Recent Alaska HABs

Toxic algae bloom arrives in Southeast Alaska

• Tribal Toxins Partnership warns against harvesting shellfish on Sitka beach; DEC to begin testing samples for neurotoxin • Bloom has

PSP sickness prompts health warning for wild clams

Posted: May 2, 2015 - 11:07pm

Dead Fish, Wildlife In Aleutians May Be Victims Of Toxic Algae Outbreak

By John Ryan, KUCB - Unalaska | July 27, 2015

PSP found in mussels tested in Kachemak Bay

Homer News Posted: August 24, 2016 - 2:26pm | **Updated:** August 25, 2016 - 7:53am

Toxic shellfish have been found in Pacific blue mussels in the Homer harbor, according to an alert from the Alaska Department of Health and Social Services. Mussels sampled by the Kachemak Bay Research Reserve tested positive for paralytic shellfish poisoning by Southeast Alaska Tribal Ocean Research.

Harmful species: Dinoflagellates & Diatoms

Paralytic Shellfish Poisoning (PSP)

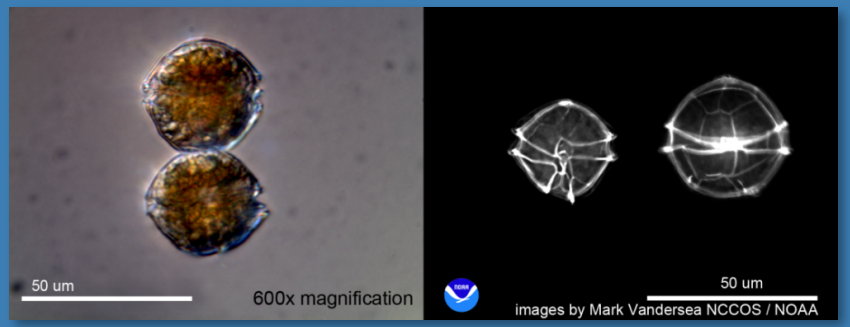
Alexandrium fundyense

Saxitoxins (>20 forms)

Amnesic Shellfish Poisoning (ASP)

Pseudo-nitzschia spp.

