

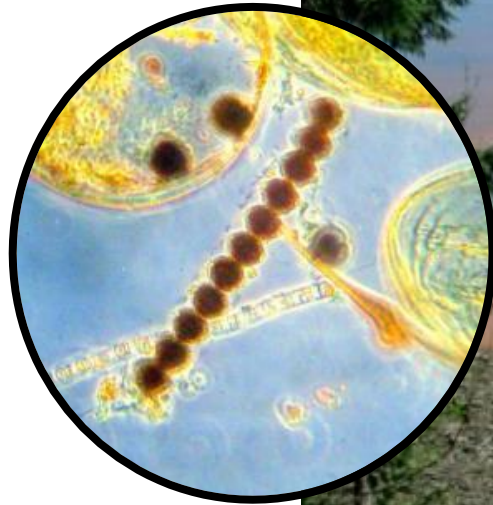


# Shellfish Safety Biotoxins and Red Tide

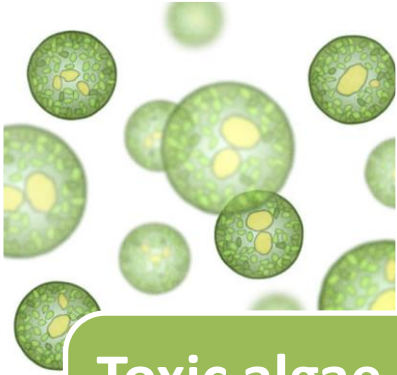
Megan Hintz & Taylor Solomon  
Lummi Nation  
Annual Fishers Meeting  
June 24<sup>th</sup> 2019



# Harmful Algae Blooms (HABs)



# Toxic algae can make **you** sick



## Toxic algae bloom

- Ideal water conditions for algae blooms include sunlight, nutrients for plant growth, and warm water temperatures.



## Shellfish eat algae

- Shellfish that feed on toxic algae blooms become toxic and unsafe to consume



## People eat shellfish

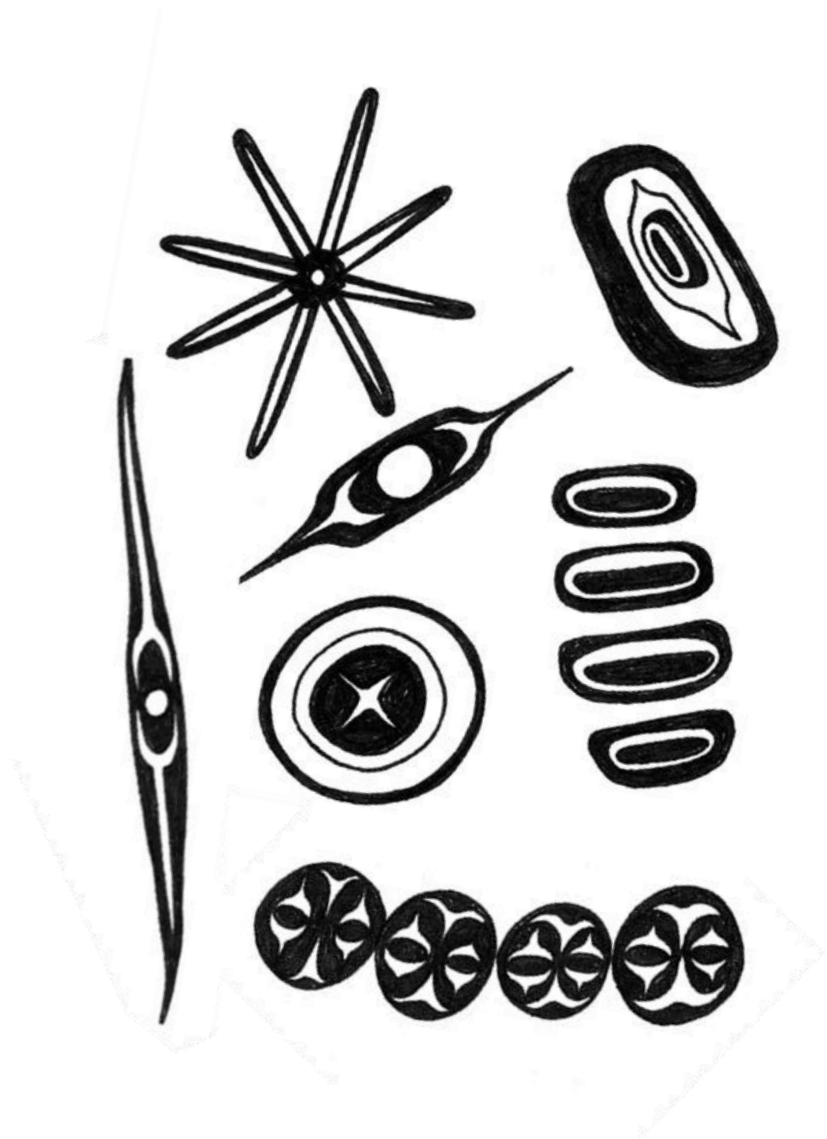
- Toxic shellfish are eaten. Possibly making consumer sick in anywhere from minutes to 24 hours.

