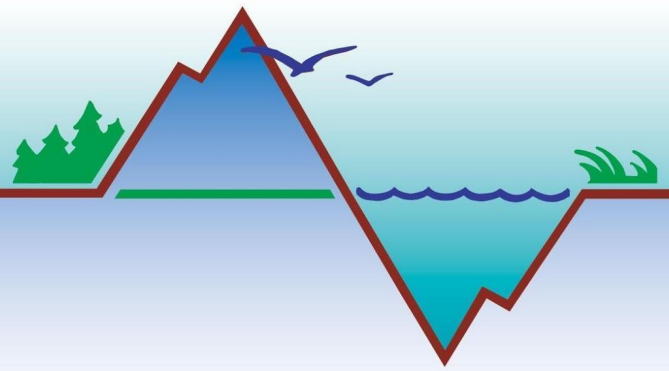


## Kachemak Bay Research Reserve Phytoplankton Update

May 19<sup>th</sup> – May 25<sup>th</sup>, 2023

Harmful Algal Bloom Program

Jasmine Maurer [jmaurer@alaska.edu](mailto:jmaurer@alaska.edu)



Hello Everyone,

This week *Chaetoceros* spp. were the dominant phytoplankton group at all sites sampled. At the Outer Bay sites *Chaetoceros debilis* was consistently dominant reaching bloom levels at Tutka middle and Eldred Passage.

*Pseudo-nitzschia* spp. are present at all sites this week. *Pseudo-nitzschia* is one of the three species of concern in Kachemak Bay because it sometimes produces toxins that can lead to amnesic shellfish poisoning (ASP) when wild shellfish accumulate toxins and are consumed by humans, birds, or mammals. There is a lot to learn about what factors contribute to *Pseudo-nitzschia* producing toxins. For more information on what we do know about *Pseudo-nitzschia* check out the Phytoplankton Monitoring Networks *Pseudo-nitzschia* spp. fact sheet attached to the KBNERR Weekly Update email. Another excellent resource to stay up to date on harmful algal bloom monitoring, research, and toxin testing around Alaska is the [Alaska Harmful Algal Bloom Network website](#).

A reminder that commercial shellfish in Alaska are regulated by DEC and considered safe for consumption.

As always reach out with any questions,  
Jasmine and Kim

**\*\*Due to weather delays, shipping distances and times, the processing of some samples may happen after the weekly update is shared. The results from these samples will be included in subsequent updates, which is why not all sample dates in the tables below fall within the date range of the current Weekly Update.**

Kachemak Bay Research Reserve Phytoplankton Update  
Qualitative Analysis Phytoplankton Data

**INNER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
5/23/2023	Homer Harbor	6.5	30.3	<i>Chaetoceros debilis</i>	None	Present	None
5/23/2023	Homer Harbor	8.6	29.3	<i>Chaetoceros</i> spp.	None	Present	None
5/23/2023	Peterson Bay	6.5	30.3	<i>Chaetoceros debilis</i>	None	Present	None

**OUTER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
5/23/2023	Eldred Passage	6.1	30.6	<i>Chaetoceros debilis</i> bloom	None	Present	None
5/23/2023	Tutka Mid	5.6	27.6	<i>Chaetoceros debilis</i> bloom	None	Present	None
5/23/2023	Jakolof Bay	6	29.7	<i>C. debilis</i>	None	Present	Present
5/23/2023	Kasitsna	6.1	30.6	<i>C. debilis</i>	None	Present	None
5/15/2023	Seldovia Harbor	5.8	35	<i>Mixed Diatoms</i>	None	Present	None



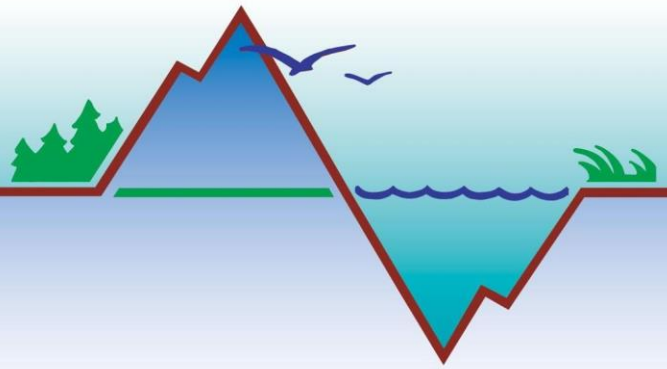
Kachemak Bay National Estuarine Research Reserve  
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## Kachemak Bay Research Reserve Phytoplankton Update

May 26<sup>th</sup> – June 2<sup>nd</sup>, 2023

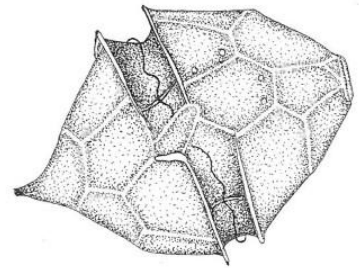
Harmful Algal Bloom Program

Jasmine Maurer [jmaurer@alaska.edu](mailto:jmaurer@alaska.edu)



Hello Everyone,

This week the phytoplankton abundances at Inner and Outer Bay sites sampled varied from sparse to bloom level of *Chaetoceros* spp. in Sadie Cove. At Bear Cove there were many dinoflagellates called *Heterocapsa* present. *Heterocapsa* spp. are a relatively small single celled phytoplankton that do not produce toxins, it does use a flagellum to move in the water column like other dinoflagellates and have close-fitting cellulose plates that give it its shape. As summer advances, or as many of us may be saying to ourselves “begins”, we expect to continue to see more diversity in the samples from week to week.



