

Washington State Overview of 2013 Vibrio Season and Retrospective

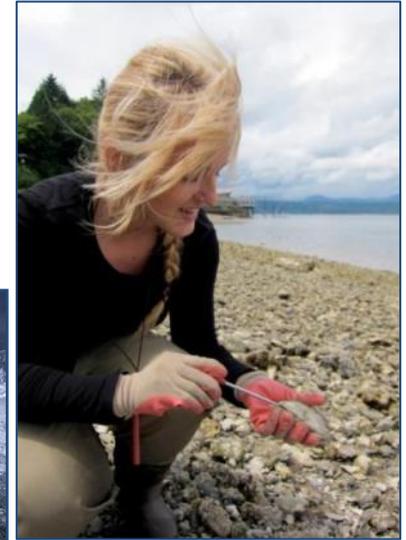
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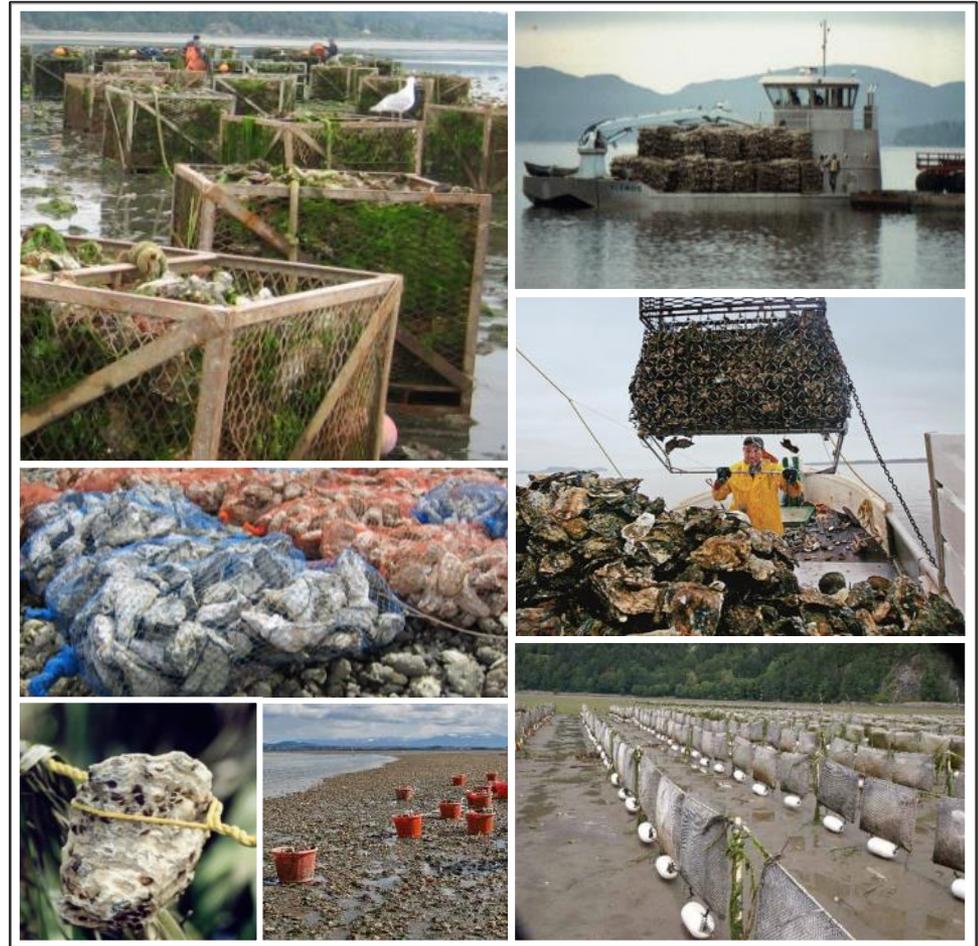
Overview

- ▶ Oyster Harvest in Washington
- ▶ History of *Vp* Management
- ▶ 2013 Season
 - Illnesses
 - Regulatory actions
 - Environmental monitoring
- ▶ *Vp* Control Plan Revision