Domoic Acid



Alexandrium fundyense

Effects

Human illness

Shellfishing closures

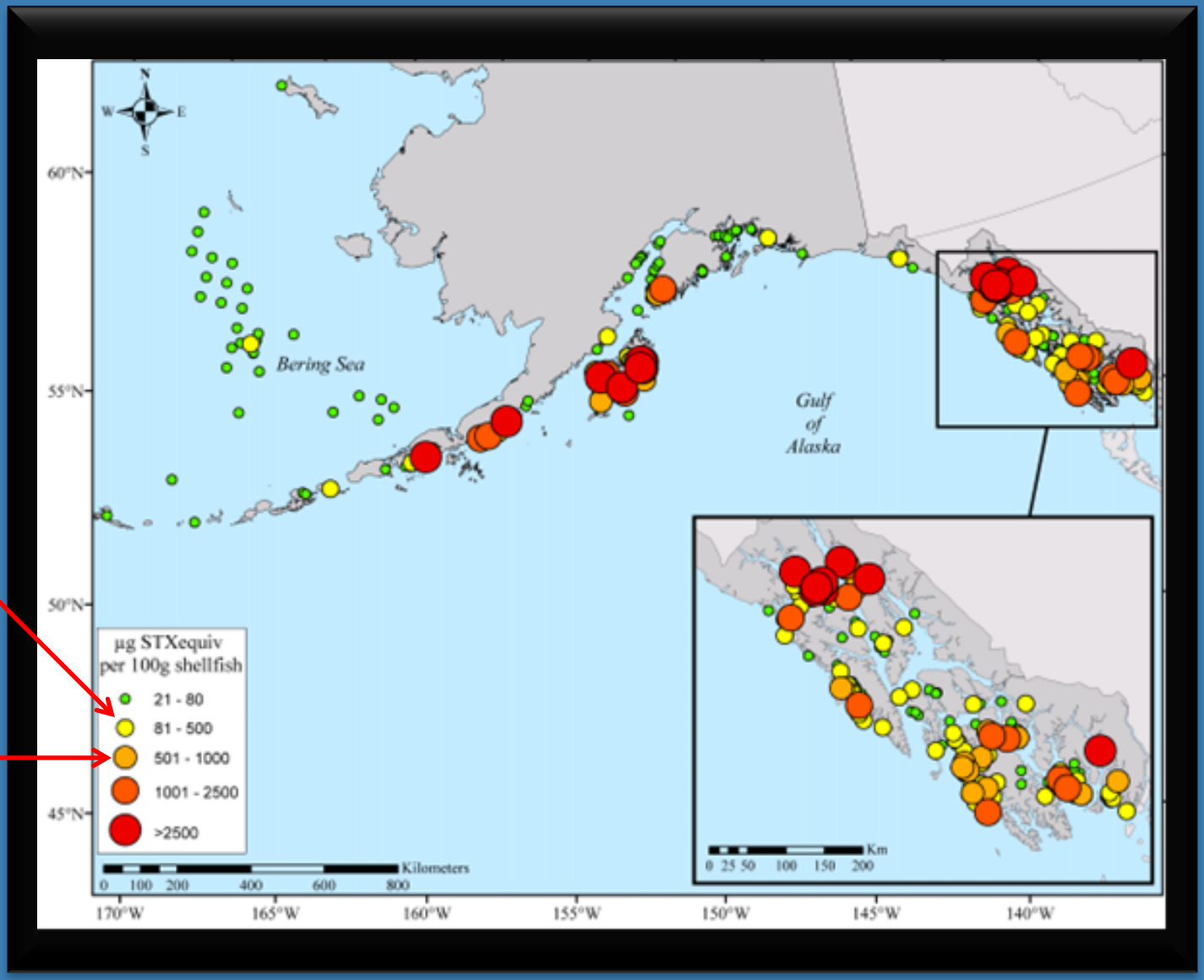
Marine Mammals

Seabirds

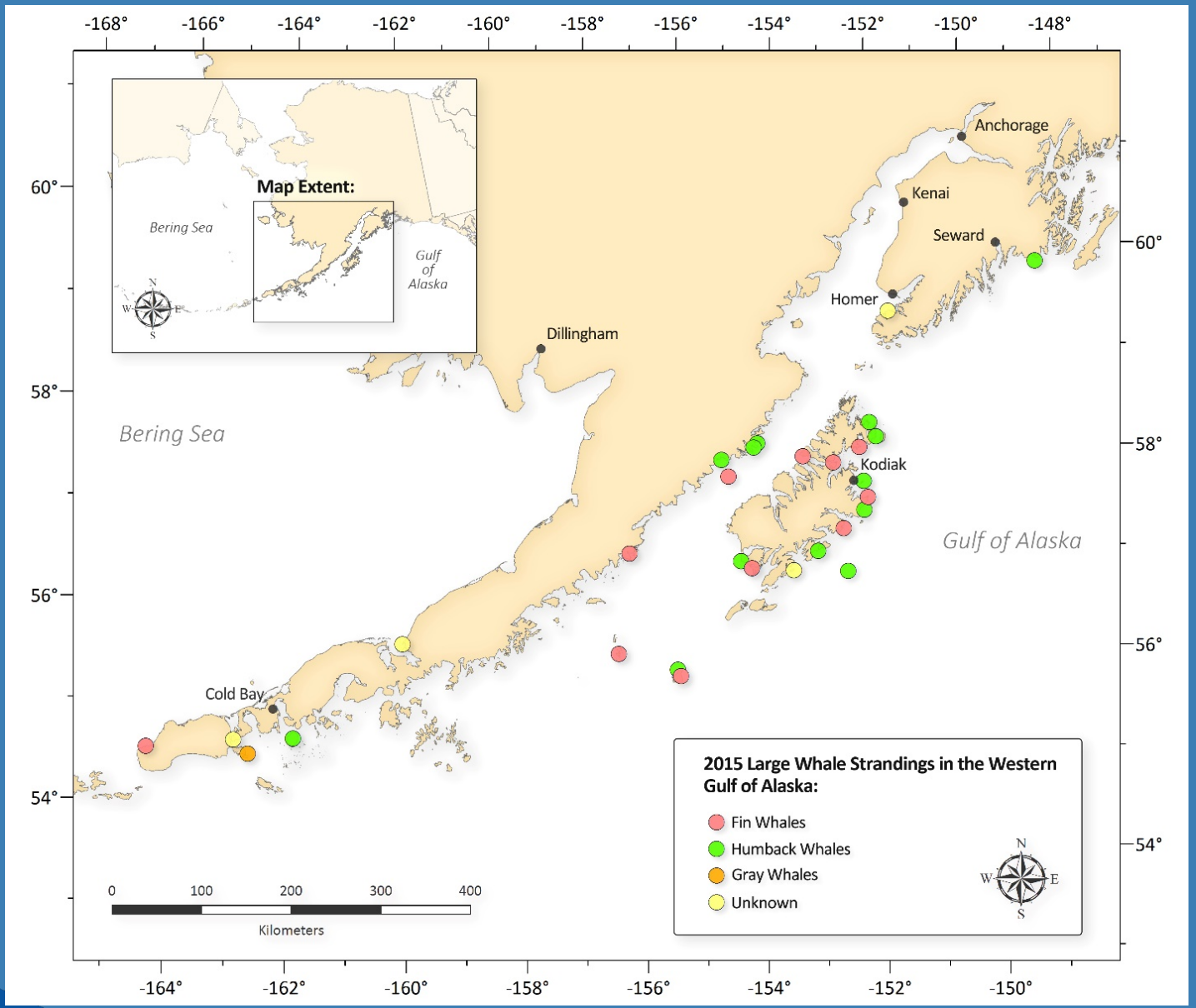
Historical Saxitoxin Levels in AK Shellfish

Close harvesting at 80 µg STX equivalents per 100 g shellfish

Potentially lethal > 500 µg STX equivalents per 100 g shellfish



Combined data From State of Alaska, Federal reports, and academic publications collected by Vera Trainer and Ray Ralonde; samples analyzed over the past 30+ years.

