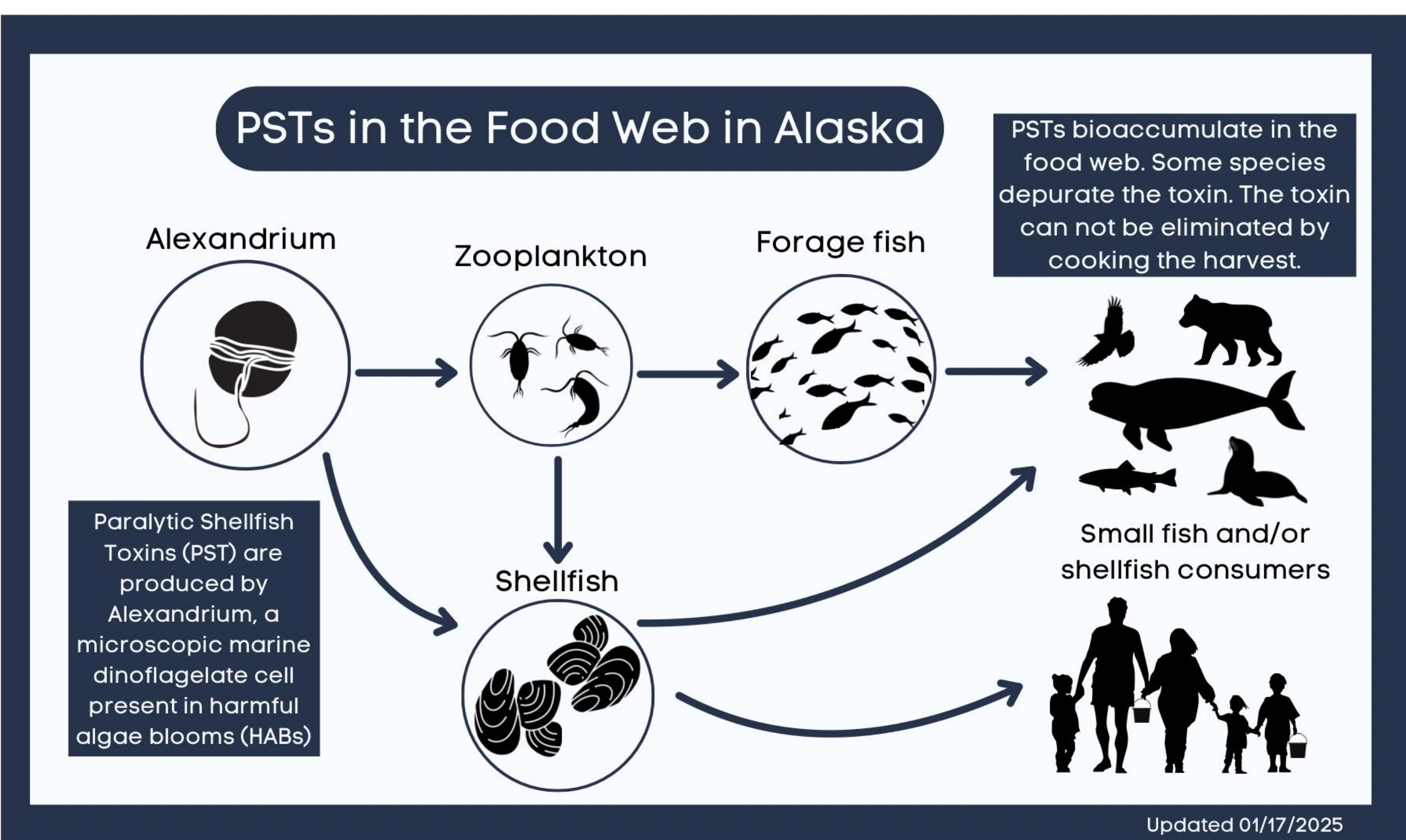


Introduction

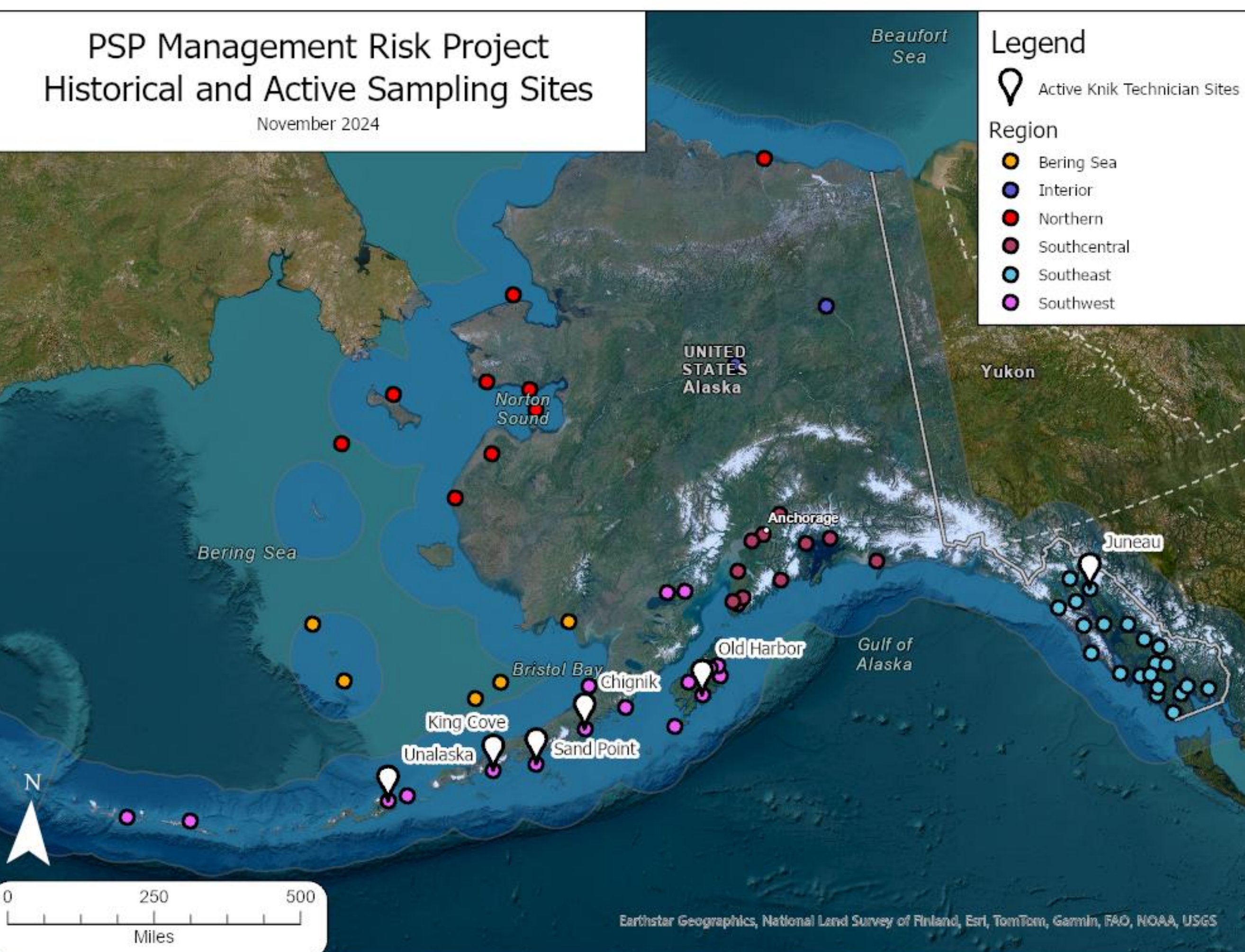


Objective: Reduce PSP risks in Alaska through outreach, data collection, and predictive modeling to support multiple Alaskan Tribes and public health agencies, including ADEC's Environmental Health Laboratory.

Criteria:

- Toxins move up the food chain, affecting humans, salmon, and other animals.
- Consuming contaminated seafood can cause paralytic shellfish poisoning (PSP), a severe neurotoxic condition.
- PSP is a major concern for coastal Alaskan communities relying on shellfish for subsistence.