*Heterocapsa* illustration by C. Field

Thank you to all our monitors and partners for collecting phytoplankton this week!

As always reach out with any questions,  
Jasmine and Kim

\*\*Due to weather delays, shipping distances and times, the processing of some samples may happen after the weekly update is shared. The results from these samples will be included in subsequent updates, which is why not all sample dates in the tables below fall within the date range of the current Weekly Update.

### Kachemak Bay Research Reserve Phytoplankton Update Qualitative Analysis Phytoplankton Data

#### INNER BAY

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
6/1/2023	Aurora Lagoon	-	-	Sparse Sample	Present	None	None
6/1/2023	Bear Cove	9.2	26.1	Sparse Sample	Present	None	None
5/30/2023	China Poot	7.3	29.9	<i>Chaetoceros</i> spp.	None	Present	None

5/30/2023	Homer Harbor	8.7	28.8	Sparse Sample	None	Present	None
5/30/2023	Gull Island	7.9	29.3	<i>Chaetoceros</i> Spp.	None	Present	None

## **OUTER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
5/30/2023	Eldred Passage	7.1	28.6	<i>Chaetoceros</i> spp.	None	Present	None
5/30/2023	Sadie Cove	7.3	28.8	<i>C. debilis</i> Bloom	None	Abundant	None
5/30/2023	Jakolof Bay	6.8	29.8	<i>Chaetoceros</i> spp.	Present	Present	None
5/30/2023	Kasitsna Bay	7	30.4	<i>Chaetoceros</i> spp.	None	Abundant	None
5/30/2023	Seldovia Harbor	5.8	35	Sparse Sample	None	Present	None
5/12/2023	Seldovia Harbor	5.2	37	Sparse Sample	None	None	None



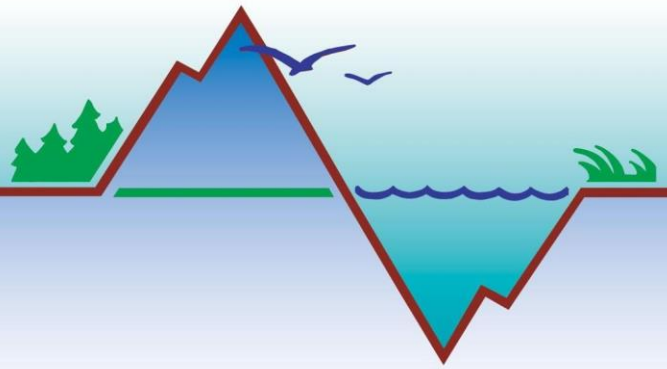
**Kachemak Bay National Estuarine Research Reserve**  
**Alaska Center for Conservation Science**  
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## Kachemak Bay Research Reserve Phytoplankton Update

June 3<sup>rd</sup> – June 8<sup>th</sup>, 2023

Harmful Algal Bloom Program

Jasmine Maurer [jmaurer@alaska.edu](mailto:jmaurer@alaska.edu)



Hello Everyone,

This week the phytoplankton at Inner Bay sites are sparse except for in China Poot Bay where *Chaetoceros* spp. are dominant. The Outer Bay sites sampled are all dominated by *Chaetoceros* spp.. Phytoplankton densities vary due to many factors including the time of year, available nutrients, and temperature. Often after a bloom occurs nutrients in a system are depleted and phytoplankton can be sparse until new nutrients are available.

This week two samples of wild shellfish collected by Knik Tribe for toxin testing came back above the regulatory limit. The wild shellfish tested were Razor clams collected at Chignik on 6/2/2023 and Blue mussels collected at Sand Point on 5/24/2023. Please see the [Knik Tribal Council Paralytic Shellfish Poisoning in Alaska website](#) for more details and previous testing results, results in red text indicate they are above the regulatory limit. The phytoplankton that produces toxins leading to paralytic shellfish poisoning (PSP) is called *Alexandrium* and typically *Alexandrium* blooms are colorless, odorless and tasteless making them impossible to detect without testing.

In the state of Alaska the harvest and consumption of wild shellfish is “Dig at your own risk”. The State does not open or close beaches due to toxin accumulation in wild shellfish.

For a quick review of the symptoms of PSP and other important facts check out the [PSP quick facts page by Alaska DEC](#).

Commercial shellfish is regulated by Alaska DEC and considered safe for consumption.