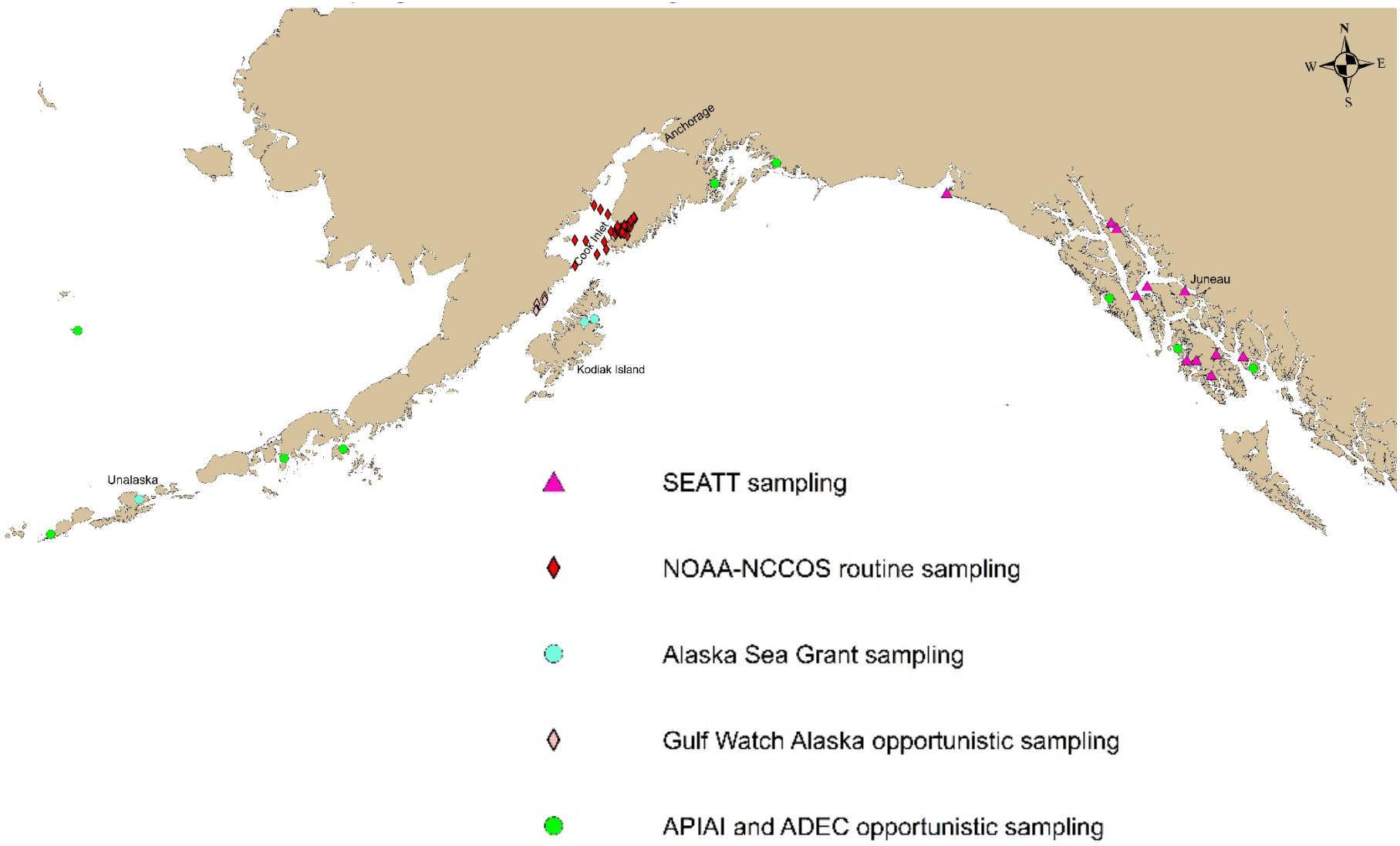


Unusual mortality events

Marine mammals & Seabirds

Warming? Food web? HABs?

