alternate), Tom Davis (Washington State Farm Bureau), Norm Dicks (Van Ness Feldman LLP), Lisa Graumlich (University of Washington College of the Environment), Representative Joe Fitzgibbon (Washington State House of Representatives), Garrett Dalan (Washington Coastal Marine Advisory Council), Tony Floor (Northwest Marine Trade Association), Lucas Hart (Northwest Straights Commission), Libby Jewett (National Oceanic and Atmospheric Association), Jay Manning (Puget Sound Partnership), Erika McPhee-Shaw (Western Washington University), Mindy Roberts (Washington Environmental Council), Senator Jesse Salomon (Washington State Senate), Douglas Steding (Association of Washington Business), Kelly Susewind (Department of Fish and Wildlife), Laura Watson (Department of Ecology)

Other participants: Cory Archer (True Wind Collaborative, MRAC facilitation team), Laura Butler (Department of Agriculture), Jessica Cross (National Oceanic and Atmospheric Association, Pacific Marine Environmental Laboratory), Kirsten Feifel (Puget Sound Partnership), Rod Fleck (City of Forks), Jennifer Hennessey (Washington Department of Ecology), Micah Horwith (Washington Department of Ecology), Terrie Klinger (Washington Ocean Acidification Center), Jenny Koester (Oregon Department of Fish and Wildlife), Tommy Moore (Northwest Indians Fisheries Commission), Gary Morishima (Quinalt Indian Nation), Jan Newton (Washington Ocean Acidification Center), Betsy Peabody (Puget Sound Restoration Fund), Liz Perotti (National Oceanic and Atmospheric Association), Angie Thomson (Thomson Strategic Consulting, MRAC facilitation team), Jessie Turner (Ocean Acidification Alliance), Brad Warren (Global Ocean Health), Paul Williams (Suquamish Tribe), Katie Wrubel (Olympic Coast National Marine Sanctuary)

Meeting objectives:

- Share updates on recent ocean acidification efforts.

- Hear a report out from the MRAC Carbon Dioxide Removal Committee.
- Discuss MRAC ocean acidification communications and hear about current opportunities and future work.

Welcome and introductions

Martha Kongsgaard, MRAC Chair, welcomed participants and reviewed the meeting agenda.

Recent ocean acidification happenings

Participants shared out on recent ocean acidification activities. Highlights include:

- Martha Kongsgaard shared the upcoming Seattle Aquarium’s Ocean Pavilion will focus on the Coral Triangle and Salish Sea. This will be an opportunity to educate visitors on indigenous peoples in both geographies and current problems they are facing such as ocean acidification.
 - Jan Newton, Washington Ocean Acidification Center, shared there have been initial discussions about how this new space can display data gathered from sources such as Live Ocean and the Northwest Association of Networked Ocean Observing Systems (NANOOS).
- Betsy Peabody, Puget Sound Restoration Fund, thanked Senator Keith Wagoner, Washington State Senate, for the efforts to secure funding this last session for kelp, abalone, oysters, and biodiversity. Betsy also noted 2023 marks the 10-year anniversary of the Kenneth K. Chew Center for Shellfish Research and Restoration, the conservation hatchery identified as a priority in the Blue Ribbon Panel Report on Ocean Acidification. The hatchery continues to produce a range of species including Olympia oysters, pinto abalone, cockles, sea cucumbers, and bull kelp. Betsy thanked the MRAC group for their hard work in identifying the hatchery as a priority to legislature.
- Micah Horwith, Washington Department of Ecology, shared that the Washington Department of Ecology acquired a new research vessel and is outfitting it with underway sensing to map carbon dioxide in the surface layers of the water. This will help identify if population centers are a source of carbon dioxide into the Puget Sound and, if so, how that may change seasonally.
- Micah Horwith also shared the National Oceanic and Atmospheric Administration (NOAA) is shortening the turnaround for their discrete sampling that NOAA conducts for the Department of Ecology. Micah is hopeful they will soon have seasonal updates on a quarterly basis to the public and agencies.
- Gary Morishima, Quinault Indian Nation, informed the group of a new study, summarized in [this news article](#), which suggests the tipping point for collapse of the Atlantic Gulf Stream may occur as soon as 2025. There is still uncertainty about the analysis, though the group agreed the results of this study are alarming.

- Cynthia Catton, Washington Department of Natural Resources (DNR), provided three updates:
 - DNR initiated the Kelp and Eelgrass Conservation and Health Plan process to prioritize at least 10,000 acres of kelp and eelgrass habitats for restoration and conservation by 2040. This decision framework will be presented to Legislature in December.
 - DNR also received funding for the Snohomish Watershed Resilience Action Plan to support adding an Acidification Nearshore Monitoring Network (ANeMoNe) site to the Snohomish watershed area.
 - The Habitat Strategic Initiative Lead released their investment list, which includes many projects focused on kelp and eelgrass in the nearshore.