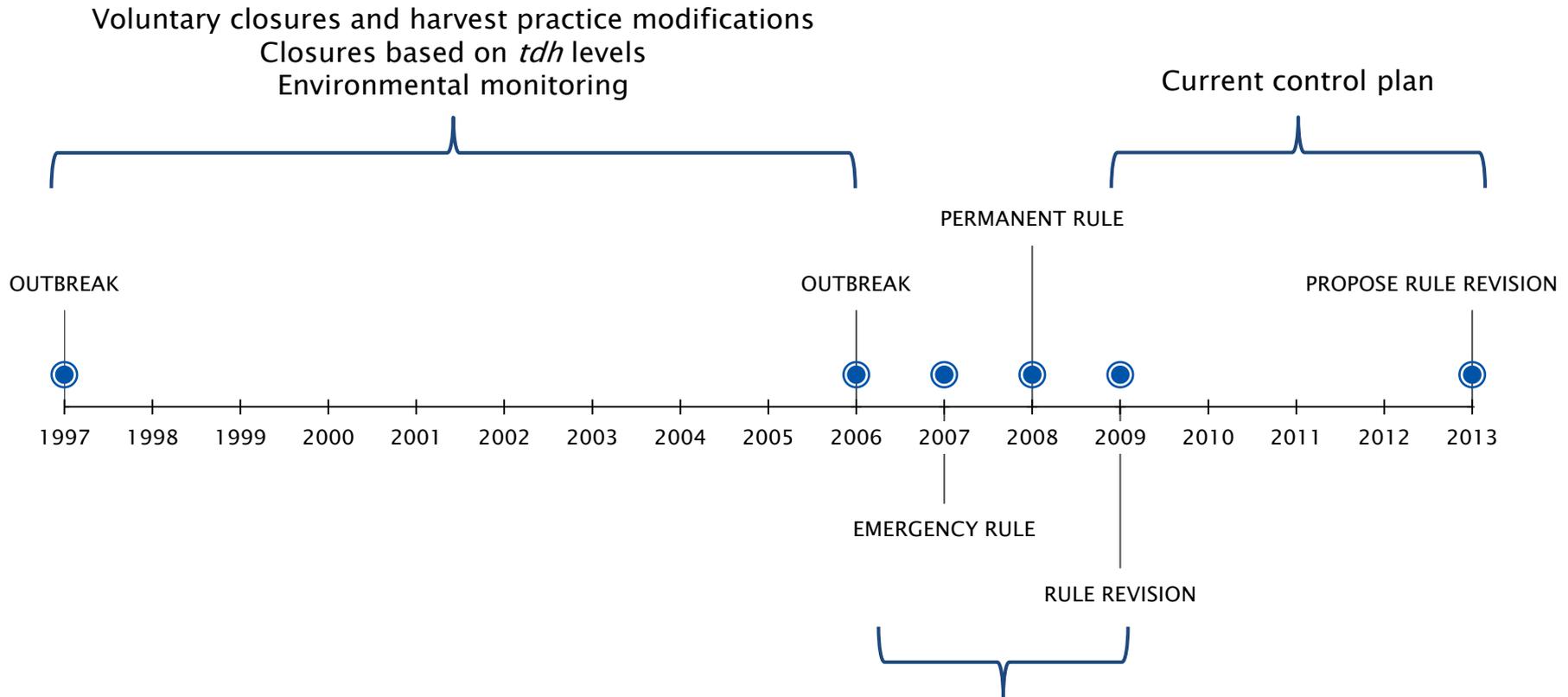


Oyster Harvest in Washington

- ▶ Commercial harvest since 1800s fueled by the California Gold Rush
- ▶ 60% of Washington's tidelands privately owned
- ▶ 50% of naturally-occurring shellfish granted to Treaty Tribes
- ▶ As many harvest practices as there are harvesters



History of *Vp* Management



More stringent time-to-temperature controls –
based on time of year, illness occurrence, and *tdh* level
Closures based on illness occurrence
Training and harvest record requirements
Environmental monitoring