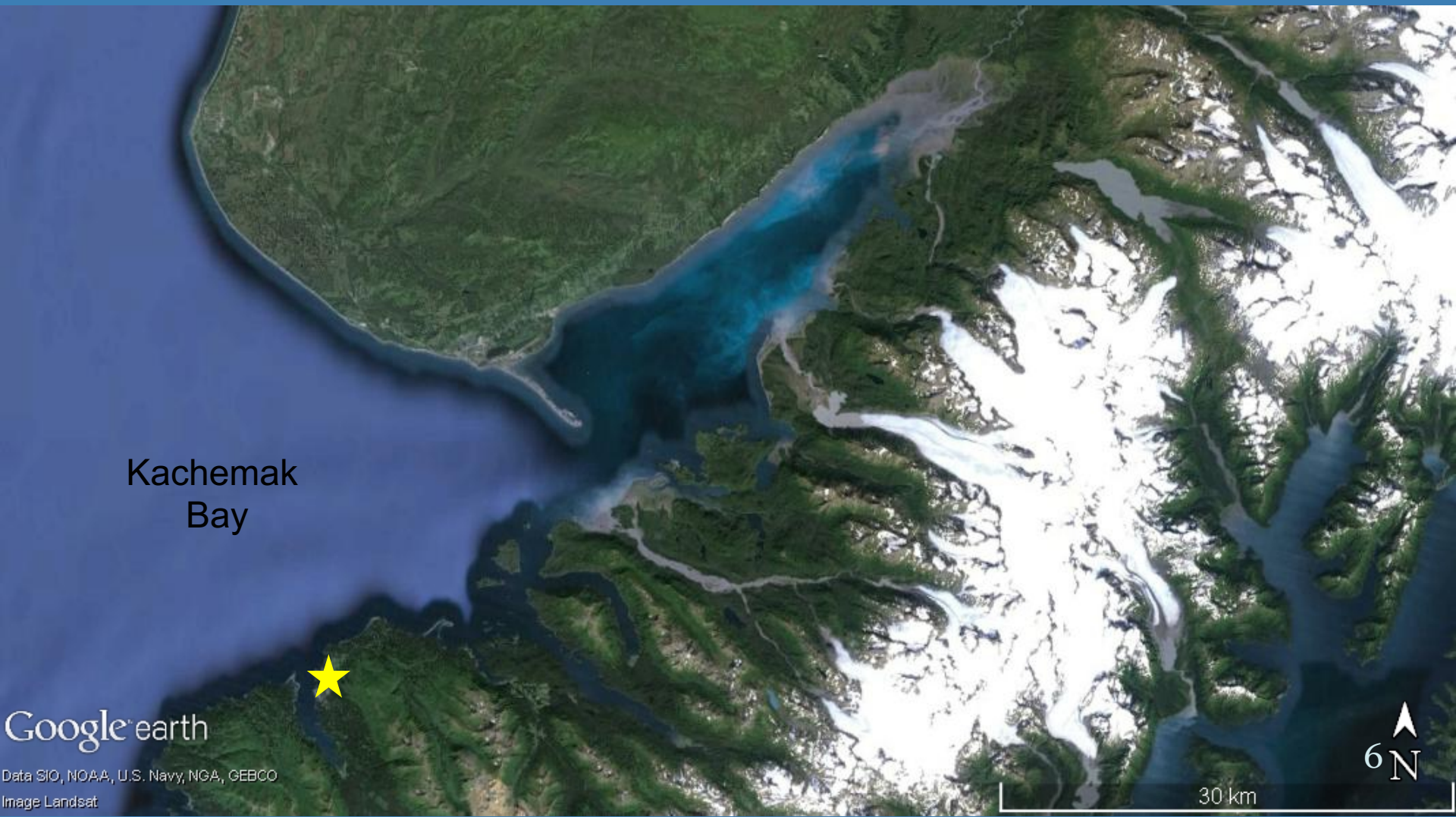
Alaska HAB monitoring locations



Environmental factors and climate change

Temperature – cell growth, warm events & cyst beds