Thank you to all our monitors and partners for collecting phytoplankton this week!

As always reach out with any questions,  
Jasmine and Kim

**\*\*Due to weather delays, shipping distances and times, the processing of some samples may happen after the weekly update is shared. The results from these samples will be included in subsequent updates, which is why not all sample dates in the tables below fall within the date range of the current Weekly Update.**

Kachemak Bay Research Reserve Phytoplankton Update  
Qualitative Analysis Phytoplankton Data

**INNER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
6/4/2023	Halibut Cove West	8	30	Sparse Sample	None	None	None
6/5/2023	Halibut Cove	8.9	27.9	Sparse Sample	None	Present	None
6/5/2023	Peterson Bay	7.9	29.8	Sparse Sample	None	Present	None
6/5/2023	China Poot	6.6	28.8	<i>Chaetoceros</i> spp.	None	Present	None

**OUTER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
6/5/2023	Eldred Passage	6.7	30.7	<i>Chaetoceros</i> spp.	None	Present	None
6/5/2023	Jakolof Bay	6.9	29.8	<i>Chaetoceros</i> spp.	None	Present	None
6/5/2023	Kasitsna	6.8	30.8	<i>Chaetoceros</i> spp.	None	Present	None



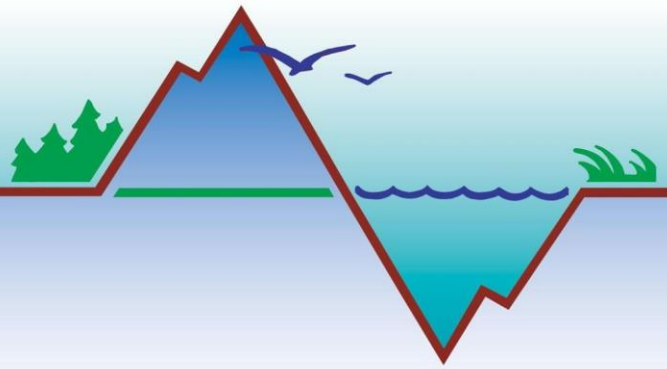
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Alaska Center for Conservation Science  
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## Kachemak Bay Research Reserve Phytoplankton Update

June 8<sup>th</sup> – June 15<sup>th</sup>, 2023

Harmful Algal Bloom Program

Jasmine Maurer [jmaurer@alaska.edu](mailto:jmaurer@alaska.edu)



Hello Everyone,

This week the phytoplankton samples from Inner Bay sites are diverse. At Halibut Cove and Homer Harbor *Chaetoceros* spp. are dominant among the many diatom species present. In contrast Seldovia Harbor had sparse phytoplankton this week.

Thank you to all our monitors and partners for collecting phytoplankton this week!

As always reach out with any questions,  
Jasmine and Kim

\*\*Due to weather delays, shipping distances and times, the processing of some samples may happen after the weekly update is shared. The results from these samples will be included in subsequent updates, which is why not all sample dates in the tables below fall within the date range of the current Weekly Update.

## Kachemak Bay Research Reserve Phytoplankton Update

### Qualitative Analysis Phytoplankton Data

#### INNER BAY

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
6/14/2023	Bear Cove	9.2	26.9	Mixed Diatoms	None	None	None
6/14/2023	Aurora Lagoon	9.2	27.7	Mixed Diatoms	None	None	None
6/14/2023	Halibut Cove	9.1	28.3	<i>Chaetoceros</i> spp.	None	Present	None
6/14/2023	Homer Harbor	6	29.8	<i>Chaetoceros</i> spp.	None	Present	None
6/12/2023	Peterson Bay	6	32	Sparse Sample	None	Present	None
6/7/2023	Peterson Bay	8	30	Mixed Diatoms	Present	Present	None

## OUTER BAY

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
6/9/2023	Seldovia Harbor	6.8	29.2	Sparse Sample	None	Present	None



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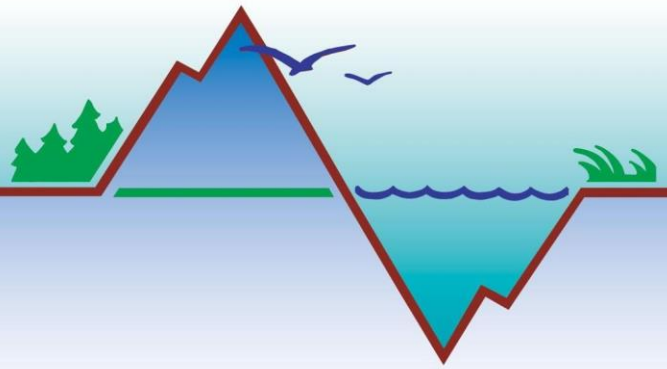


## Kachemak Bay Research Reserve Phytoplankton Update

June 16<sup>th</sup> – June 29<sup>th</sup>, 2023

Harmful Algal Bloom Program

Jasmine Maurer [jmaurer@alaska.edu](mailto:jmaurer@alaska.edu)



Hello Everyone,

This week the phytoplankton are diverse and abundant at most sites sampled within the Inner and Outer Bay. Of note we saw *Pseudo-nitzschia* as the most dominant species and at abundant levels in China Poot, Peterson Bay, Kasitsna Bay, Jakolof Bay and Eldred Passage. *Pseudo-nitzschia* is one of the species of concern in Kachemak Bay because it can produce toxins that can lead to Amnesiac Shellfish Poisoning when toxic shellfish are consumed. In Alaska consumption of wild shellfish is “Dig at your own risk”, there is no state management for wild shellfish harvest.