# 3 Types of HABs / Biotoxins

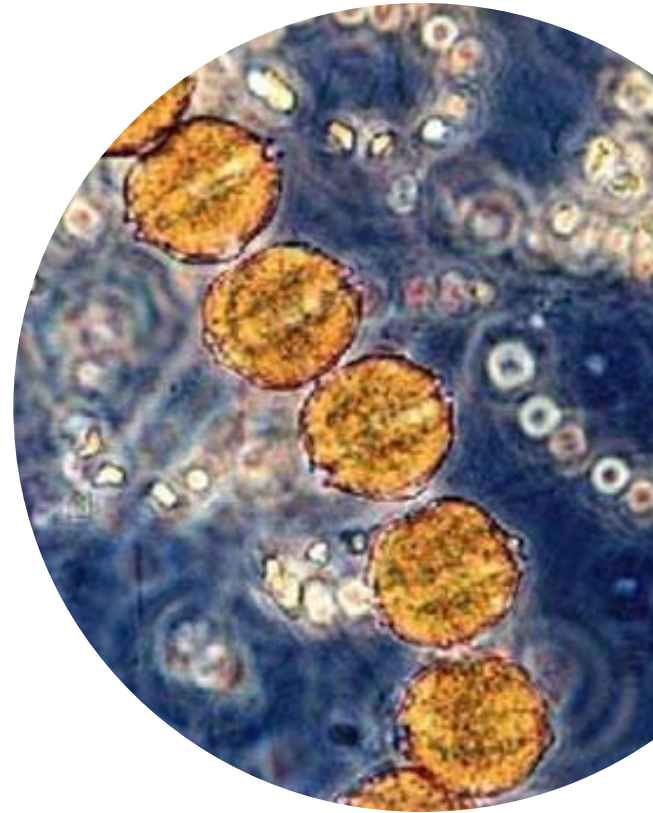
- Paralytic Shellfish Poisoning (PSP)

- Diarrhetic Shellfish Poisoning (DSP)

- Amnesic Shellfish Poisoning (ASP)  
(Domoic acid)



# Paralytic Shellfish Poisoning (PSP)





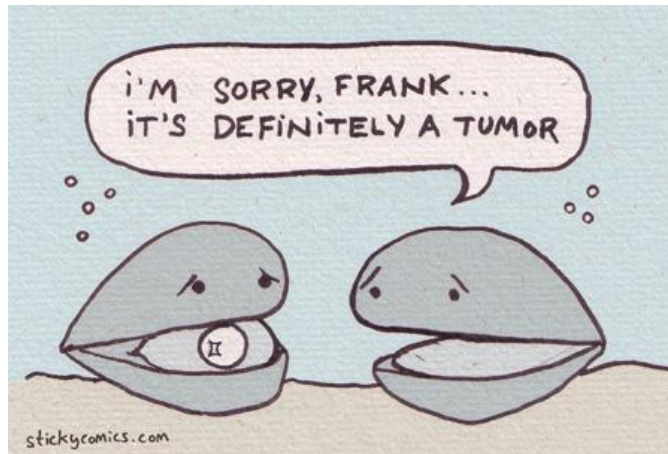
# Diarrhetic Shellfish Poisoning (DSP)