Current Control Plan

- ▶ Part of the Washington Administrative Code (WAC)
- ▶ Required for all growing areas
- ▶ Applies to oysters intended for raw consumption
- ▶ Time-to-temperature controls vary regionally and by month:

Area	May	June	July	August	September
Coastal	MO	MO	10 hours	10 hours	MO
Inland	12 hours	5 hours	4 hours	4 hours	5 hours



Regulatory Actions



- ▶ Reduce time to temperature control:
 - Two sporadic illnesses (includes multi-source)
- ▶ Close area for oyster harvest:
 - Four sporadic illnesses (includes multi-source)
 - *t/h* levels of 10,000 mpn/g
- ▶ Illness outbreak:
 - Actions dependent on investigation

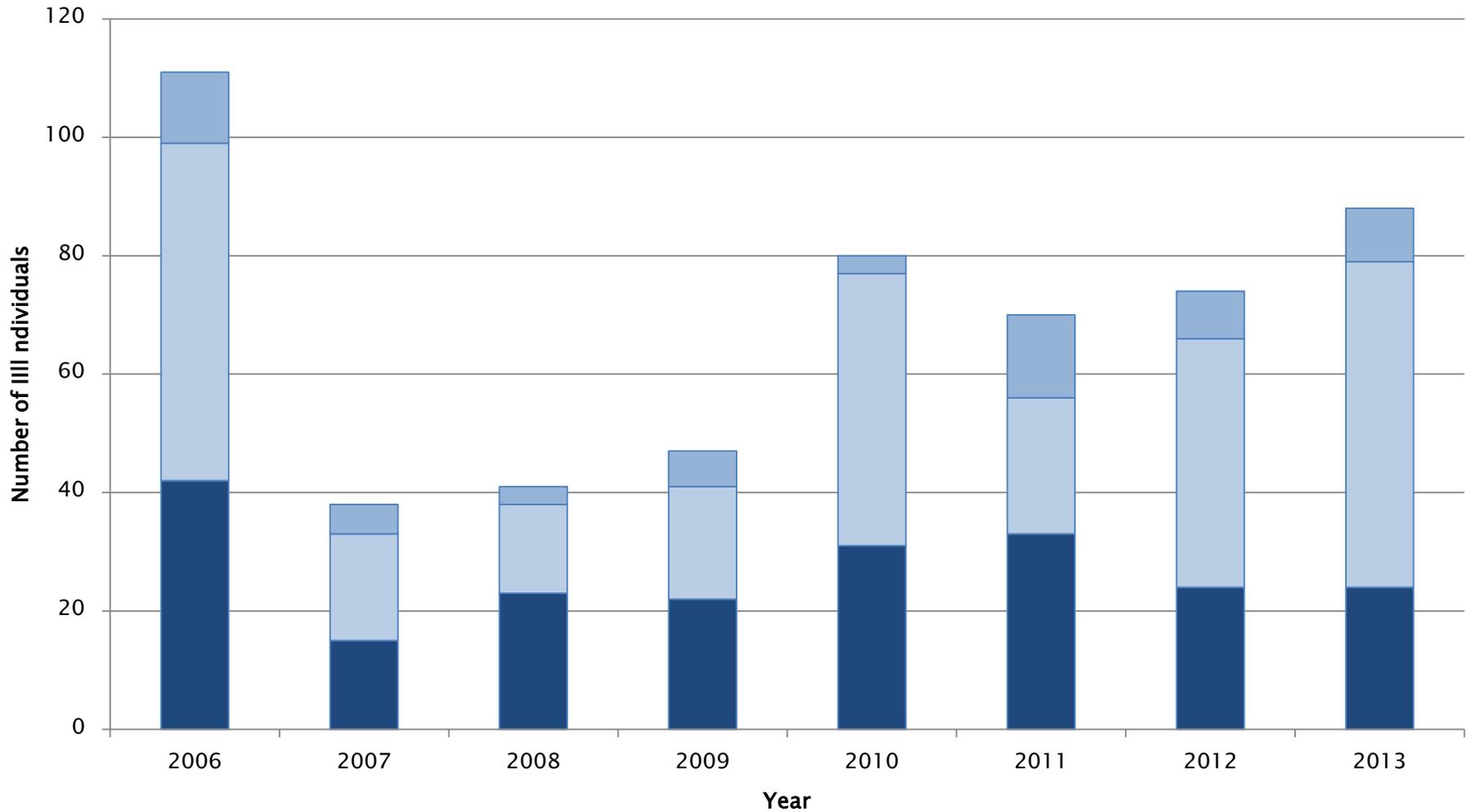
2013 Illness Summary

- ▶ Majority associated with consumption of commercially-harvested oysters, exceptions include:
 - Recreational oyster harvest: 9 illnesses
 - Unknown oyster harvest: 4 illnesses
- ▶ 79 commercial illnesses:
 - Single-source: 24 illnesses
 - Multi-source: 55 illnesses
 - WA only: 16
 - WA and Canada: 27
 - WA and other states: 6
 - WA, other states, and Canada: 6
- ▶ Additional 17 illnesses associated with product with post-harvest abuse at the dealer or retailer level
- ▶ 28 growing areas implicated in commercial illnesses (nearly 26,000 acres closed)



Total Vibrio Illnesses from Oyster Consumption

(Attributed to Washington State Growing Areas by Year)