Commercial shellfish are regulated by DEC and considered safe for consumption.

There will not be a KBNERR Phytoplankton Update next week due to the 4<sup>th</sup> of July Holiday. Samples collected next week will be shared in the update the week of July 10<sup>th</sup>.

Thank you to all our monitors and partners for collecting phytoplankton this week!

As always reach out with any questions,  
Jasmine and Kim

**\*\*Due to weather delays, shipping distances and times, the processing of some samples may happen after the weekly update is shared. The results from these samples will be included in subsequent updates, which is why not all sample dates in the tables below fall within the date range of the current Weekly Update.**

### Kachemak Bay Research Reserve Phytoplankton Update Qualitative Analysis Phytoplankton Data

#### **INNER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
6/28/2023	Homer Harbor	11.2	24.7	<i>Skeletonema</i>	None	Present	None
6/28/2023	Glacier Spit	10.8	24.2	<i>Skeletonema</i>	Present	Present	None
6/28/2023	China Poot	8.7	29.6	<i>Pseudo-nitzschia</i>	Present	Abundant	None

6/28/2023	Halibut Cove	8	28	<i>Chaetoceros</i> spp.	Present	None	None
6/23/2023	Peterson Bay	10	28	<i>Pseudo-nitzschia</i>	None	Abundant	Present

## OUTER BAY

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
6/28/2023	Kasitsna Bay	8.7	30.7	<i>Pseudo-nitzschia</i>	None	Abundant	None
6/28/2023	Jakolof Bay	8.5	30.3	<i>Pseudo-nitzschia</i>	Present	Abundant	None
6/28/2023	Tutka Mid	8.4	28.2	<i>Chaetoceros</i> spp.	None	Present	None
6/28/2023	Sadie Cove	8.6	27.9	<i>Chaetoceros</i> spp.	None	Abundant	None
6/28/2023	Eldred Passage	8.8	28.7	<i>Pseudo-nitzschia</i> & <i>Chaetoceros</i>	None	Abundant	None
6/15/2023	Seldovia Harbor	8.0	34	Sparse Sample	None	None	None



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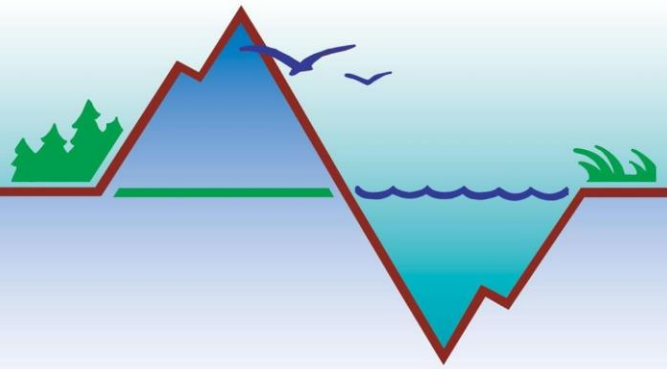
## Kachemak Bay Research Reserve Phytoplankton Update

June 30<sup>th</sup> – July 13<sup>th</sup>, 2023

Harmful Algal Bloom Program

907-235-1505

Jasmine Maurer [jmaurer@alaska.edu](mailto:jmaurer@alaska.edu)



Hello Everyone,

The week of July 3<sup>rd</sup> phytoplankton communities at outer bay sites were dominated by *Chaetoceros* spp.. In the inner bay Halibut Cove was also dominated by *Chaetoceros* spp. while Homer harbor was dominated by *Skeletonema*.

This week we see a variety of phytoplankton dominating at the sites sampled. Outer bay sites Tutka, Jakolof and Eldred all have *Guinardia*, a diatom, present as the most dominant phytoplankton. For the inner bay and remaining outer bay sites there are a variety of species of phytoplankton that are dominant with Homer Harbor standing out among those as the only site with sparse phytoplankton this week.

Alaska Department of Fish & Game (ADF&G) and Alaska Harmful Algal Bloom Network were able to test razor clam tissue collected during ADF&G clam surveys in Ninilchik and Clam Gulch this spring and early summer. They have shared the results of those tested samples.