Snowpack/glacier melt – freshwater input, water column stability



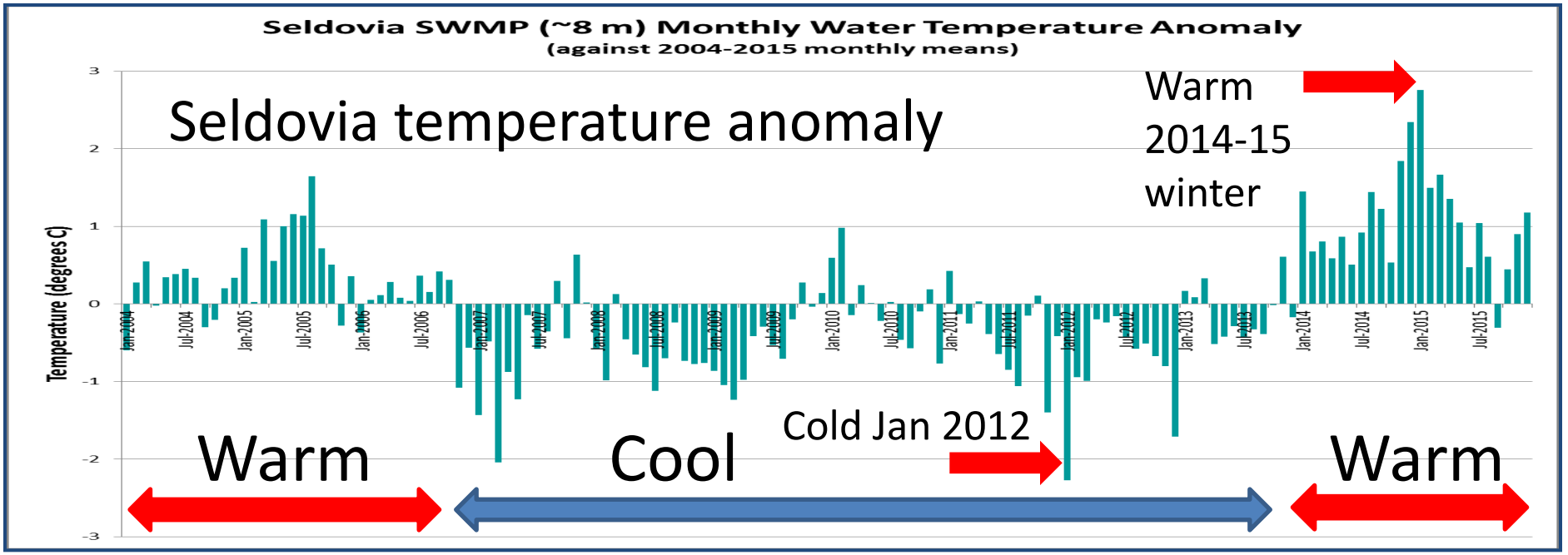
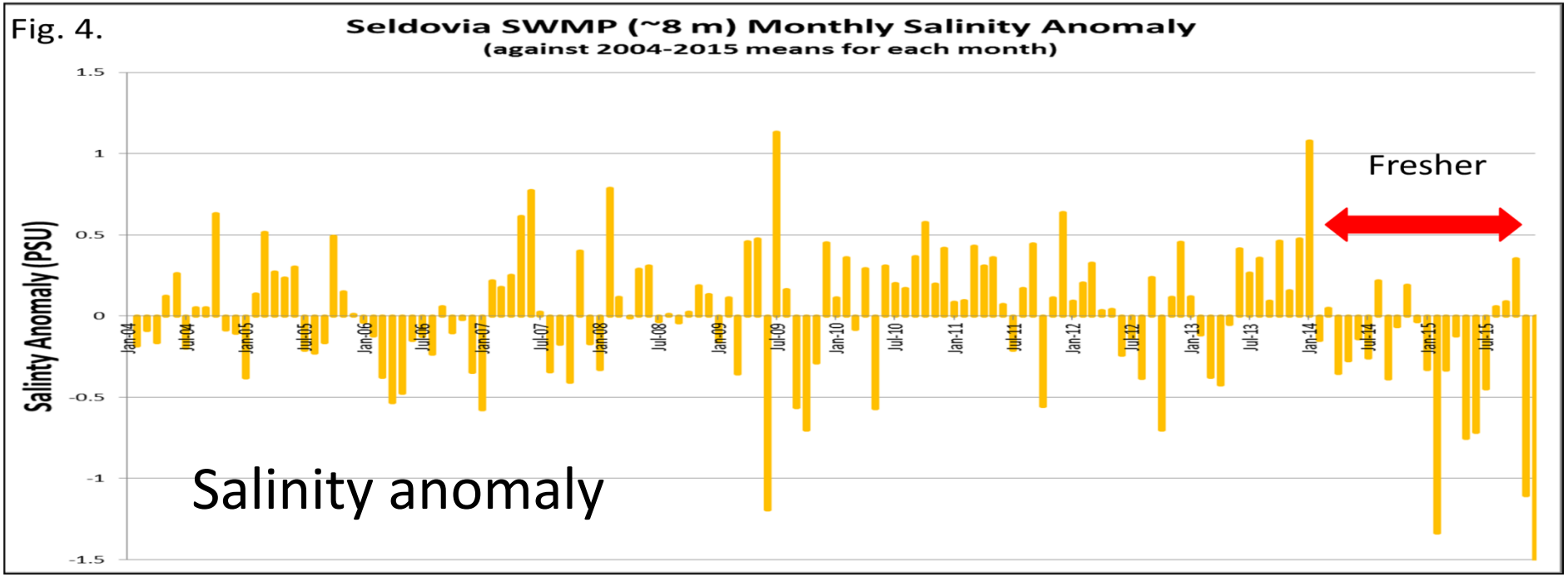
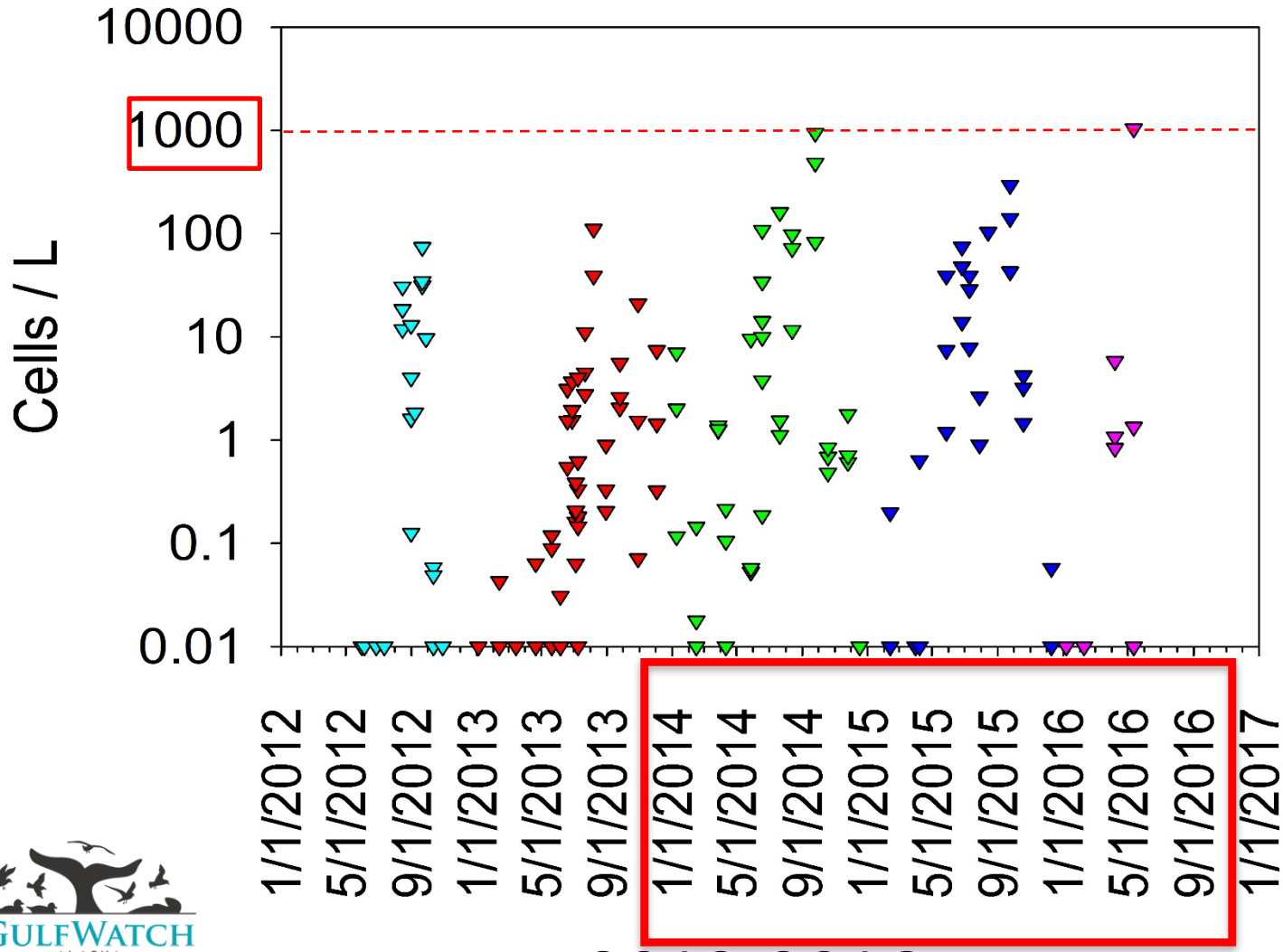