■ Single Source

■ Multi Source

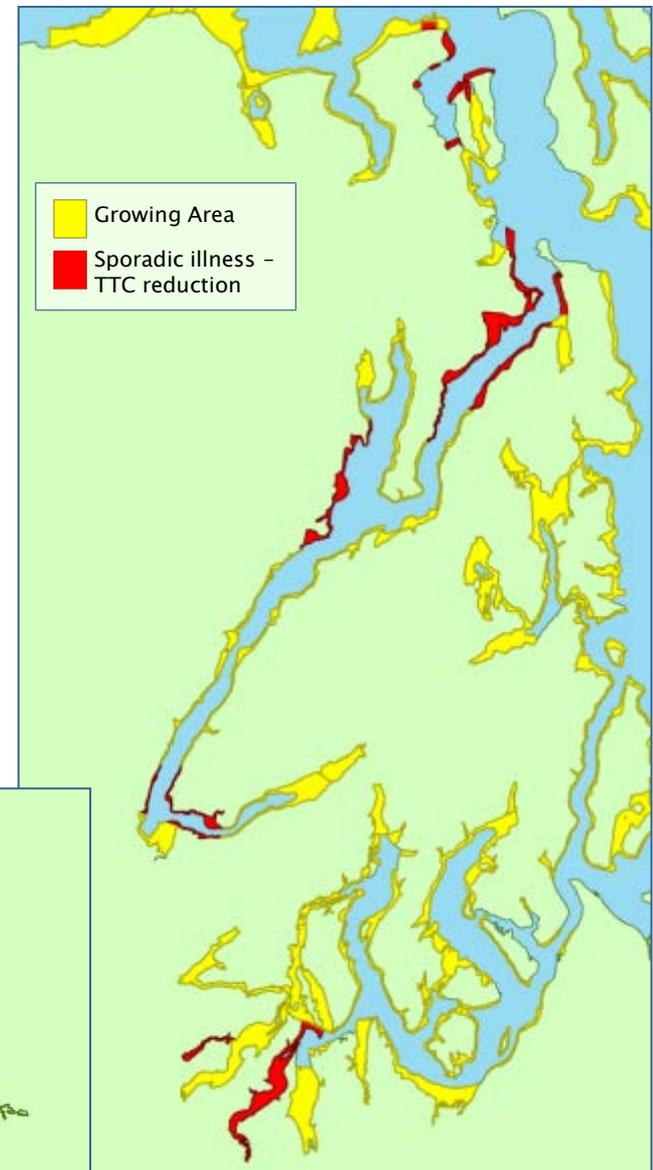
■ Recreational

Time to Temperature Reductions

GROWING AREA	Harvest reduction date	Time reduced from/to
Oakland Bay	7/17/2013	4 / 3
Totten Inlet	7/17/2013	4 / 3
Bay Center	7/17/2013	10 / 9
Port Gamble*	7/22/2013	4 / 3
Hammersley Inlet	8/1/2013	4 / 3
Dabob Bay	8/5/2013	4 / 3
Grays Harbor	8/8/2013	10 / 9
Pickering Passage	8/8/2013	4 / 3
Reach Island	8/8/2013	4 / 3
Samish Bay	8/8/2013	4 / 3
Peale Passage**	8/8/2013	4 / 3
Burley Lagoon	8/20/2013	4 / 3
Eld Inlet	8/20/2013	4 / 3
Hood Canal 3	8/27/2013	4 / 3
Hood Canal 1	9/13/2013	4 / 3
Hood Canal 6	9/13/2013	4 / 3
Skookum Inlet	9/24/2013	4 / 3
Port Townsend	9/27/13	4 / 3

* lifted 7/29/13 (cases not attributed to growing area)