- 1<sup>st</sup> confirmed US cases at Sequim Bay in 2011



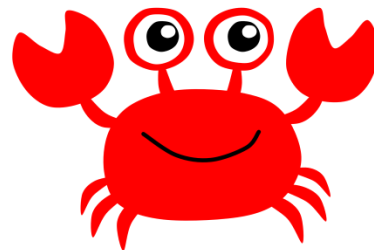
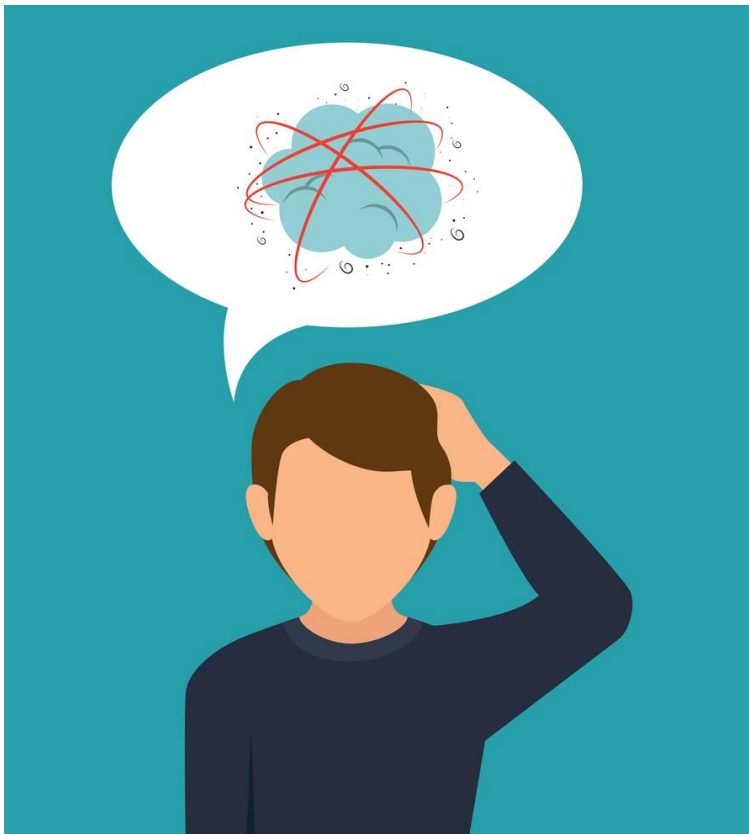
< Short term