The PSP results are:

Razor clams collected 6/21/23 from Ninilchik:  $\leq 32 \mu\text{g}/100\text{g}$

Razor clams collected 5/8/23 from Clam Gulch:  $\leq 30 \mu\text{g}/100\text{g}$

Razor clams collected 4/9/23 from Ninilchik:  $\leq 31 \mu\text{g}/100\text{g}$

Razor clams collected 6/5/23 from Ninilchik:  $\leq 31 \mu\text{g}/100\text{g}$

As a reminder the regulatory limit for PSP toxins is 80 ug/100g.

Commercially harvested shellfish are regulated by Alaska DEC and considered safe for consumption.

Thank you to all our monitors and partners for collecting phytoplankton the past two weeks! And thank you to ADF&G and AHAB for testing and sharing the razor clam results.

As always reach out with any questions,  
Jasmine and Kim

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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
7/11/2023	Peterson Bay	10.7	25.2	<i>Heterocapsa</i>	None	Present	None
7/11/2023	Gull Island	9.4	27.9	<i>Skeletonema</i> bloom	None	Present	None
7/11/2023	Homer Harbor	10.5	26.6	Sparse Sample	None	Present	None
7/9/2023	Peterson Bay	9.5	26	<i>Chaetoceros</i> spp.	None	None	None
7/8/2023	Peterson Bay	8.5	28	<i>Leptocylindrus</i> and <i>Skeletonema</i>	Present	None	Present
7/8/2023	Halibut Cove	8.5	28	<i>Chaetoceros</i> spp.	None	None	None
7/4/2023	Homer Harbor	9.9	27.1	<i>Skeletonema</i>	None	Present	None
7/1/2023	Halibut Cove	8	28	<i>Chaetoceros</i> spp.	None	None	None

**OUTER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
7/11/2023	Tutka Entrance	8.6	30.4	<i>Guinardia</i>	None	Present	None
7/11/2023	Jakolof Bay	8.7	30.6	<i>Guinardia</i>	None	Present	None
7/11/2023	Eldred Passage	8.6	30.4	<i>Guinardia</i>	None	Present	None
7/11/2023	Sadie Entrance	9.2	29.2	<i>Skeletonema</i>	None	None	None

7/10/2023	Head of Sadie	6.5	32	<i>Chaetoceros</i> bloom	Present	None	None
7/4/2023	Eldred Passage	8.7	29	<i>Chaetoceros</i> spp.	Present	Present	None
7/4/2023	Jakolof Bay	8.7	27.9	<i>Chaetoceros</i> spp.	Present	Present	None
6/22/2023	Seldovia	9.4	35	Sparse Sample	None	Present	None



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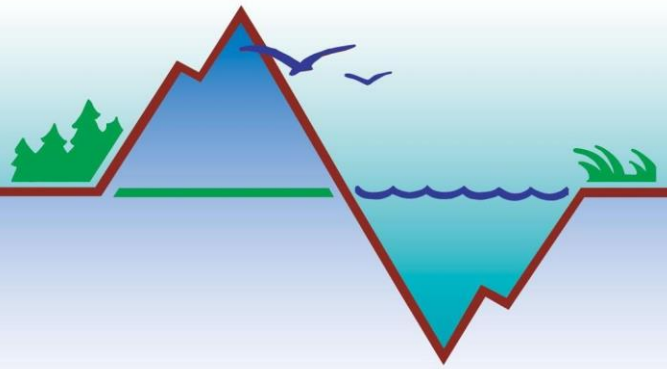
## Kachemak Bay Research Reserve Phytoplankton Update

June 28<sup>th</sup> – August 3<sup>rd</sup>, 2023

Harmful Algal Bloom Program

907-235-1505

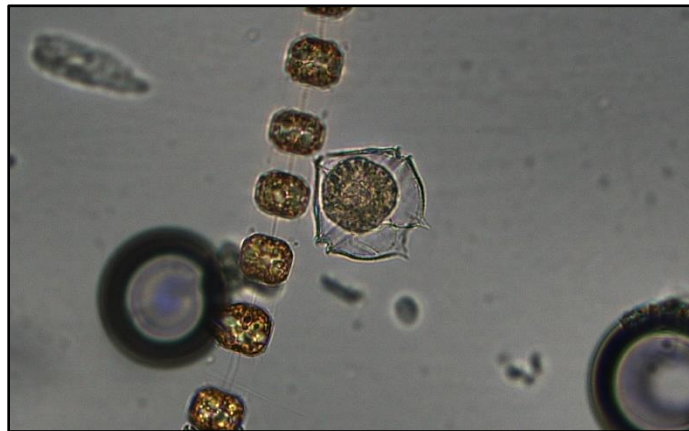
Jasmine Maurer [jmaurer@alaska.edu](mailto:jmaurer@alaska.edu)



Hello Everyone, and welcome to August!

Phytoplankton at inner Kachemak Bay sites, except Halibut Cove, are sparse this week. A low phytoplankton abundance was also observed during this week of the summer from 2017 to 2021, and in 2015 & 2013. The outer bay sites sampled this week also have sparse phytoplankton except for at Kasitsna Bay. This is unusual in our sampling to see sparse phytoplankton at outer bay sites during late July and early August.