** lifted 8/19, reinstated 8/22 (case identified as *E. coli* and *V. parahaemolyticus*)



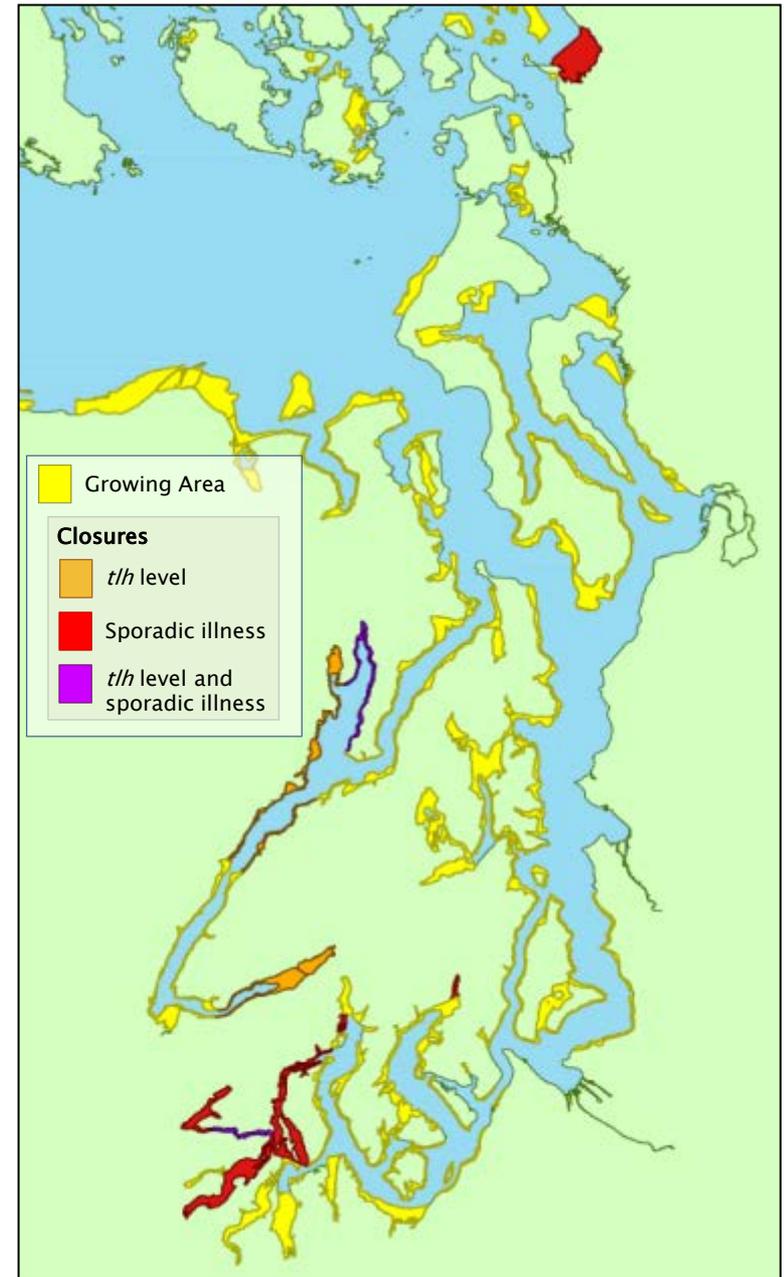
Season Closures

High Vibrio Level Closure

GROWING AREA	Closure Date	Reopening Date
Hood Canal 8	7/5/2013	8/8/2013
Hood Canal 9	7/5/2013	8/5/2013
Hood Canal 7	7/10/2013	8/5/2013
Quilcene Bay	7/19/2013	8/19/2013
Hood Canal 3	8/2/2013	8/27/2013
Hood Canal 4	8/2/2013	8/19/2013
Hammersley Inlet	8/12/2013	NA
