

AHAB Monthly Call – May 13th, 2021

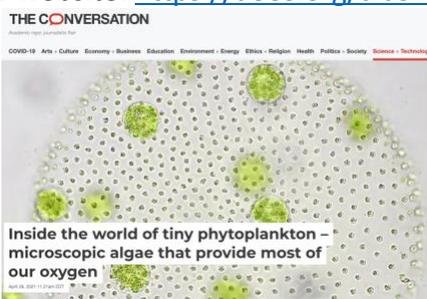
Participants: Thomas Farrugia (AOOS), Kathi Lefebvre (NOAA), Carol Brady (DEC), Steve Kibler (NOAA Beaufort Lab), Rosie Masui (KBNERR), Chandra Poe (Qawalangin Tribe), Sarah Schoen (USGS), Matt Smith (USGS), Chelsea Campbell (CRRC), Caitlin Marsteller (USGS), Dean Stockwell (UAF), Evie Fachon (WHOI), Grace Ellwanger (KANA), Andie Wall (KANA), Kim Stryker (DEC), Kris Holderied (NOAA Kasitsna Bay), Jeanette Gann (NOAA Auke Bay), Chris Guo (KBNERR), Kathy Burek Huntington (AVPS), Maile Branson (APMI), Gay Sheffield (AK Sea Grant), Karen Pletnikoff (APIA), Robb Kaler (USFWS), Natalie Rouse (AVPS), Muriel Dittrich (UAF), Stephen Payton (Seldovia), Varis Ransi (NOAA), Don Anderson (WHOI), Jeff Hetrick (APMI), Gwenn Hennon (UAF), Lisa Eisner (NOAA), Kari Lanphier (SEATOR), Brock Tabor (DEC)

Thomas' updates (more details on AHAB website: <https://aoot.org/alaska-hab-network/>)

HABs in the News

- Benefits of phytoplankton
 - Good to remember that not all algae are harmful

<https://theconversation.com/inside-the-world-of-tiny-phytoplankton-microscopic-algae-that-provide-most-of-our-oxygen-159955>



- Arctic Today

- Great overview on HABs in Alaska

<https://www.arctictoday.com/researchers-are-find-more-signs-of-dangerous-toxins-from-algae-in-alaska-wildlife/>



HAB Science – Seaweed farms

- New paper on the potential for seaweed farms to take up nutrients from the ocean
- Could be a viable option to reduce HABs and hypoxia
- May not be directly applicable to Alaska as our blooms aren't thought to be primarily nutrient-limited

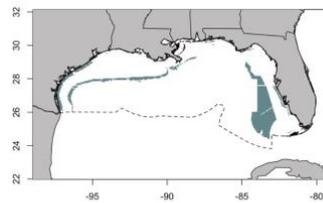


Fig. 1. Suitable area for native seaweed cultivation (green shading) in U.S. Gulf of Mexico waters. Suitability was constrained by major marine activities and biotic factors. Dotted line shows EEZ extent within the Gulf.

Table 2
The potential costs (USD/kg N mitigated) of alternative nutrient mitigation strategies. Seaweed price range based on DOE's target cost (80 USD mt/dw) (lower bound) and average commercial seaweed farming costs (670 USD mt/dw)(upper bound) [51-54]. Non-seaweed costs adapted from Marshall et al. [41, 42,55].

Type of Reduction	Price Range (USD/kg N removed)
<i>Eucheuma</i> spp.	8.33-69.79
<i>Gracilaria tikvahiae</i>	2.05-17.17
<i>Sargassum</i> spp.	3.2-26.80
Wetland	1-81
Drainage water management	3.46-1130
Buffers	4.72-373.44
Cover crops w/erosion controls	6.7-643
Erosion controls	7.12-1039
Nutrient management w/erosion controls	7.92-716
Drainage water management w/erosion controls	8.84-785
Cover crops	10.58-707

Upcoming Events

- Western Alaska Interdisciplinary Science Conference and Forum
 - May 13-14, 2021 - <https://seagrant.uaf.edu/events/waisc/2021/>
- US HAB Symposium – May 25-27, 2021
 - Free virtual meeting - <http://ushabs.com/>
- ASLO 2021 meeting June 22-27, 2021 – HAB session
 - <https://www.aslo.org/2021-virtual-meeting/>
- Pacific Coast Shellfish Growers Association – Sept 20-21, 2021
 - <https://pcsga.org/shellfish-conference-2020/>
- HAB ID workshop – mid-June
 - Panel of experts will share info on identifying HABs under the microscope

Work Updates

- 2020 HABs Summary
 - Getting close to finalized, let me know if you still want to contribute
- AHAB Action Plan first draft being internally reviewed
- HAB Season Preparation

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Round Robin Updates (going by region of work)

SOUTHEAST

Kari Lanphier – SEATOR

No blue mussel samples have exceeded the regulatory limit this bloom season. We've been analyzing subsistence samples in Southeast since 2016. Every year (except this year!) the first blue mussels in the region exceeded the PST regulatory limit in mid-late April. This is the first bloom season that we have not had blue mussels exceed the regulatory limit yet. We are expecting samples to exceed the limit sometime soon. Butter clams in many communities, remain above the limit. We have plankton, but water temps are still below 50 F. It is interesting how every year is different! In 2018 we primarily had a fall bloom here in SE, but we still had a short and small spike in late April and early May. In 2019, everything was hot and high right out of the gates, lasting well into June.