Seldovia SWMP (~8 m) Monthly Water Temperature Anomaly
(against 2004-2015 monthly means)
Seldovia temperature anomaly
Warm
2014-15
winter
Temperature (degrees C)
Cold Jan 2012
Warm
Cool
Warm

Fig. 4.


Seldovia SWMP (~8 m) Monthly Salinity Anomaly
(against 2004-2015 means for each month)
Salinity Anomaly (PSU)
Fresher
Salinity anomaly

Toxic phytoplankton cell concentrations

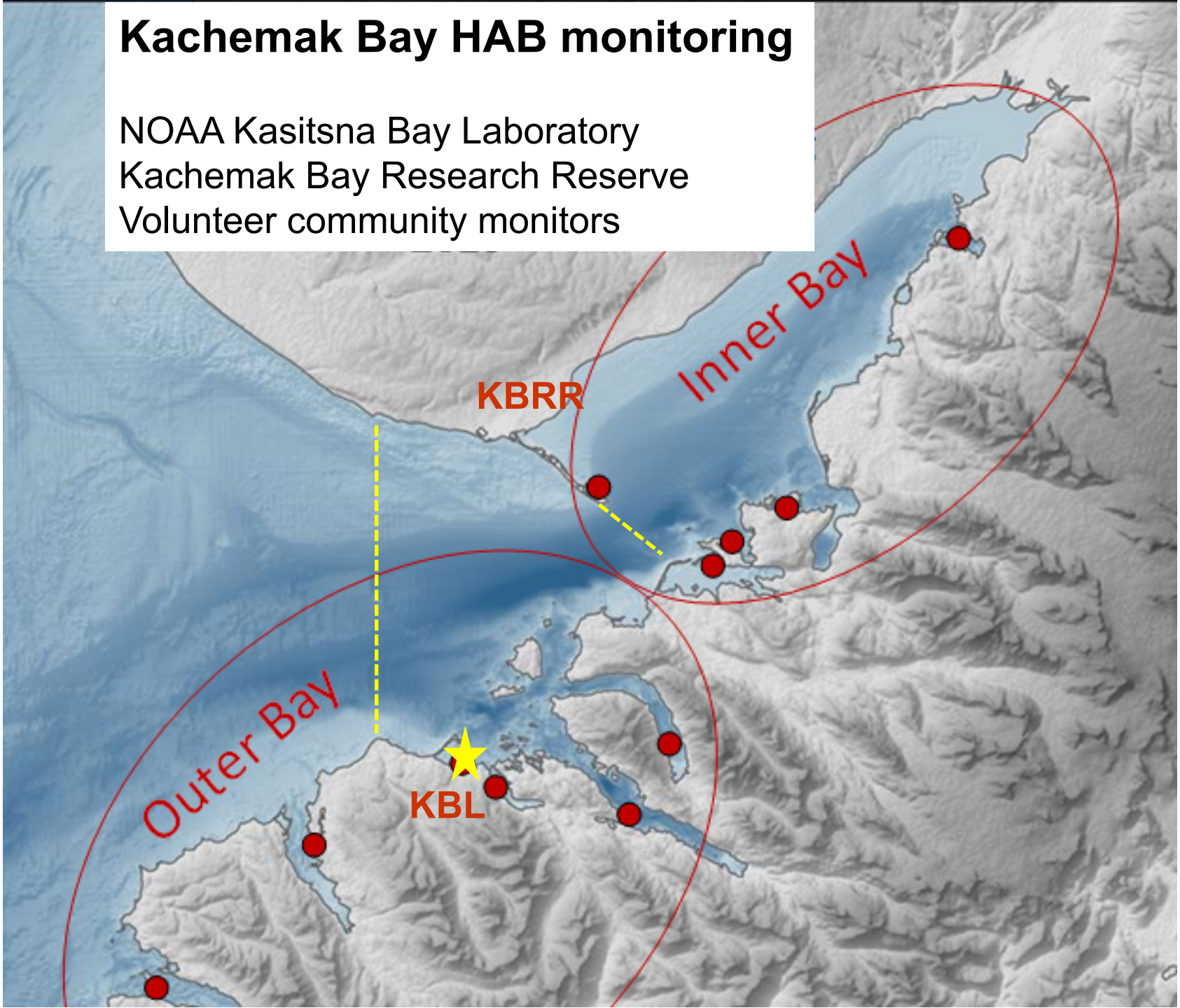


Monthly sampling in mid-Kachemak Bay

2012-2016

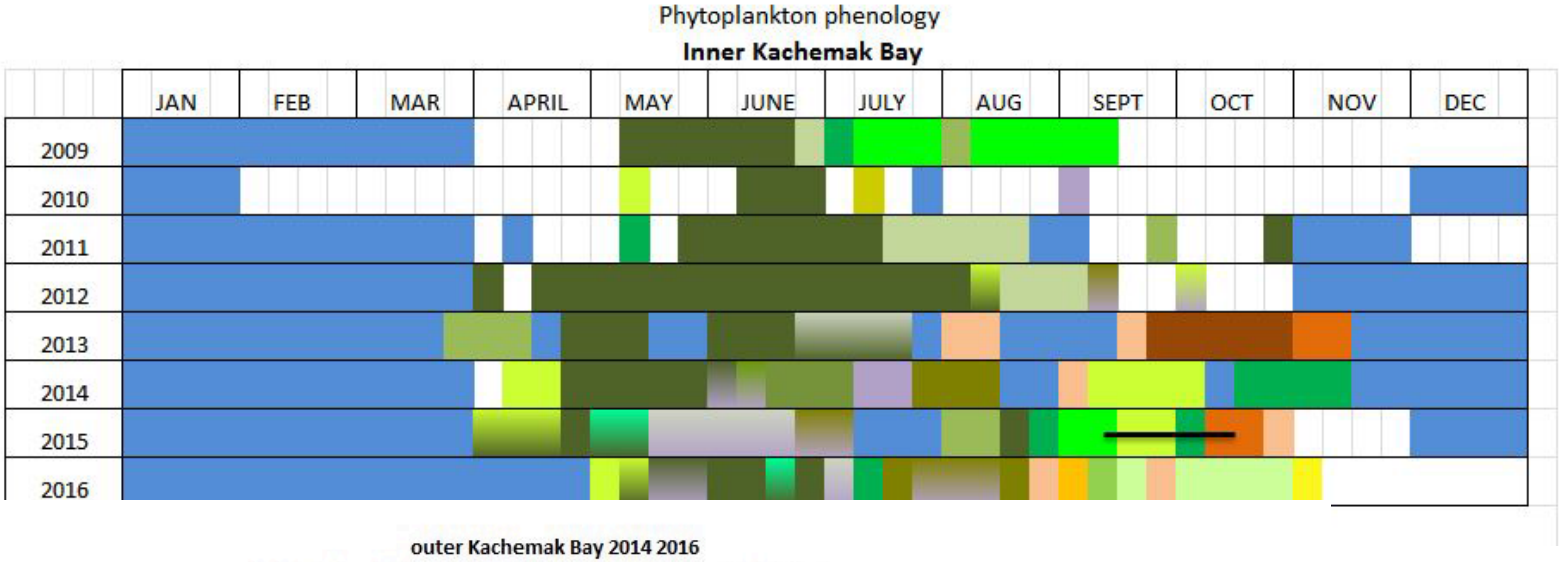
Pacific warming

GULFWATCH ALASKA


Kachemak Bay HAB monitoring
NOAA Kasitsna Bay Laboratory
Kachemak Bay Research Reserve
Volunteer community monitors
KBRR
Inner Bay
Outer Bay
KBL

Kachemak Bay Research Reserve Phytoplankton Update: Nov 4-9, 2016

Harmful Algal Bloom Program
Catie Bursch, cmbursch@uaa.alaska.edu; Rosie Robinson, rmrobinson3@uaa.alaska.edu



Kachemak Bay National Estuarine Research Reserve
Alaska Center for Conservation Science
University of Alaska Anchorage

Kachemak Bay HAB Information System

www.aoos.org/k-bay-hab/

Bookmarks | Gmail: Email from Goo | Perpetual Ocean anim | CDIP Diagnostics Tabl | Pacific Gyre Data & Te | CAC appt reservation | ResponseLINK: Respo | National Weath

IOOS | Integrated Ocean Observing System

AOOS Alaska Ocean Observing System

THE EYE ON ALASKA'S COASTS AND OCEANS

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Harmful Algal Bloom Information System for Kachemak Bay, Alaska

Jump to: Background · Weekly Monitoring Reports · Shellfish Resources

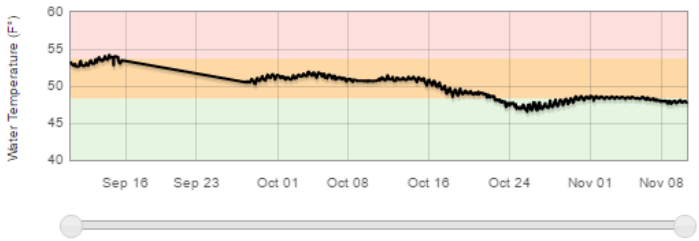
www.aoos.org/k-bay-hab/

Bookmarks | Gmail: Email from Goo | Perpet

Current Water Temperature (F) at Seldovia Harbor, Kachemak Bay

Kachemak Bay National Estuarine Research Reserve water quality station (SEQA2)

- View current conditions in the AOOS Ocean Portal.
- View the historical conditions.



LATEST CONDITION

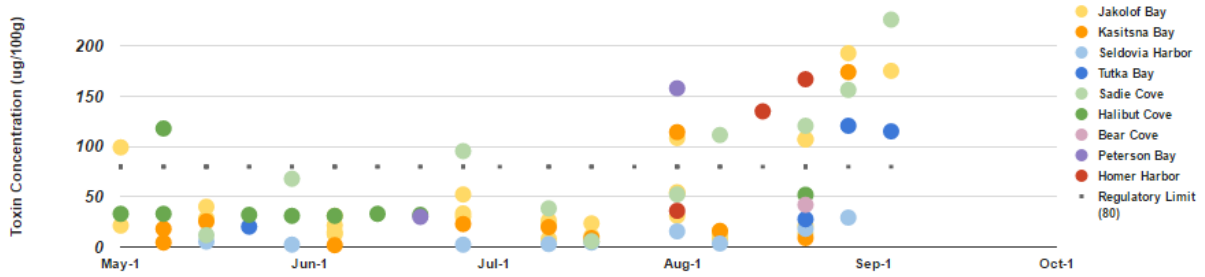
47.79 (°F)

Lower growth

11/10/2016 02:45

Growth potential for harmful algal blooms (HAB)