Dabob Bay	8/12/2013	8/26/2013

Sporadic Illness Closure

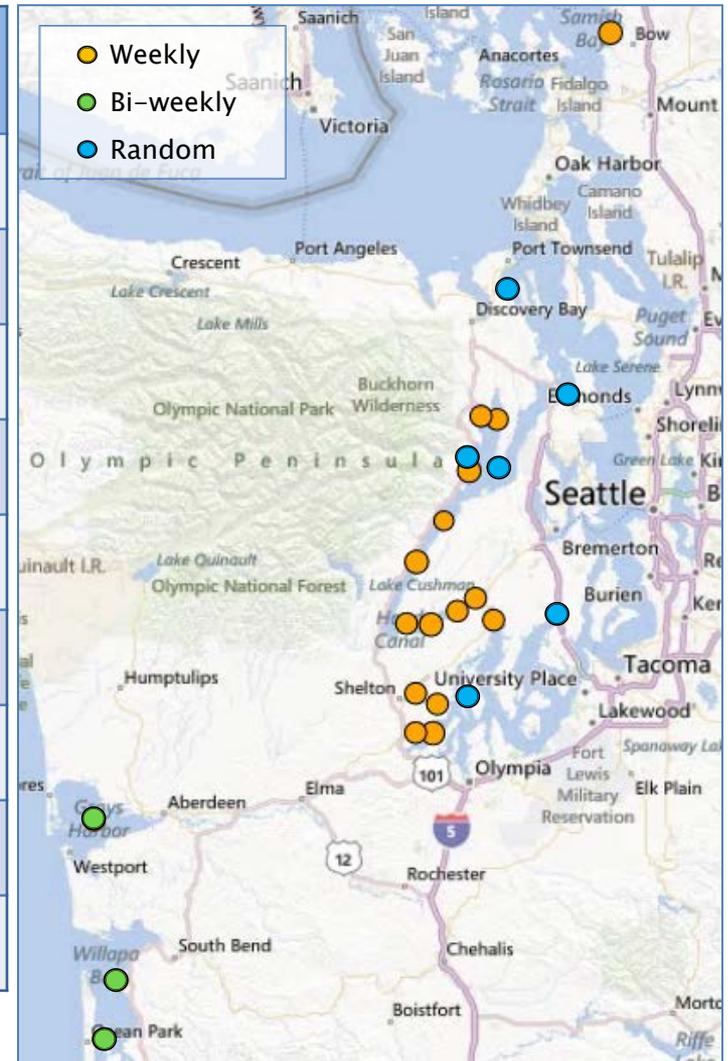
GROWING AREA	Closure Date	Reopening Date
Oakland Bay	8/1/2013	10/1/2013
Totten Inlet	8/8/2013	10/1/2013
Reach Island	8/12/2013	10/1/2013
Samish Bay	8/14/2013	10/1/2013
Hammersley Inlet	8/15/2013	10/1/2013
Pickering Passage	8/15/2013	10/1/2013
Burley Lagoon	9/17/2013	10/1/2013
Peale Passage	9/19/2013	10/1/2013
Dabob Bay	9/27/13	10/1/2013