Jeanette Gann – NOAA Auke Bay

Taking samples every other week in Stephens passage around Auke Bay. Saw 1 Alexandrium cell a couple weeks ago and nothing since. Will give more updates. Currently only doing sampling during the summer, but that could change. Finishing PhD in phytoplankton ecology and HABs aren't the focus but keeping an eye out for them. Might be able to start doing more regular monitoring at the lab.

Muriel Dittrich – UAF Juneau

At UAF we do sampling throughout the year in Auke bay, and if you wanted to see that, coordinate with Ginny and Courtney and me. We did see a small blip in Alexandrium, sampling at Bridgitte cove, and saw single cells and one Dinophysis.

SOUTHCENTRAL

Chelsea Campbell – CRRC

Had a recent in person HAB training that was really successful. Great to have people in person, collecting samples and looking at cells under the microscope.

Maile Branson – APMI

Started field sampling program this week. Seeing pretty low incidences so far, like others. Working on getting ELISA stuff up and having in house training on it in a couple weeks. Hopefully we'll be able to be looking at mussel samples within the next month.

Rosie Masui – KBNERR

Just did community monitor annual training (virtual due to UAA rules). We've been hearing from partners that there has been a large number of Chaetoceros in the samples, so starting to see phytoplankton active. Been pretty busy ramping up student activities. Rosie gave a NOAA Live webinar on phytoplankton and HABs (recorded and available [here](#)). Also helping out during Sea Week at Port Graham and Nanwalek – working with students on phytoplankton. Our phytoplankton techniques just give us a general idea of what is in the water, but they are very accessible to students. There's a student in Nanwalek who has had a kit for a week and already sent in 5 samples! Other than that just getting ready for the season, we have a training coming up on phytoplankton methodology and HAB identification (Thomas leading). There will also be a session on responding to HABs (Sarah Schoen and Kathi Lefebvre will be joining).

Kris Holderied – NOAA Kasitsna Bay

We got out for oceanographic sampling monthly, and an annual trip across the whole Cook Inlet entrance – got some phytoplankton samples. Haven't seen too much so far. Varis is on the call today in case anybody has any questions.

Varis Ransi – NOAA

The HAB branch got some funding to do HAB work in Alaska, so NOAA is putting more resources in to do this work, including Steve Kibler and Tim Wynne.

Sarah Schoen – USGS

Starting up a food web study this summer, continuation of a pilot study from 2019. Going to be looking at STX and DA detection rates and concentrations from plankton to forage fish to seabirds. We're going to try and target active blooms and get some higher levels than in the pilot study. We could really use the network's help to detecting some of these events early: so if anybody sees any high phytoplankton counts, or high toxin levels, or a seabird or fish die-off, please get in touch with me. We would be hoping to fly out to sample right after the bloom is detected.

If anyone has updates throughout the year on suspected or confirmed hot bloom events or seabird or forage fish die-offs please get in touch with me. My email is sschoen@usgs.gov, and phone number is 9078-786-7467. Thank you!

https://www.usgs.gov/centers/asc/science/harmful-algal-bloom-toxins-alaska-seabirds?qt-science_center_objects=0#qt-science_center_objects

Dean Stockwell: what area of Alaska are you focused on for this project

Sarah: anywhere in Alaska really. Most of our work has been in PWS and Cook Inlet. And we have a collaborator Yumi Arimitsu who has been sampling mussels and forage fish in Juneau as well for the last couple of summers. Got hot sand lance in 2019 right around when the Arctic tern die-off happened.

Dean: Recently areas like King Cove and Kodiak have had very hot sites. Observers should be able to pick that up quickly and let you know. Harder to do in the Arctic because people aren't sampling as much, but you could try to contact Mike Brubaker in the LEO network for the Bering Sea and north.

Steve Kibler: I'm planning to be in Kodiak in June to do sampling as well, so if there's something I can sample for you, let me know.

Karen Pletnikoff: I encourage you to look up any travel restrictions or guidance if you do come out to the Aleutian and Pribilof Islands area.

Sarah: Yes, we will definitely do that, thank you.

Kathi: Another option – we are planning on getting zooplankton and fish in the GOA on our cruises and we can totally work with you on that. Maybe we'll catch a bloom!