Methods

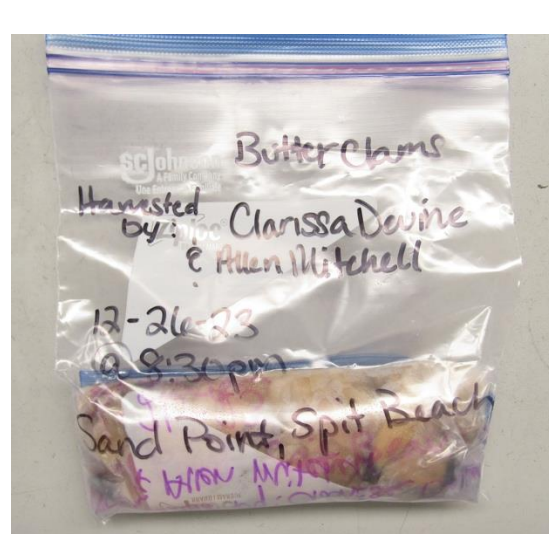


Bioindicator: Weekly blue mussel (*Mytilus trossulus*) sampling due to rapid toxin absorption & depuration.

Scope: Includes subsistence species like salmon and crab.

Safety Limit: PST FDA threshold: 80µg/100g.

Method: Analyzed at ADEC's EHL via HPLC or MBA.



PSP Alert

High levels of PSP (paralytic shellfish poison) have been detected in locally harvested shellfish throughout the region.