Environmental Monitoring

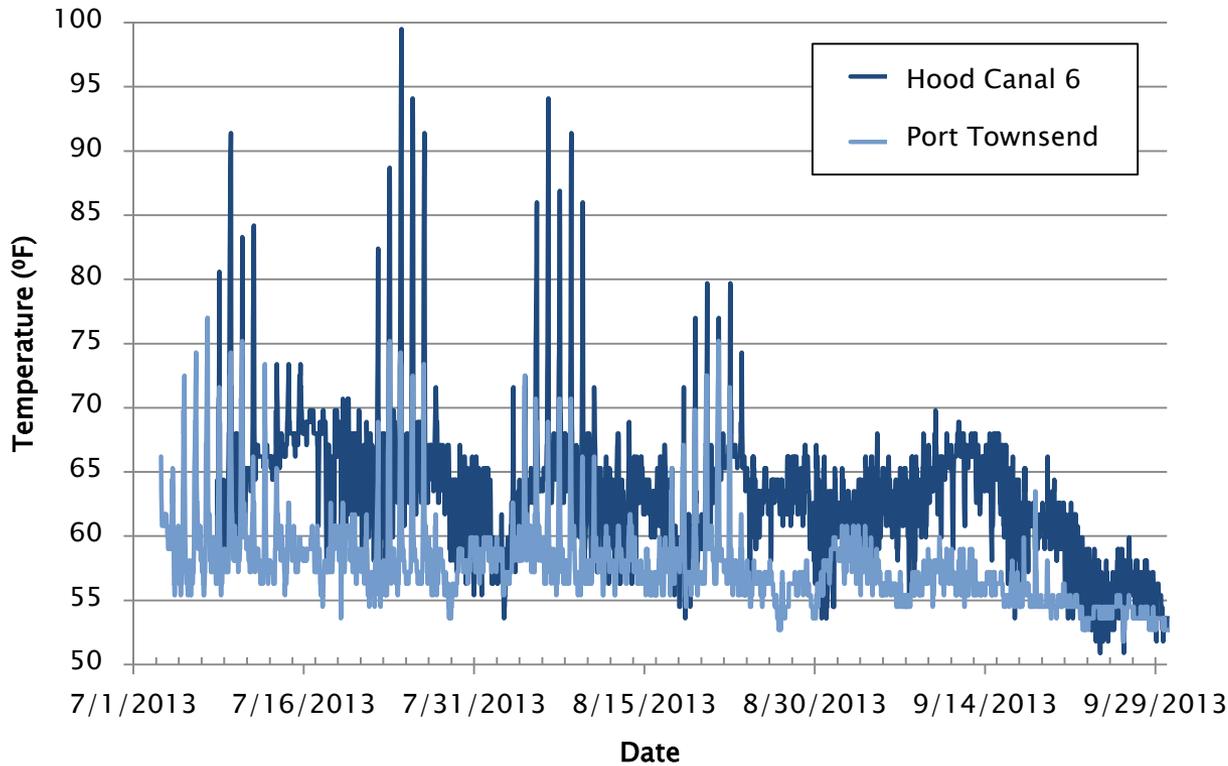
2013 Vibrio Monitoring Results

Samples taken	311
Sampling locations	28
Sampling dates	6/4/13 - 9/24/13
<i>t/h</i> (MPN/g)	<0.30 - >110,000
<i>tdh</i> (MPN/g)	<0.30 - 93
Air temperature (°F)	48 - 83
Surface water temperature (°F)	52 - 71
Shore water temperature (°F)	52 - 88
Oyster tissue temperature (°F)	50 - 98



Data Logger Deployment

Ambient Temperature as Recorded by Data Logger



Vp Control Plan Rule Revision

- ▶ Move towards a proactive management approach
- ▶ Use relative risk to develop tiered controls based on environmental conditions:
 - Modify harvest practices when conditions are favorable for *Vp* growth
 - Close growing areas when conditions are likely to lead to illness
 - Open areas when they are safe for harvest



Thank You

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