There are a wide range of shapes and sizes among phytoplankton species. Below are two photos taken from recent Kachemak Bay samples that show some of the variety.



Left photo *Corethron* sp., right photo *Protoperidinium* sp. and *Thalassiosira* chain, photos by K. Schuster.

Thank you to all our monitors and partners for collecting phytoplankton this week!

As always reach out with any questions,  
Jasmine and Kim

**\*\*Due to weather delays, shipping distances and times, the processing of some samples may happen after the weekly update is shared. The results from these samples will be included in subsequent updates, which is why not all sample dates in the tables below fall within the date range of the current Weekly Update.**

Kachemak Bay Research Reserve Phytoplankton Update  
Qualitative Analysis Phytoplankton Data

**INNER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
7/31/2023	Peterson Bay	12.6	24.6	Sparse Sample	Present	None	None
7/31/2023	China Poot	12.2	24.7	Sparse Sample	None	Present	None
7/31/2023	Homer Harbor	13.7	25	Sparse Sample	None	None	None
7/29/2023	Halibut Cove	9	28	<i>Chaetoceros</i> spp.	Present	Present	None

**OUTER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
7/31/2023	Kasitsna Bay	11.1	30.5	<i>Dactyliosolen</i>	None	None	None
7/31/2023	Jakolof Bay	11.2	30.4	Sparse Sample	None	None	None
7/31/2023	Tutka Entrance	10.9	30	Sparse Sample	None	None	None
7/31/2023	Eldred	11.1	30.2	Sparse Sample	None	None	None



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## Kachemak Bay Research Reserve Phytoplankton Update

August 18<sup>th</sup> – August 24<sup>th</sup>, 2023

Harmful Algal Bloom Program

907-235-1505

Jasmine Maurer [jmaurer@alaska.edu](mailto:jmaurer@alaska.edu)



Hello everyone,

*Skeletonema* is the dominant phytoplankton at Homer Harbor and China Poot. Phytoplankton at outer bay sites is mostly sparse this week except on the north side of Yukon Island where *Skeletonema* is dominant.

Several samples this week have zooplankton called Appendicularians in them, also known as larvaceans. These zooplankton are an important food source for salmon and contribute to the carbon cycle through their feeding methods of creating a mucus house to capture and filter out microscopic food particles from seawater. When the mucus house gets clogged the animal sheds it and the mucus house sinks to the sea floor providing an important food source for seafloor animals and contributing to carbon cycling at the same time.



Left photo of an Appendicularian by J. Maurer.

Thank you to all our monitors and partners for collecting phytoplankton!

As always reach out with any questions,  
Jasmine and Kim

**\*\*Due to weather delays, shipping distances and times, the processing of some samples may happen after the weekly update is shared. The results from these samples will be included in subsequent updates, which is why not all sample dates in the tables below fall within the date range of the current Weekly Update.**



Kachemak Bay Research Reserve Phytoplankton Update  
Qualitative Analysis Phytoplankton Data

**INNER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
7/31/2023	Peterson Bay	12.6	24.6	Sparse Sample	Present	None	None
7/31/2023	China Poot	12.2	24.7	Sparse Sample	None	Present	None
8/22/2023	Homer Harbor	11	-	<i>Skeletonema</i>	None	Present	None
8/22/2023	China Poot	13	-	<i>Skeletonema</i>	None	Present	None

**OUTER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
8/22/2023	Kasitsna Bay	11	-	Sparse Sample	Present	Present	None
8/22/2023	Jakolof Bay	9	-	Sparse Sample	Present	Present	None
8/22/2023	Sadie Entrance	8	-	Sparse Sample	None	None	None
8/22/2023	Yukon North	10	-	<i>Skeletonema</i>	None	Present	None
8/19/2023	Head of Sadie	9	32	Sparse Sample	Present	Present	None



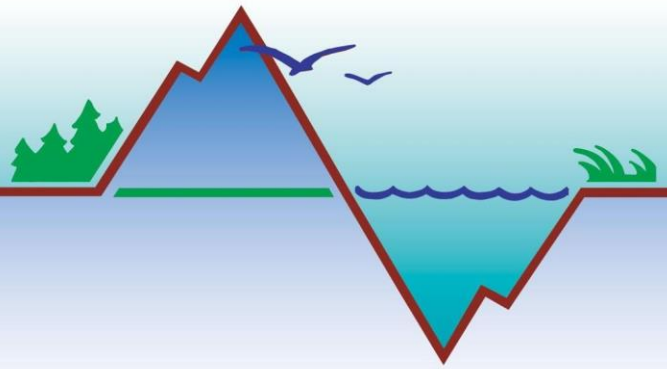
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## Kachemak Bay Research Reserve Phytoplankton Update

August 25<sup>th</sup> – August 31<sup>st</sup>, 2023

Harmful Algal Bloom Program

Jasmine Maurer [jmaurer@alaska.edu](mailto:jmaurer@alaska.edu)



Hello Everyone,

This week the phytoplankton at inner bay sites are sparse. At Halibut Cove West *Alexandrium* was present in the sample. *Alexandrium* spp. are dinoflagellates that produce saxitoxins which when accumulated in shellfish tissues and then consumed by humans and other vertebrates can lead to paralytic shellfish poisoning (PSP). For more information on PSP check out [Alaska DEC informational webpage](#).