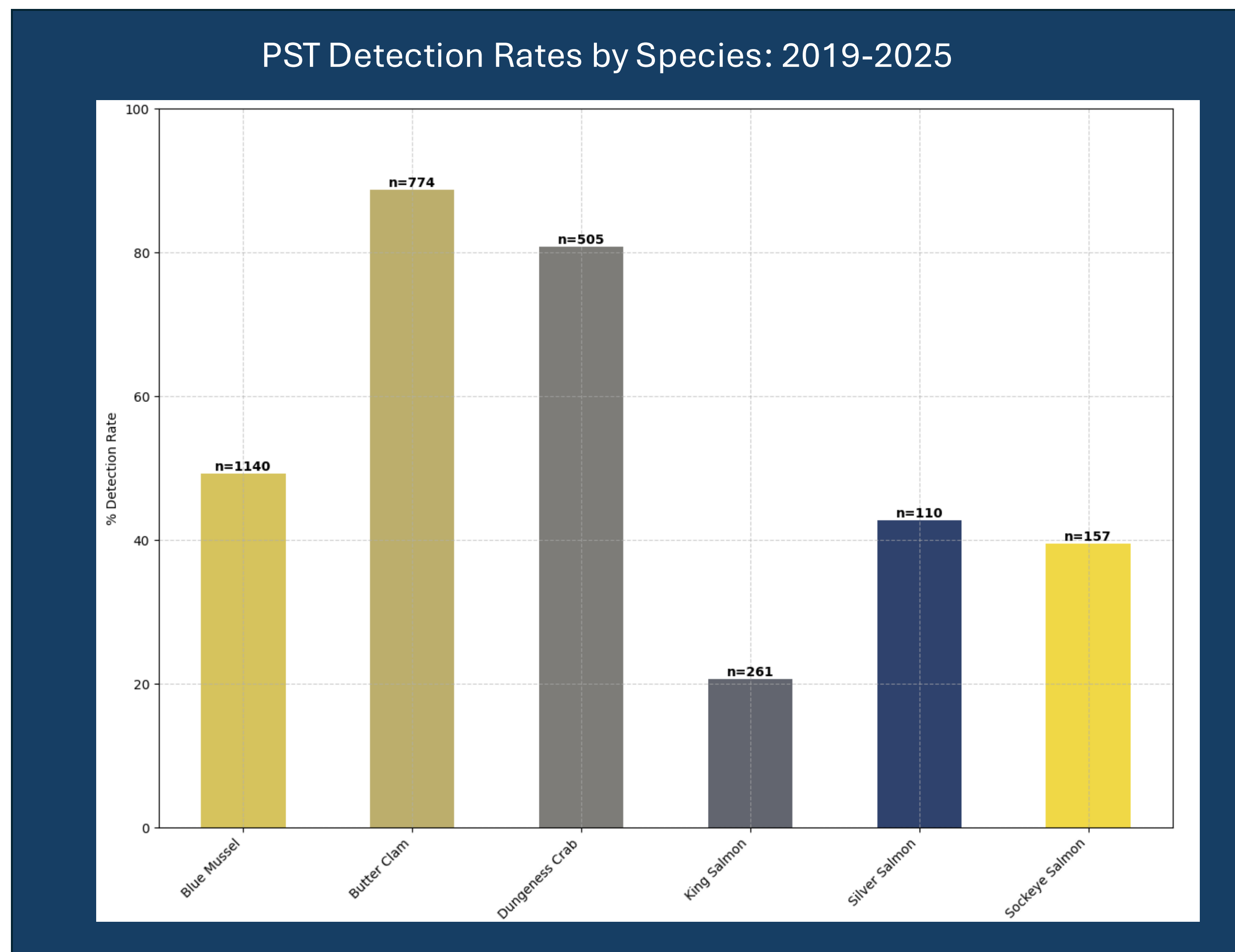
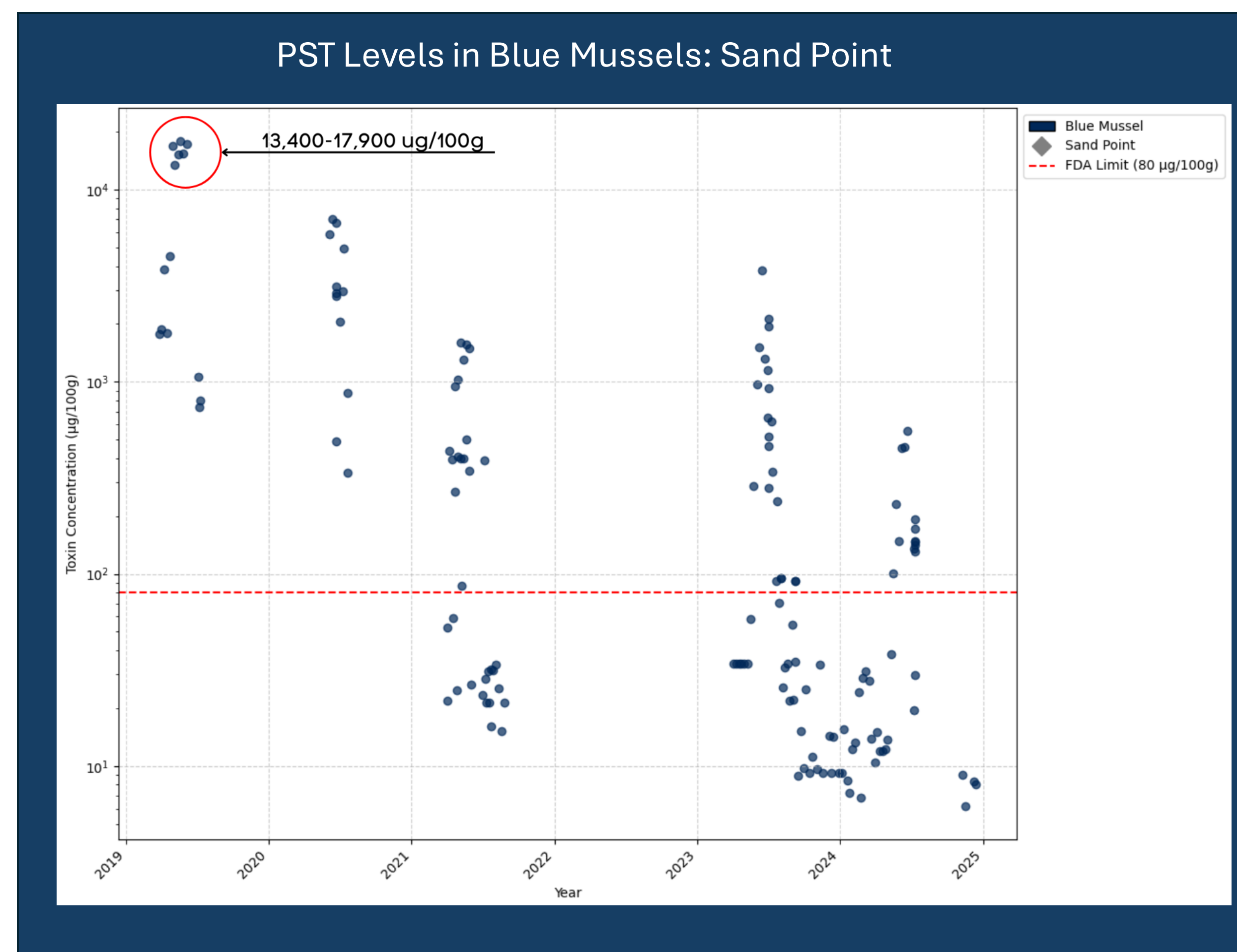
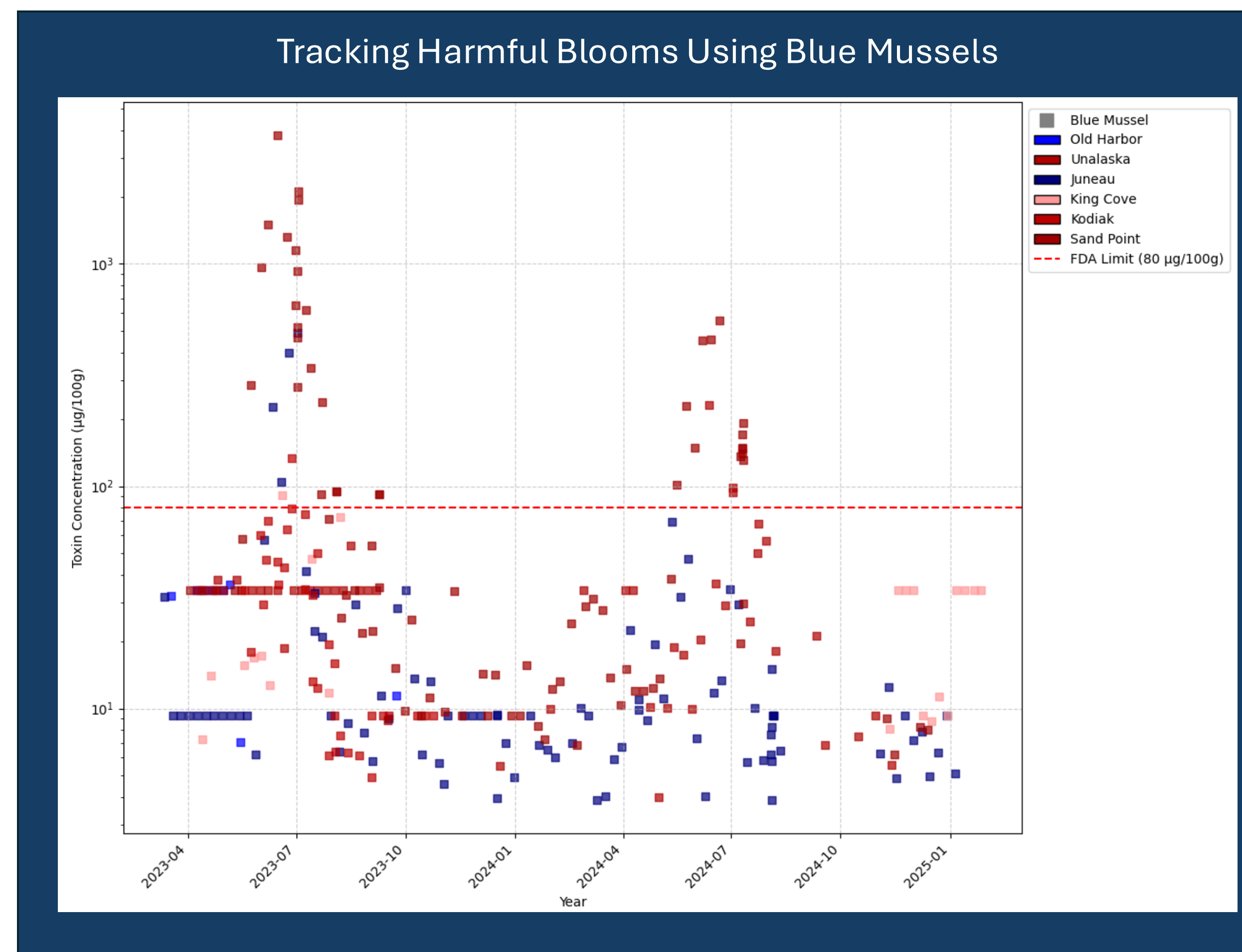
Recreationally harvested clams, mussels, oysters and cockles are NOT safe to eat.