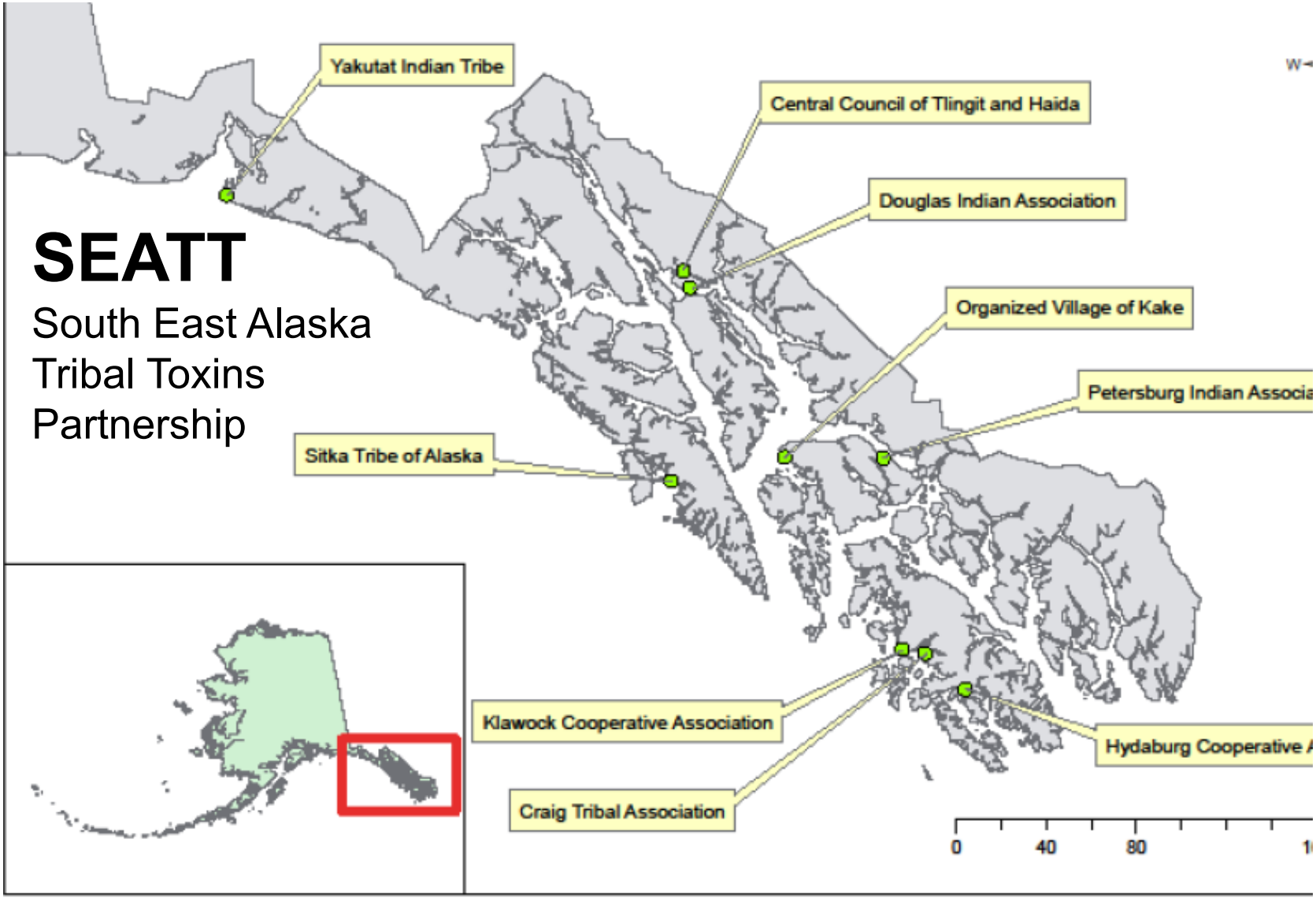
Lower growth | Moderate growth | Maximum growth



