

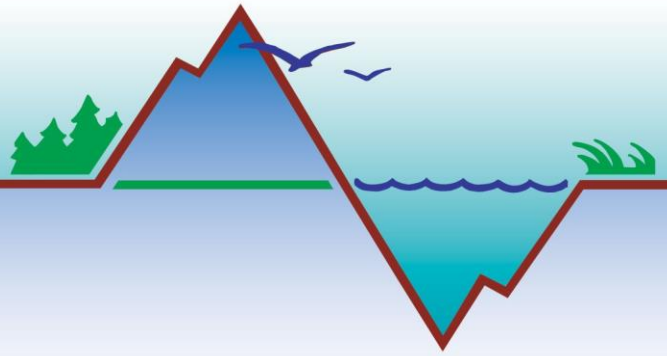
## Kachemak Bay Research Reserve Phytoplankton Update

May 8<sup>th</sup> – May 21<sup>st</sup>, 2020

Harmful Algal Bloom Program

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Hello Everyone!

The phytoplankton in Kachemak Bay continue to be abundant in many areas over the past two weeks. In the Inner Bay there was an abundance of mixed diatoms, while the Outer Bay had *Chaetoceros* spp. dominating consistently over the past two weeks (*Chaetoceros* spp. also are diatoms).

As summer gets kicked off this weekend we want to take a moment to highlight the main goal of the program, which is to look for groups of phytoplankton that are known to carry toxins that can result in shellfish poisoning in humans and other animals. Most species of phytoplankton do not cause harm to humans or other animals, in fact the abundant phytoplankton of Kachemak Bay are the base of our productive food web that supports the marine mammals, sea birds, and healthy fish populations. By monitoring for phytoplankton that produce toxins we can provide valuable information to shellfish harvesters of all types and public health officials to protect human health in our communities. Monitoring phytoplankton also provides us with valuable baseline information on the bloom cycles in Kachemak Bay.

There are three types of phytoplankton in Kachemak Bay that can cause harmful algal blooms (HABS), they are *Alexandrium* sp., *Pseudo-nitzschia* sp., and *Dinophysis* sp.. These three species are listed in the table below to document if they were present or not in the sample. None of these species have produced a “red tide” when they have been present or blooming in Alaska, the only way to know if they are present is to analyze a water sample. *Alexandrium* sp. produces saxitoxin, the toxin responsible for paralytic shellfish poisoning (PSP) when humans consume shellfish that have accumulated saxitoxin in their tissues. *Pseudo-nitzschia* sp. produce domoic acid, this toxin acts as a neurotoxin and can lead to amnesic shellfish poisoning (ASP) in humans, birds, and marine mammals when toxic shellfish are consumed. *Dinophysis* sp. produce okadaic acid which can lead to diarrhetic shellfish poisoning (DSP) after consumption of contaminated shellfish. For more information on these species and symptoms associated with each please check out the resources on our [website by clicking here](#) or send us an email.

All commercially harvested shellfish are regulated by the DEC and considered safe for consumption.

As always please reach out with any questions. Note that all KBNERR staff are working remotely, email is the best method to reach us with your questions.

Thank you to all our monitors and partners. Wishing everyone a safe and healthy Memorial Day Weekend!

Jasmine and Rosie

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Kachemak Bay Research Reserve Phytoplankton Update  
Qualitative Analysis Phytoplankton Data

**INNER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
5/9/2020	China Poot		32	Mixed Diatoms	None	None	None
5/13/2020	Homer Harbor	7.8	30.6	Mixed Diatoms	None	None	None
5/17/2020	Peterson Bay	7.2	30	<i>Chaetoceros</i> spp.	None	Present	None
5/19/2020	Halibut Cove	7	28	Sparse Sample	None	None	None
5/20/2020	Homer Harbor	8.5	29.4	Mixed Diatoms	None	Present	None

\*Samples received after last weekly update

**OUTER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
5/10/2020	Tutka Lagoon	7.4	27.5	Sparse Sample	None	Present	None
5/13/2020	Jakolof	6.7	24.7	<i>Chaetoceros socialis</i>	None	None	Present
5/13/2020	Kasitsna	6.6	31.3	<i>Chaetoceros</i> spp.	None	None	Present
5/13/2020	Eldridge	7.4	28.8	<i>Chaetoceros</i> spp.	None	Present	None
5/13/2020	Sadie Powerline	7.1	30	<i>Chaetoceros</i> bloom	None	Present	None
5/13/2020	Sadie Elbow	6.9	30.5	<i>Chaetoceros</i> spp.	Present	None	None
5/13/2020	Tutka Bay	7.7	24.3	<i>Chaetoceros</i> bloom	None	None	None