Commercially sold shellfish is tested by DEC and is considered safe.

Symptoms of PSP include tingling of the lips or fingertips and weakness of the arms or legs. PSP can be fatal.

Anyone with these symptoms should seek immediate medical care or call 911.

Results



PST Results in Salmon in Alaska		
Sample	Location	ug/100g
Sockeye Salmon liver	Cook Inlet, Seldovia	107
Sockeye Salmon kidney	Cook Inlet, Seldovia	<9.25
Sockeye Salmon heart	Cook Inlet, Seldovia	8.08
Sockeye Salmon gonads	Cook Inlet, Seldovia	<9.25
Sockeye Salmon muscle	Cook Inlet, Seldovia	<9.25
Sockeye Salmon digestive tract	Cook Inlet, Seldovia	29.8
Silver Salmon liver	Upper Cook Inlet, Moose Point	80.3
King Salmon liver	Yukon River, Emmonak	99.8
Silver Salmon liver	Yukon River, Emmonak	82.4
Silver salmon digestive tract	Upper Cook Inlet, Moose Point	113
King Salmon kidney	Yukon River, Pilot Station	94.9
King Salmon kidney	Yukon River, Pilot Station	91.6
King Salmon liver	Yukon River, Pilot Station	160
Chum Salmon kidney	Yukon River, Emmonak	88.8
Chum salmon liver	Upper Cook Inlet, Moose Point	173
Chum salmon kidney	Upper Cook Inlet, Moose Point	27.7
Chum salmon digestive tract	Upper Cook Inlet, Moose Point	<9.25
Chum salmon heart	Upper Cook Inlet, Moose Point	34.7
Chum salmon gonads	Upper Cook Inlet, Moose Point	<9.25
Chum salmon muscle	Upper Cook Inlet, Moose Point	<9.25

Over FDA limit PST Results in other species in Alaska		
Sample	Location	ug/100g
Hermit Crabs	Afognak Island, Foul Bay	1250
Pollock	Afognak Island, Foul Bay	139
Macoma Clams	Sand Point, Mud Bay	265
Littleneck Clams	Sand Point, Airport Beach	386
Seastar	Old Harbor, Near Shipwreck Beach	99
Razor Clams	Chignik Lagoon, Sand Spit Beach	311
Seastar	Juneau, Tee Harbor	111
Stickleback	Lake Iliamna, Lake Iliamna Beach	130
Isopods	Sand Point, Mud Bay Beach	92.8
Hermit crabs	Sand Point, Mud Bay Beach	1360
Ribbon Worm	Sand Point, Airport Beach	359
California Mussels	Sand Point, Airport Beach	482
Razor Clams	Chignik Lagoon, Outside Beach	254
Cockle	Sand Point, Sand Dollar Beach	194
Stickleback (dead)	Lake Iliamna	395
Rainbow trout	Wasilla, Little Susitna River	90
Stickleback	Wasilla, Little Susitna River	4290

Conclusion

- No beaches in Alaska certified as "safe" for harvesting
- Need a statewide recreational and subsistence testing program
- Commercially sold shellfish is regularly tested
- Cooking or freezing does not remove PSP risk.

• **Most *Alexandrium* blooms are colorless, and shellfish species may retain their toxins long after a bloom has occurred. For your safety test your harvest before consuming it!**

• **The funding for this project allow us to offer free of charge PSP testing for community harvest samples.**

• **Contact the Knik Tribe Environmental Project Coordinator to coordinate sending samples in for testing.**

STAY INFORMED !!

Get on our mailing list or check out our website:
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www.kniktribe.org

Acknowledgments:

Steve Kiebler, NOAA
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 Qagan Tayagungin Tribe of Sand Point
 Qawalangin Tribe of Unalaska
 Tlingit & Haida
 Agdaagux Tribe of King Cove