- Jan Newton, Washington Ocean Acidification Center, received an update that temperatures in the Puget Sound have been cooler than average due to La Nina conditions, though the system is expected to shift to El Nino conditions. More information is available in the [Puget Sound Ecosystem Monitoring Program \(PSEMP\) Marine Waters Overview](#).

- Liz Perotti, NOAA, and Meg Chadsey, Washington Sea Grant, shared information about two funding opportunities:
 - The NOAA Ocean Acidification Program has a funding opportunity open for ocean acidification education and outreach. More information about the opportunity can be found [here](#).
 - The Climate Resilience Regional Challenge has approximately \$575 million available for projects that build resilience of coastal communities to impacts of extreme weather and climate change. More information is available [here](#).
 - Jennifer Hennessey, Washington Department of Ecology, added Ecology's Coastal Program is convening a group to draft a letter of interest. If others have ideas related to ocean acidification, please reach out to Jennifer.

- Jessie Turner, Ocean Acidification Alliance (OA Alliance), informed the group the United States government has drafted a national Ocean Acidification Action Plan, which is open for comment on the Federal Register. This plan will be reviewed summer 2023 and is likely to launch in November.
 - Angie Thomson, Thomson Strategic Consulting/MRAC facilitation team, and Martha Kongsgaard reminded the group that MRAC submitted comments on the national plan but encouraged the group to provide additional review or comments if needed.

- Paul Williams, Suquamish Tribe, asked if it would be beneficial to extend the Salish Sea model into nearshore areas for the Climate Resilience Regional Challenge.
 - Jan Newton suggested there is merit in linking the uplands to the oceans. Utilizing multiple approaches can help understand what results support resiliency and identify where results seem to vary.

Carbon Dioxide Removal Committee report out

Participants heard a report from the MRAC Carbon Dioxide Removal Committee on recent discussions and next steps. Highlights include:

- Cory Archer, True Wind Collaborative/MRAC facilitation team, shared the MRAC Carbon Dioxide Removal Committee has 10 members who met twice over the past few months. The group is working to discuss and recommend what MRAC's role might be in engaging in marine Carbon Dioxide Removal (mCDR). Meg Chadsey developed a resource document for the group to better understand what the current CDR landscape looks like today. The Committee also developed criteria to determine which potential roles are suitable for MRAC and are tracking a broad range of ideas that have been shared in different forums. The Committee will report on their progress to the broader MRAC group at the next meeting in October.
 - Jessie Turner added the OA Alliance is developing a document outlining their perspective on mCDR. The idea is to understand mCDR influence on ocean acidification, and strategies at the global and local scale. They will also provide perspectives on what the OA Alliance believes should or should not be explored. Jessie hopes these guidelines will be available at the beginning of August.
- Brad Warren, Global Ocean Health, mentioned that MRAC could advise on two potential areas: workforce development needs and capacity, and policy that may be actionable at the state level.
- Jessica Cross, NOAA Pacific Marine Environmental Laboratory, asked if it would be beneficial for the CDR Committee to create a survey for people to volunteer information about their current CDR work in Washington to better understand the landscape and who could be beneficial partners outside of MRAC.
 - Meg Chadsey supported this idea. The survey will be discussed in the next CDR Committee meeting.
- Martha Kongsgaard suggested it may be beneficial to give a short presentation to the Washington Coastal Marine Advisory Council (WCMAC), to report on the basics of CDR and the approach MRAC is taking.
 - Rod Fleck, WCMAC Chair, added a presentation would be well received by the WCMAC and a good topic to cover in one of their quarterly meetings. Rod will bring this suggestion to WCMAC and follow up.

OA Alliance

Jessie Turner presented on recent OA Alliance communication efforts. Highlights include:

- The OA Alliance is developing case studies to showcase international ocean acidification action plans. Jessie Turner will create Washington's OA Alliance action plan and will share with the MRAC group for review.

- A glossary of key terms and phrases is underway, which will include both community-known terms such as *alkalinity*, *Blue Carbon*, etc. along with OA Alliance terms such as *Nature Based Solutions to Ocean Acidification* and *Management Frameworks to Ocean Acidification*. Jessie will invite MRAC to review this glossary as well.
- The OA Alliance is partnering with the California Current Acidification Network (C-CAN) and Aquarium Conservation to develop a communication project about climate-ocean changes occurring regionally in the United States, and present localized information on unique impacts, responses, and calls to action taking shape across the country. These will be rolled out during Climate Week in September.
- The Economist Impact Group has started a “Back to Blue” initiative focusing on ocean acidification, plastics, and chemical pollution. This will result in an ocean acidification publication around the importance of action plans. Jessie will share a copy of this once published.