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

The outer bay sites in Tutka and Jakolof have *Chaetoceros* spp. as the dominant phytoplankton and this week at Eldred *Pseudo-nitzschia* is dominant and abundant. Across all the sites this week we see an increased number and diversity of dinoflagellates, which is typical for this time of year.

Thank you to all our monitors and partners for collecting phytoplankton this week!

As always reach out with any questions,  
Jasmine and Kim

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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
8/29/2023	Homer Harbor	11.5	27.5	Sparse Sample	Present	Present	None
8/29/2023	Peterson Bay	11.7	27	Sparse Sample	Present	Present	None
8/29/2023	Halibut Cove West	11.6	23.4	Sparse Sample	Present	None	Present

**OUTER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
8/29/2023	Eldred	11.8	29.7	<i>Pseudo-nitzschia</i>	Present	Abundant	None
8/29/2023	Tutka Entrance	12	29.5	<i>Chaetoceros</i> spp.	Present	Present	None
8/29/2023	Jakolof	12	29.8	<i>Chaetoceros</i> spp.	Present	Present	None
8/29/2023	Kasitsna Bay	12	29.9	Sparse Sample	None	Present	None
8/22/2023	Seldovia Harbor	10.9	34	Sparse Sample	None	None	None
8/16/2023	Seldovia Harbor	10.6	32	Sparse Sample	None	None	None
8/11/2023	Seldovia Harbor	10.5	31	<i>Leptocylindrus</i>	Present	None	None



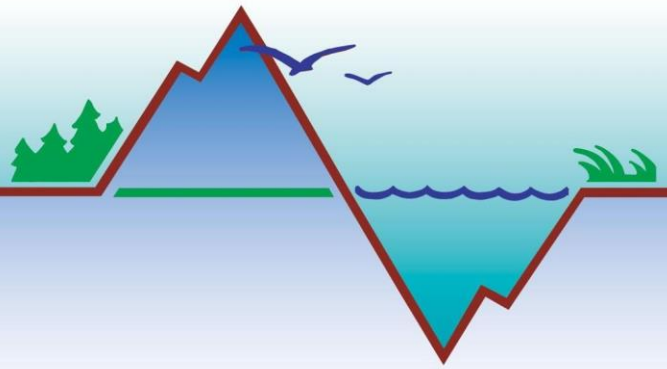
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## Kachemak Bay Research Reserve Phytoplankton Update

September 1<sup>st</sup> – September 7<sup>th</sup>, 2023

Harmful Algal Bloom Program

Jasmine Maurer [jmaurer@alaska.edu](mailto:jmaurer@alaska.edu)



Hello Everyone,

This week the phytoplankton are sparse across all sites sampled. Sparse phytoplankton at inner bay sites has been observed in the first week of September over multiple years (2011, 2013, 2017 and 2020 to 2023). Outer bay phytoplankton has been sparse during the first week of September less often (2020 and 2023, no samples were collected from the outer bay during the first week of September in 2022).

Thank you to all our monitors and partners for collecting phytoplankton this week!

As always reach out with any questions,  
Jasmine and Kim

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### Kachemak Bay Research Reserve Phytoplankton Update Qualitative Analysis Phytoplankton Data

#### **INNER BAY**

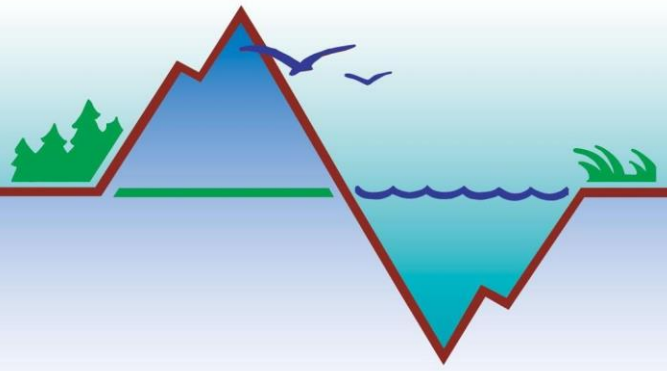
DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
9/5/2023	Halibut Cove W.	11.6	26.7	Sparse Sample	None	None	None
9/5/2023	Homer Harbor	12.1	24.7	Sparse Sample	None	None	None
9/5/2023	Halibut Cove E.	11	28	Sparse Sample	None	Present	None

## **OUTER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
9/5/2023	Kasitsna	10.7	30.2	Sparse Sample	Present	None	None
9/5/2023	Jakolof	10.9	29.7	Sparse Sample	None	Present	None
9/5/2023	Eldred	11	29.2	Sparse Sample	Present	Present	None
9/5/2023	Saddie Cove	11.5	29.4	Sparse Sample	None	Present	None



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Hello Everyone,

The phytoplankton are sparse across all sites sampled the past two weeks. The diversity of phytoplankton has also decreased in recent weeks. We will continue to sample weekly, as the weather allows, until October and share updates bi-weekly. The next KBNERR phytoplankton weekly will be shared October 5<sup>th</sup>.