Long term >

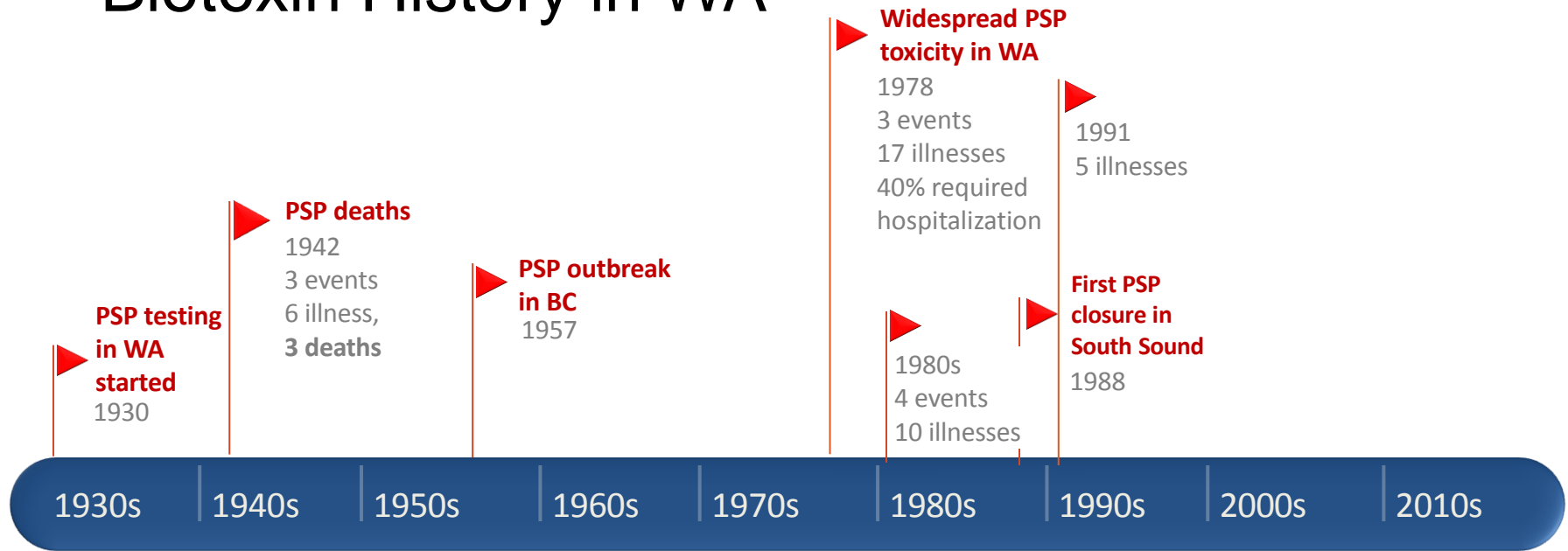


# Amnesic Shellfish Poisoning (ASP)

## DOMOIC ACID

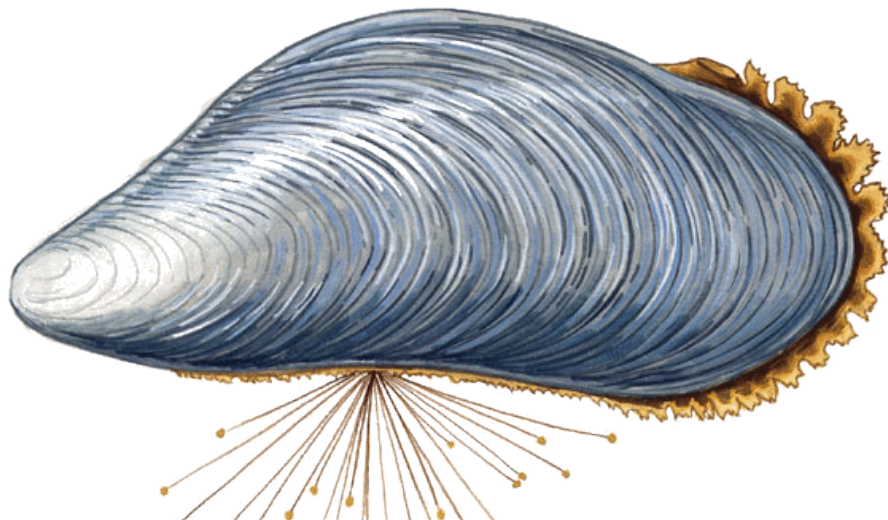


# Biotoxin History in WA



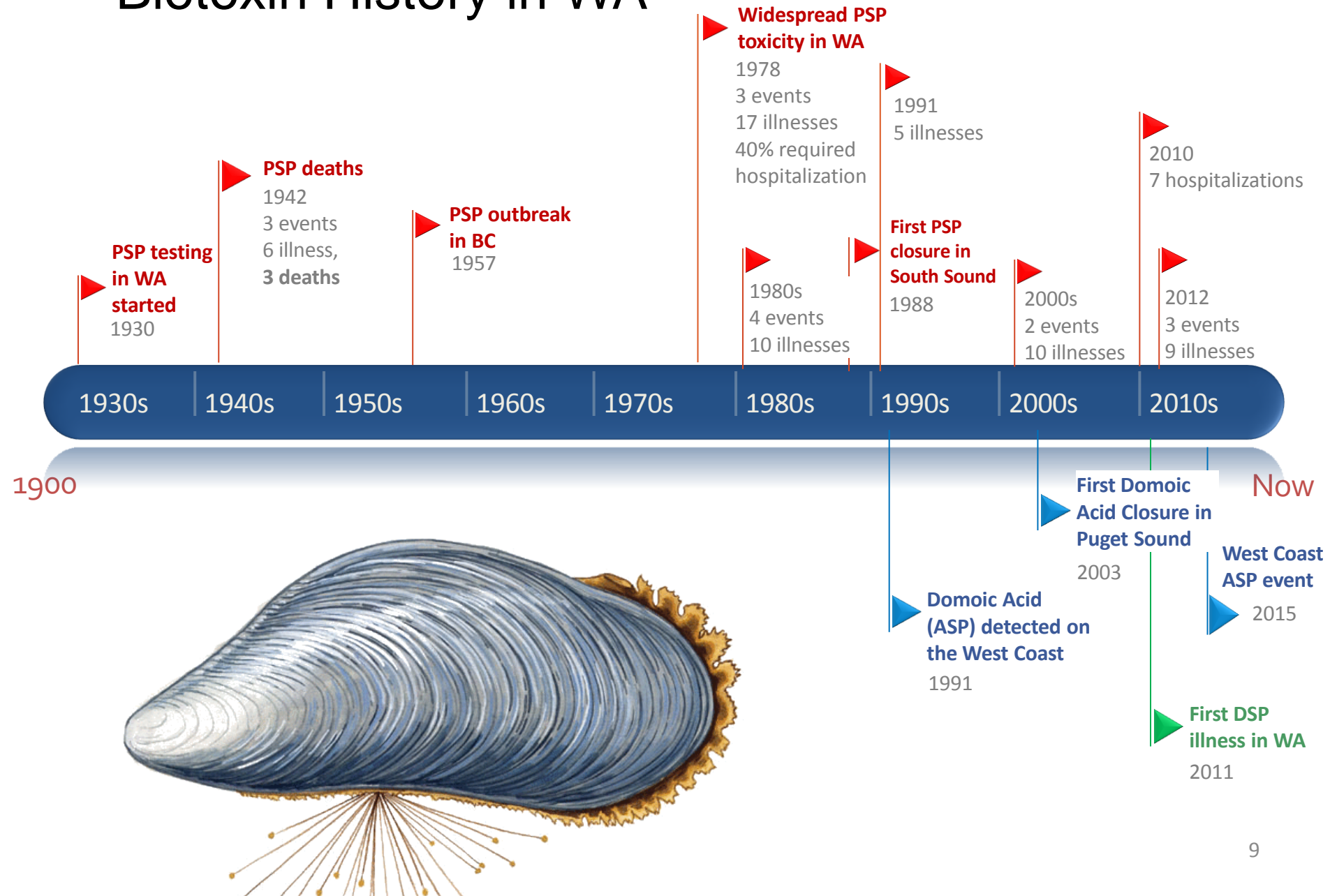
1900

Now

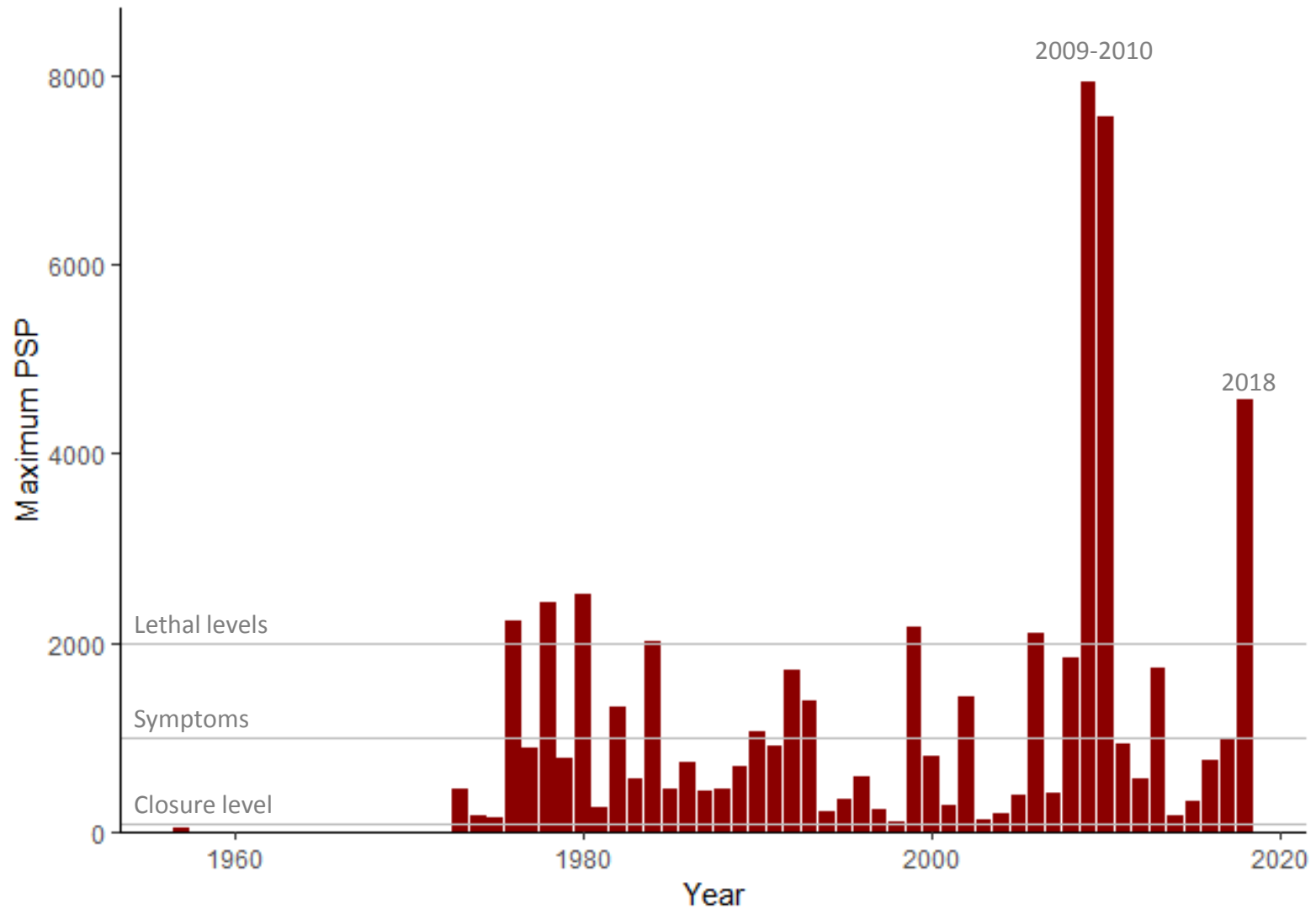




# Biotoxin History in WA



# Maximum PSP Levels



# Red tide / biotoxin risk is increasing

- Unusual time of year
- Longer closures
- **HIGHER** toxin levels
- Multiple blooms in a year
- **NEW BIOTOXINS**





# Safely harvesting shellfish

THE ONLY WAY TO KNOW IF SHELLFISH ARE  
SAFE TO EAT IS BY TESTING THEM IN A LAB

- Myths
- Health risks
- Check for closures

## CHECK FOR CLOSURES

Lummi 24-hr fishery hotline:  
**(360) 380-6899**

WA Department of Health Hotline:  
**1-800-562-5632**  
**[www.doh.wa.gov/ShellfishSafety](http://www.doh.wa.gov/ShellfishSafety)**

Lummi Natural Resources Website:  
**[www.lummi-nsn.gov](http://www.lummi-nsn.gov)**

Lummi Natural Resources Office  
**(360) 384-7119**

# LNR takes action

## Increased monitoring and information



### BIOTOXIN CLOSURES

Updated: 6/20/2019

Where is it safe to harvest shellfish?