web and Windows

SEATT

South East Alaska
Tribal Toxins
Partnership

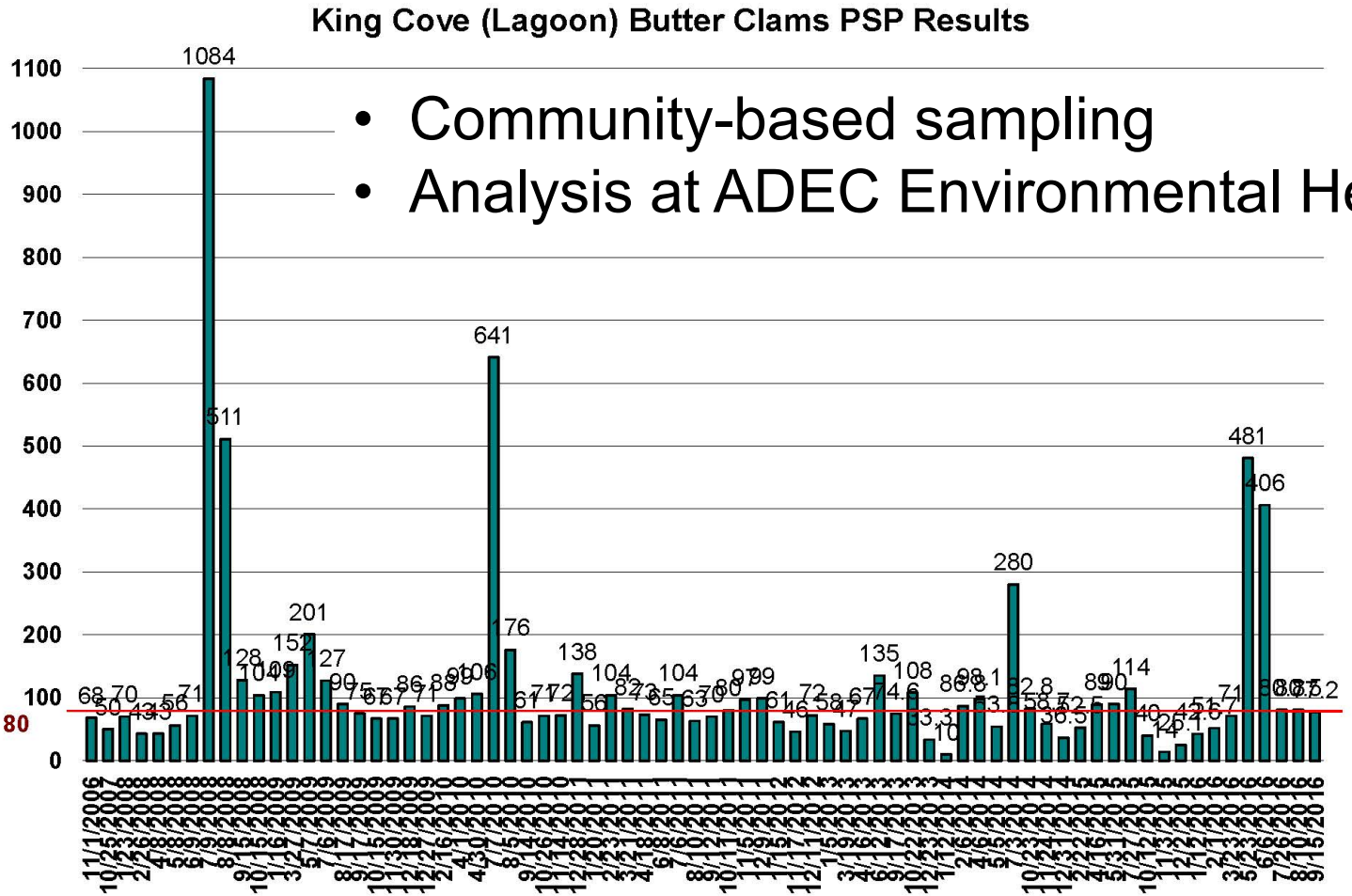


Chris Whitehead, Environmental Program Manager
Sitka Tribe of Alaska, Resource Protection Department
chris.whitehead@sitkatribe-nsn.gov

South East Alaska Tribal Toxins (SEATT) Partnership

- Coastal Alaskan Native populations are 12 times more likely to be affected by PSP than the Caucasian community because of the greater use of subsistence foods (Gessner and Schloss, 1996).
- EPA IGAP funds for baseline phytoplankton monitoring to create an early warning system
- Toxin analysis laboratory supporting SEATT and other AK partners

AK PSP testing partnership - APIA



- Community-based sampling
- Analysis at ADEC Environmental Health Lab

Bruce Wright, Senior Scientist
Aleutian Pribilof Islands Association
brucew@apiai.org

(PLEASE POST) # WANTED: DEAD

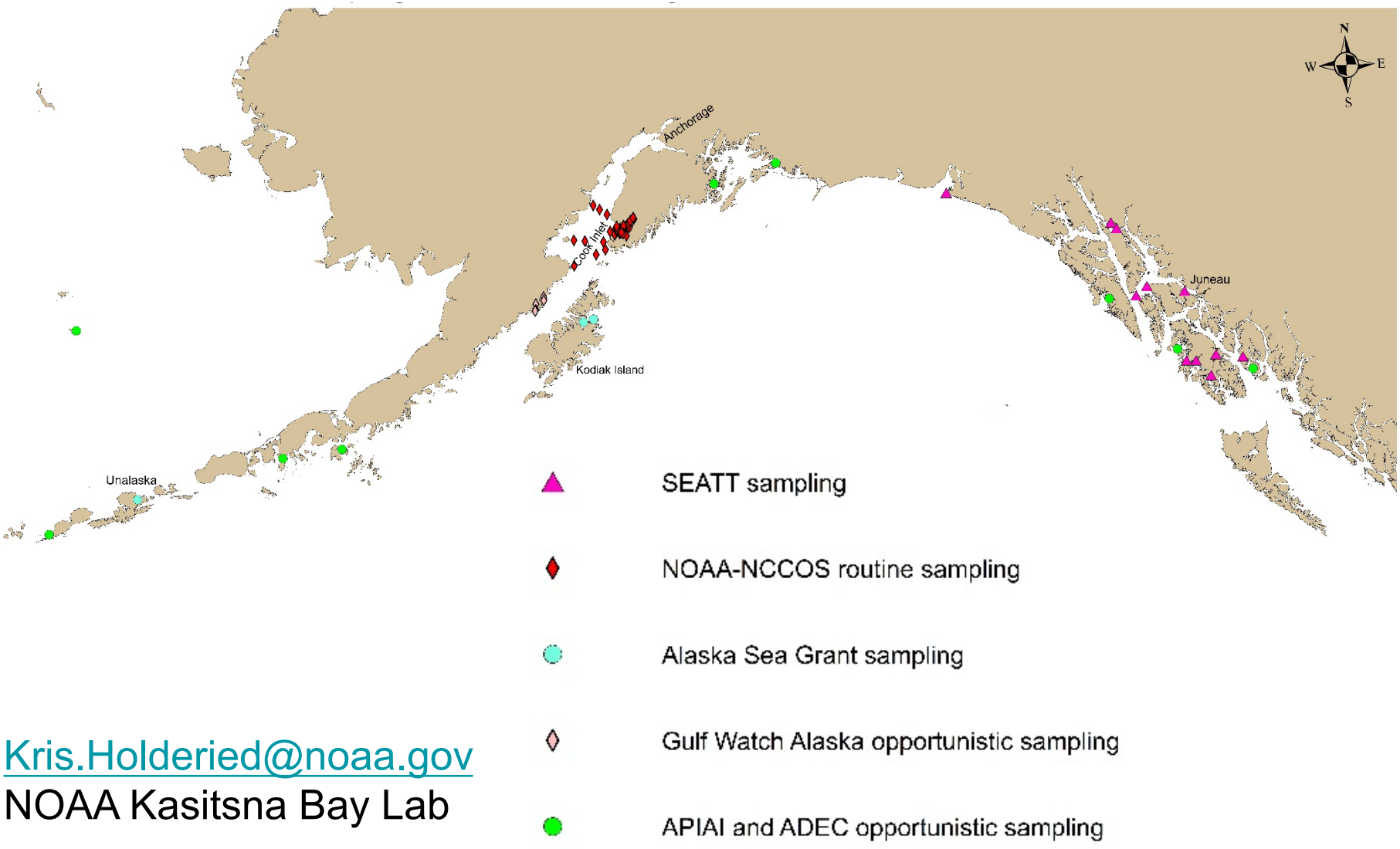
- Food web impacts
- Monitoring needs?

Sand Lance AKA Needle Fish AKA Sand Eels

Sand lance can become contaminated with paralytic shellfish poisoning (PSP) and become sick or die. Sea lions, seals, sea otters, marine birds and salmon that eat these toxic sandlance can die too.

If you find dead or dying sand lance: collect 5, put in a Ziplock, label with your name, location collected and date, freeze and contact: Bruce Wright at 907-222-4260 or brucew@apiai.org for shipping instructions.

Thanks! Questions?



Kris.Holderied@noaa.gov
NOAA Kasitsna Bay Lab

Water column patterns