Matt Smith – USGS

Working through permitting process so we can collect murre eggs this summer for the study this winter.

Carol Brady – DEC

No PST events to report for commercial shellfish. Our program requires regular testing for DA in the sole commercial razor clam operation in Readout creek, but it is not operating this year, so we will likely not be conducting DA analyses. And it's also the season when people want to start going out and harvesting their own shellfish, so I'm doing my best to inform the public that there are no beaches that are designated as safe for shellfish harvesting. I give them resources on what to look out for in terms of symptoms, and if they want to test I provide them with the SEATOR and EHL lab information. If anybody wants me to provide the public with any other resources, please let me know.

Thomas: I also just got a phone call from somebody asking about clamming on the Kenai, and I told them the same thing. If you have a some standard resources you hand out, if you want to send that to me, I can put it on the AHAB website as well to get it out there even more.

Stephen Payton – Seldovia

Nothing to report, just continuing to sample for the reserve

Kathy Burek – AVPS

We run the stranding program here, but are also involved in the ECOHAB project and are putting together a survey for collecting behavioral observations. We're sending that to the stranding network, but we'd like to know what other organizations would like to help us out distributing this survey. We've got a checklist for behavioral observations to see if we're having any effect on the marine mammals in the area. Anybody have any observations or an interest in recording behavioral observations? We also sent some samples out to South Carolina lab for analysis of okadaic acid, expecting that they will be negative, but thought it would be interesting to test for something else.

To report observations contact Kathy (avps.kbh@gmail.com) or Natalie Rouse (avps.natalierouse@gmail.com).

KODIAK

Grace Ellwanger – KANA

Busy in Kodiak, a lot of interest in the harvest and hold program which allows harvesters to send in some of their harvest to get tested for free. This adds to the regular samples we send in. Just collected 4,000 blue mussel from middle bay and brought them in to the monitoring locations to reduce the impact to the local beds from sampling and make sure we can keep sampling sustainably. They are deployed in cages, waiting to purge and then will start testing them. Andie presented at the KAMSS on the KANA monitoring program on HABs and OA. The presentations were all recorded so people can go check them out now, they are on the AK Sea Grant page. We have seen an increase in phytoplankton activity. No blooms of anything yet, but definitely an increase in Chaetoceros. A few cells of Alexandrium and Dinophysis as well. Water temperatures have gone up a bit in the last week or two to 5-5.5C.

Steve Kibler – NCCOS

In addition to sampling in Kodiak that is for the NPRB food web project, we're working on the MERHAB funded Alexandrium cyst molecular labelling method project. Standing by for samples from Kathi and the ECOHAB project for PSP when they come in. We recently hired 2 new technicians to start next month with some of the analysis on the backlog of samples. We've been working with Chris Guo (KBNERR) on a fish toxin exposure project trying to work out some methods for dosing fish with STX, and Kathi has been helpful for that as well. Varis mentioned the Alaska forecasting project that is ramping, that will go on until next year. Our goal is to have a stakeholder workshop to elicit input on what direction the forecast should go, what products should come out of it to be helpful.

Chris Guo: Thanks Steve. Yes, I should mention that anyone can contact me to chat about the forage fish toxin project he mentioned. chguo@alaska.edu

ALEUTIAN AND PRIBILOF ISLANDS

Chandra Poe – Qawalangin Tribe

Finished some outreach events in late April, it was great to interact with medical providers at both clinics on the islands. As a follow-up we are working with providers and community members to record some PSAs that will play on the radio during the season. Sample collections are ongoing both for Unalaska and in Sand Point/King Cove. We also just got our first mussel sample from St Paul. Our most recent results are up on our webpage (<https://www.qawalangin.com/psp>), and the powerpoint for our most recent clinic is also linked on our website.

From the latest results (from the first week of April) it's starting to look like things may be beginning to pick up. I'll be talking with Steve Kibler next week to make sure that we can have a sustainable program moving forward.

ARCTIC AND NORTHERN BERING SEA

Lisa Eisner – NOAA Polar Program

We have a satellite proposal where we're going to try to do a probability analysis on Alexandrium, and that funding starts next month.

Kathi Lefebvre – NOAA

We have a sampling plan for the summer, and we have some successes in our community sampling efforts in some remote areas, will report on that more next month. As part of the ECOHAB project we're doing food web, including subsistence harvested walrus from Gambell and Savonga – we get a whole suite of samples from each animal (feces, stomach contents, kidney, liver, heart, blubber, muscle) so we can get toxin distribution. We have a report from Johnathan Snyder at FWS that it's been pretty bad weather so only 5 animals sampled so far. Great update by Kathy Burek, the behavioral observations are part of the picture as well, so we will be sending the surveys to the subsistence harvesters as well so they can make those observations too.

NEXT AHAB MONTHLY CALL WILL BE: THURSDAY June 10TH, 2021 AT 9:30AM AK