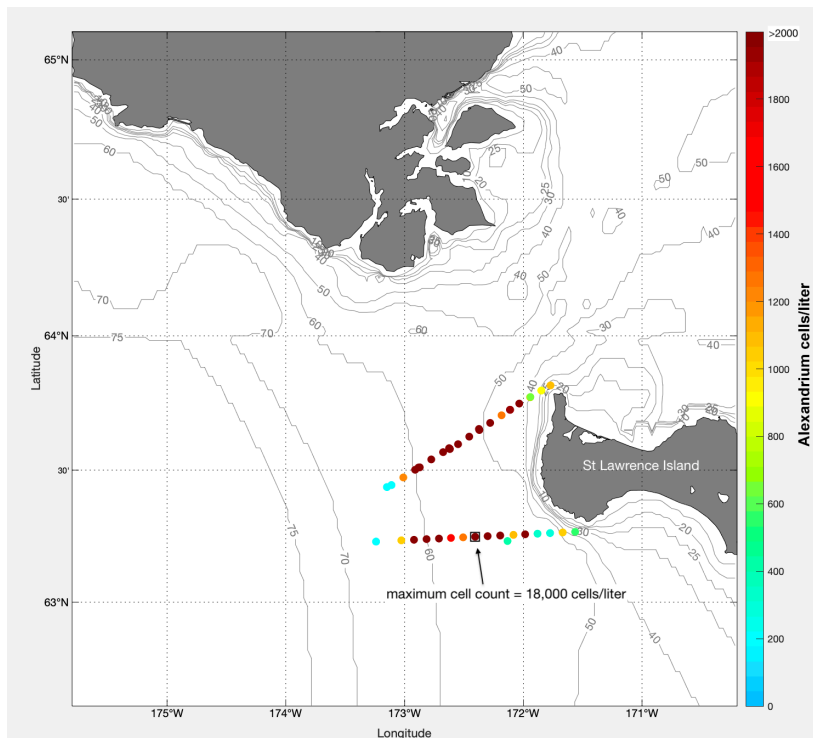


HAB Advisory from the Norseman II – July 26, 2022

The HAB cruise on the research vessel Norseman II encountered a patch of *Alexandrium* cells west of St. Lawrence Island late in the day on 7/25/22. Maximum surface cell densities in this patch are estimated to be ~18,000 cells/L, located approximately 21 miles offshore of St. Lawrence (63.24879, -172.4057). High densities of cells (>1000 cells/L) were observed across a wide swath of the region (see attached map). The sample collected closest to Gambell (2 miles offshore) had an estimated density of ~1000 cells/L.



Estimated Alexandrium cell densities (7/25/22 – 7/26/22) based on data collected by the Imaging FlowCytobot. This instrument is deployed aboard the Norseman II and is collecting underway imagery of the plankton community.

Cell concentrations at this level are considered dangerous, particularly to humans and other consumers of clams that filter the water and accumulate saxitoxins that are produced by the algae. Crabmeat has not been found to contain saxitoxins, but the guts/butter of crab has. Marine wildlife will ingest the concentrated biotoxins when they eat the clams containing the biotoxins. They can also accumulate toxins by feeding on zooplankton, filter-feeding fish, and other animals within the food web. It is not known what the risk is to seabirds and marine mammals, or to humans who consume those resources. This advisory is being communicated so that nearby communities can be cautious as they harvest fisheries resources in the area.

Thoughts on subsistence uses of marine wildlife:

- Paralytic shellfish poisoning (saxitoxin) in Alaska and the U.S. is generally associated with the consumption of contaminated shellfish (e.g., clams, crabs). Thus, **eating clams, crab guts/butter, and/or other shellfish has always carried a risk of ingesting algal**

toxins, whether shellfish are gathered from the beach or from the stomach of a walrus or bearded seal.

- Based on our understanding of toxin uptake and storage in shellfish and fish elsewhere in the world, muscle and blubber are not likely to accumulate saxitoxin at levels that pose a human health hazard, although these tissues have not yet been tested.
- Thorough cleaning of the inside of marine mammal intestines and stomach contents with water is an important aspect of traditional and customary food preparation methods. We do not know if these food preparation practices safeguard against ingesting saxitoxin when consuming marine mammal intestines or stomach contents. **Consuming intestine, stomach, and/or their contents in areas with known biotoxins likely has the same risk as consuming shellfish from those areas.**
- Other known vectors for PSP toxins are filter feeding fish like herring or other fish that consume zooplankton (e.g., sand lance) or small fish (mackerel).
- Remember: you cannot see, smell, or taste algae toxins. Cooking or freezing these foods will not lessen the toxin's effects.
- We know that some clams can retain PSP toxins for long periods (months to years) so clams taken from guts of walruses carry the same risks as any other harvested clams.

Next steps to be taken:

- The Norseman II crew will continue to report what they see as this cruise continues its work in the Northern Bering Sea, Chukchi Sea, and Beaufort Sea.
- **If you feel sick from eating clams, crab guts/butter, or other shellfish, please contact your health care provider immediately.**
- For more information on harmful algae toxins—symptoms, treatment, etc.—**call the Alaska Section of Epidemiology at (907) 269-8000 Mon-Fri or (800) 478-0084 after hours**
- **Remain vigilant:** if you see walruses (or other marine wildlife) acting in an unusual manner or dead in the Bering Strait region please contact:
USFWS – Marine Mammals Management: (800) 362-5148
NSB-Dept. of Wildlife Management (907)- 852-0350
Alaska Sea Grant - Gay Sheffield: (907) 434-1149
Kawerak - Subsistence - Brandon Ahmasuk: (907) 443-4265