Thank you to all our monitors and partners for collecting phytoplankton this week!

As always reach out with any questions,  
Jasmine and Kim

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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
9/19/2023	Peterson Bay	10.6	28	Sparse Sample	None	None	None
9/19/2023	Homer Harbor	10.8	26.3	Sparse Sample	Present	None	None
9/11/2023	Peterson	11.5	24.6	Sparse Sample	Present	None	None
9/11/2023	Halibut Cove	11.6	25.4	Sparse Sample	None	None	None

## OUTER BAY

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
9/19/2023	Jakolof	9.5	28.4	Sparse Sample	Present	Present	None
9/19/2023	Eldred	10.2	29.1	Sparse Sample	None	None	None
9/19/2023	Tutka Middle	9.2	21.6	Sparse Sample	None	None	None



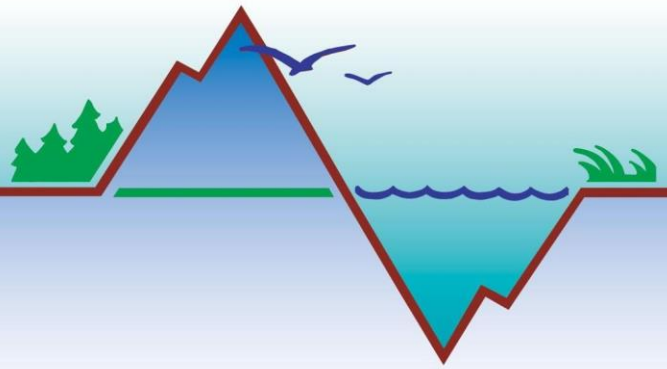
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## Kachemak Bay Research Reserve Phytoplankton Update

September 22<sup>nd</sup> – October 5<sup>th</sup>, 2023

Harmful Algal Bloom Program

Jasmine Maurer [jmaurer@alaska.edu](mailto:jmaurer@alaska.edu)



Hello Everyone,

The phytoplankton during the past two weeks at inner bay sites have continued to be sparse. The outer bay sites are a slightly different story with a definite increase in phytoplankton this week with *Chaetoceros* spp. dominant at Eldred and Sadie. The outer bay sites had a variety of phytoplankton present and some of those have auxospores present. Auxospores are specialized cells that play an important role in the life history and growth of certain diatom species.

We plan to collect phytoplankton through October as the weather allows. The last KBNERR Phytoplankton Update will be shared on October 26<sup>th</sup>. As field season wraps-up we look forward to compiling and sharing the annual report in December and taking time this winter to connect with monitors and community members throughout Kachemak Bay.

If you or someone you know is interested in becoming a Phytoplankton Community Monitor please reach out, learning how to collect phytoplankton is fun and easy and contributes to long term monitoring and understanding of the cycles and changes within Kachemak Bay.

Thank you to all our monitors and partners for collecting phytoplankton this week!

As always reach out with any questions,  
Jasmine and Kim

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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
10/3/2023	Homer Harbor	10.1	27	Sparse Sample	None	None	None
9/26/2023	Homer Harbor	9.3	24.5	Sparse Sample	None	None	None
9/26/2023	Halibut Cove W.	10.2	27.4	Sparse Sample	Present	None	None
9/26/2023	Bear Cove	10.9	27.7	Sparse Sample	Present	None	None

**OUTER BAY**

DATE	Bay	Water Temp	Salinity	Dominant species	Dinophysis	Pseudo-nitzschia	Alexandrium
10/3/2023	Jakolof	9.1	29.5	Sparse Sample	Present	Present	None
10/3/2023	Sadie Cove	9.5	28.9	<i>Chaetoceros</i> spp.	None	Present	None
10/3/2023	Eldred	9.6	29.4	<i>Chaetoceros</i> spp.	Present	Present	None
9/27/2023	Seldovia Harbor	9.3	30	Sparse Sample	None	Present	None
9/26/2023	Kasitsna Bay	10.5	28.5	Sparse Sample	None	Present	None
9/26/2023	Jakolof	10.5	28.5	Sparse Sample	Present	Present	None
9/26/2023	Sadie	10	28.2	Sparse Sample	None	Present	None
9/26/2023	Eldred	10.3	28.3	Sparse Sample	None	Present	None
9/24/2023	Head of Sadie	8	34.8	<i>Chaetoceros</i> Spp.	Present	Present	None
9/20/2023	Seldovia Harbor	8.4	30	Sparse Sample	None	Present	None
9/13/2023	Seldovia Harbor	9.4	-	Sparse Sample	None	None	None
9/7/2023	Seldovia Harbor	9.6	34	Sparse Sample	Present	None	None