WOAC Symposium report out

Jan Newton and Terrie Klinger presented on the recent Washington Ocean Acidification Center Symposium and messages to communicate to a broader audience. Highlights include:

- The symposium included five sessions, 16 science talks, six science posters, and 100 minutes of discussion.
- Symposium presenters were well-coordinated across topics, showcasing how well federal, state, academic, and other partners are working together. Richard Feely, NOAA, spoke about the conditions along the west coast of North America, Simone Alin, NOAA, spoke to conditions along the outer coast and Salish Sea, threading together the Olympic Coast National Marine Sanctuary and WOAC data, and Micah Horwith focused on nearshore observations and larval timing.
- Terrie Klinger, Washington Ocean Acidification Center, highlighted presentations about biological response to ocean acidification, specifically how harmful algal blooms impact ocean acidification and the progress that is being made.
- Jennifer Hennessey asked how important pieces of information and draft products from the symposium can be identified and shared for other groups to use.
 - Jan Newton noted the MRAC milestone one-pagers will be a useful tool for sharing information and messaging. Additionally, for WOAC funded projects, Jan and Terrie can work with the principal investigators of the projects regarding communication, along with identifying highlights from other partners.
 - Terrie Klinger added the importance of continuing to include non-scientists in conversations to help act beyond research and analysis.

Ocean Acidification Sentinel Site

Participants heard an update from the Ocean Acidification Sentinel Site (OASeS) and plans for additional engagement with the Washington coast. Highlights include:

- Katie Wrubel, NOAA Olympic Coast National Marine Sanctuary and OASeS Coordinator, shared OASeS held its first biennial symposium in Ocean Shores. The summary report is available on their new OASeS [website](#).
- OASeS finalized a communications plan, which outlines mechanisms to better engage with different audiences and partners.
- OASeS invited local youth to develop their logo, and the winner was awarded a \$500 scholarship.
- Recently, OASeS was added to the Ocean Acidification Interagency Advisory Board.
- Katie Wrubel shared OASeS 2023 priorities, which includes three focus areas: management policy, research and monitoring, and education and outreach. Each has their own actions for this year, including identifying resource manager information needs, developing research and monitoring priorities, and working with coastal communities on direct outreach and events.
- OASeS is planning for the next symposium, likely scheduled for May 2024 on the outer coast. The OASeS symposium will alternate years with the WOAC symposium and will not conflict with the Salish Sea Conference.
- WOAC received \$31,000 for the 2023-2025 biennium intended to increase capacity to engage with Tribes, resource managers, and communities on the Washington coast. WOAC and OASeS will closely coordinate information sharing opportunities.

MRAC milestone one-pagers

Participants previewed one-pagers documenting MRAC's progress on Blue Ribbon Panel (BRP) actions and addressing ocean acidification over the last five years. Highlights include:

- Angie Thomson shared that a small group is working to develop a series of one-pagers to build understanding of MRAC's progress on Blue Ribbon Panel strategies over the last five years, define priorities for future work, and show results of ocean acidification investments in Washington.
 - These one-pagers are intended for legislators, funders, resource managers, and other regional ocean acidification partners.
 - Martha Kongsgaard added the one-pagers help the group review work to-date and tell the story of how far MRAC has come since its inception.
- The group developed a list of twelve one-pager topics and is currently working on the first five, which will be used for a potential legislative work session in the fall.
- These first five one-pagers have text drafted and edited and are currently in the layout phase. These will be shared with the broader MRAC group for input and review.

Oregon OA Communications

Participants heard about ocean acidification communication messages and strategy from the Oregon Ocean Acidification and Hypoxia Council. Highlights include:

- Jenny Koester, Oregon Department of Fish and Wildlife, presented on Oregon’s Ocean Acidification and Hypoxia (OAH) Communications Toolkit development. The project was created through House Bill 314, which outlined several key projects across multiple action plans that had not yet been started. The goal of this toolkit is to share ocean acidification status updates across audiences to inspire action and awareness. The toolkit is still a work in progress and has a projected launch date of 2024.
- A total of eight audience groups were identified for this toolkit based on location, influence, proximity to legislature, and where they fall on the [Six Americas scale](#). These groups consist of local government, seafood suppliers and restaurateurs, commercial fisheries, and tours and hospitality industry (specifically non-chain hotels). These groups will be informed and trained to help spread awareness and influence change across Oregon.
 - There are three different types of groups within the eight audience groups. First are experts, which consist of academia or agencies that are experts in their topics. These groups will serve as resources and trainers.
 - Second are messengers, who can help present and share resources. This group has networks of relevant audiences but are not considered experts in their fields.
 - Lastly, influencers are key community members who have the ability to draw attention to issues and promote additional audiences.
- The OAH group collected feedback from the experts, messengers, and influencers regarding improvements to the overall communication material to better share information across their audiences. A “best language” glossary was created to use when describing ocean acidification in Oregon.
- Next steps for 2023 include identifying more experts, messengers, and influencers across the Oregon coast, conducting a survey to identify useful tools still needed for the toolkit, and refine the messaging and visualizations. Goals for 2024 include testing the communications toolkit, drafting messages for the implementation plan, and conducting trainer workshops. The goal is to fully implement the toolkit by the end of 2024.

Next steps

- Review the United States government’s Ocean Acidification Action Plan draft for any additional opportunities.
- MRAC mCDR Committee meeting to discuss the idea of a public form or survey asking for information on current mCDR projects in Washington.

