

NECAN PWG call 4/6/17

Present: Todd, Beth, Priscilla, Conor, Seth, Ivy, Ru, Chris, Ralph, Susie, Matt

State updates:

Rhode Island

We welcomed Conor McManus from the RI Department of Environmental Management, Fisheries section. He is a member of the new RI OA Commission. He gave an update on the commission's goals and their first 2 meetings. The commission is charged with assembling information on actual and potential effects of OA on RI, including species at risk, potential economic risks to RI, and gaps in research and monitoring. They will develop a report with recommendations and identify opportunities to improve existing partnerships to address OA in RI. The first commission meeting elected Rep. John Edwards as the chair and covered logistical and practical considerations. The 2nd meeting had a presentation from Art Spivak from URI Graduate School of Oceanography, who gave an overview of coastal acidification. Their 3rd meeting is next week, and meetings will be planned approximately monthly thereafter. Meetings are open to the public and are available to view on the State House TV channel (**Conor**, could you send the web address?). The commission legislation mentions a final report by June 5, but that timeline hasn't been discussed in detail, and may slip to October.

How can NECAN help the RI commission? The NECAN website has been valuable for some of the basic information about coastal acidification. It would be helpful to collate research on different species and life stage responses to acidification. A compilation of mitigation opportunities would also be helpful. Maine is testing some mitigation strategies with growing kelp and spreading shell hash. This is still under study. Sarah has a paper that outlines several actions recommended by state commissions, and an international alliance on OA is working to develop action plans relevant to each of their areas. **Sarah** will share those with the PWG.

Todd offered to use the RI stakeholder meeting as a basis for a one-pager for RI, similar to the MA example the PWG prepared earlier. **Todd** and **Conor** will follow up with each other on this idea.

Massachusetts

MA has 3 bills, 2 in the House and one in the Senate. These were referred to the Joint Committee on Environment, Natural Resources and Agriculture. No hearing has been scheduled yet. Priscilla has been working with Ryan Ono from The Ocean Conservancy to reach out to stakeholders, gauge support for the bill and identify possible advocates who might be interested in testifying or providing letters of support. Rep. Fernandez has reached out to Priscilla to identify supporters for a future hearing.

Seth provided information from an earlier study in Wellfleet (with companion studies in South Thomaston, ME and in South Carolina). The intent was to support fisheries communities to prepare for climate change. It was a very small scale, localized, and labor-intensive process that brought together shellfishermen and members of local boards and commissions to meet periodically and discuss how different climate stressors might impact them and what could be done. Sea level rise and temperature changes were the major climate drivers that were discussed. Participants talked about their own experiences and were very engaged in learning from each other and experts that were brought in. In some cases, this was the first time that these groups had talked about these issues face to face.

The example of Ocean Conservancy's stakeholder outreach and these more intensive workshop-style events are very complementary.

Seth also discussed the need for a system dynamics modeling tool that would help stakeholders discuss scenarios of different closures of shellfish beds and their impacts to communities. This might be used for OA scenarios? A proposal could be developed to do this. Sea Grant has a call for impediments to aquaculture. Proposals will be developed from each Sea Grant program to the national office, and are due Apr 18. Seth will follow up with MIT SG to see if they might entertain this idea and if MIT would consider a proposal along these lines. If so, Todd and Beth will help to develop.

New Hampshire

The NH commission met March 20. Joe Salisbury presented on his monitoring work in the Gulf of Maine. The presentation will be posted on the commission website (Chris, can you send the website address?) The commission is interested in hearing from other state commission experiences, as well as nutrient reduction and mitigation strategies. Their next meetings will be April 17 (with Bill Mook from Mook Sea Farm), May (to discuss commissions from other states), June (in the field in Great Bay with aquaculturists)

Maine

The Maine Sustainability and Water Conference had a OA session with about 40 people. (Esperanza has the attendance list.) Nichole Price gave an update on OA/kelp work, Esperanza updated folks on NECAN happenings, Parker Gassett (Aaron's grad student) gave an inspiring talk about what local citizen monitoring groups can do to make a difference regarding OCA, and Dave Carlon (Director of Bowdoin's Coastal Studies Center) gave a talk on their mussel work. He, Sarah Kingston (post doc at Bowdoin), and others have been working on mussels' ability to cope with increasing acidity and the potential role that selective breeding could play in aquaculture (basically picking out the most resilient animals, similar to what is done in agriculture). Susie will be putting together a piece about it in Island Institute's Working Waterfront newspaper. So far, they are finding no difference in mean shell growth between treatments (current vs future scenario) but a huge amount of variance, so some individuals would actually fair very well in future scenarios meaning that there is opportunity for developing breeding stocks that will be more resilient to warming and OA. Todd and Susie mentioned the work of Emily Carrington from the University of WA who showed that mussel byssal threads become weaker and less extensible at elevated levels of CO₂.

MOCA has had 2 symposia so far. They are planning their next meeting to get scientists to calibrate their monitoring so that they can be cross-compared, and brainstorm how to approach some of the issues around nutrients and mitigation. There is no need to wait for definitive values for impairment related to OA before taking action on nutrients. The first wastewater discharge permit has been issued for Casco Bay to reduce nutrient inputs. Ivy will send details and a link to a TV news story.

NECAN updates:

NECAN was successful in writing a proposal to the NOAA OA Program for a mini-grant to hold 3 citizen science workshops in ME, MA and CT starting in August. These will be based on the guidance document

that EPA is developing. NECAN is also considering a workshop with the National Regional Ocean Council on acidification and nutrient monitoring, and how to potentially add carbonate measurements to ongoing nutrient monitoring efforts. Michelle Levine from Bowdoin is also interested in citizen science monitoring, and will be good to engage in Maine. She is looking for support from Bowdoin for a workshop activity. Beth and Esperanza will contact Michelle to see how to coordinate and leverage these related events.

NECAN has submitted a proposal to the NOAA IOOS program to develop OA modeling capacity and evaluate future OA scenarios. Beth will keep the PWG updated if that is funded and goes forward. The PWG might be asked to consider what model output would be most relevant to policy efforts.

NECAN has almost completed their implementation plan and annual work plan. PWG will have some actions in the work plan and will have a chance to review when finalized by the NECAN steering committee. NECAN is also evaluating their website and considering where to house the working groups on the website. Once that is decided, the PWG will have opportunity to provide content for the website, such as reports on the state commission efforts.