#### On Reservation:

✗	Lummi Bay	<b>CLOSED</b> to all species, PSP
✓	Portage Bay	<b>OPEN</b> to all species

#### Off Reservation:

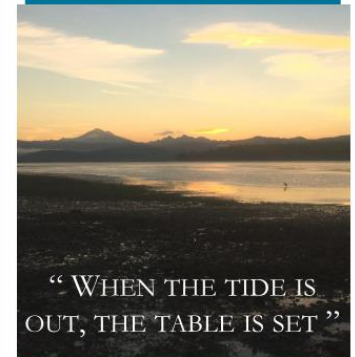
✗	Bellingham Bay	<b>CLOSED</b> to all Butter and Varnish clams, PSP
✓		<b>OPEN</b> to all other species
✗	Birch Bay	<b>CLOSED</b> to all species, PSP
✗	Drayton Harbor	<b>CLOSED</b> to all species, PSP



For more information contact:  
Dolly James: (360) 312-2305  
Megan Hintz: (360) 312-2213  
Lummi Hotline: (360) 380-6899  
WA DOH: 1-800-562-5632  
[www.doh.wa.gov/ShellfishSafety](http://www.doh.wa.gov/ShellfishSafety)

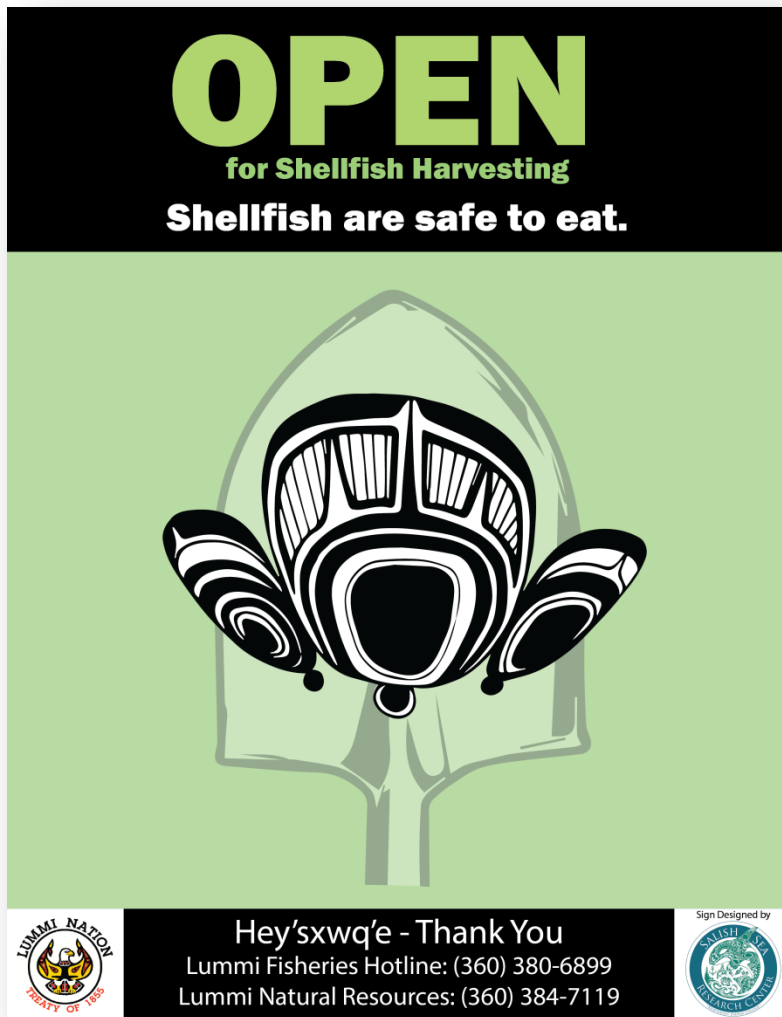
### Shellfish Biotoxins & Red Tide:

Risks and how to safely harvest



LUMMI NATURAL RESOURCES DEPARTMENT  
HARVEST MANAGEMENT DIVISION  
FISHERY HOTLINE (360) 380-6899

# New beach signage





# Thank you!

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**360-312-2213**