

# *Vibrio parahaemolyticus* Training: Control Plan Requirements

Office of Environmental Health and Safety  
January 2017



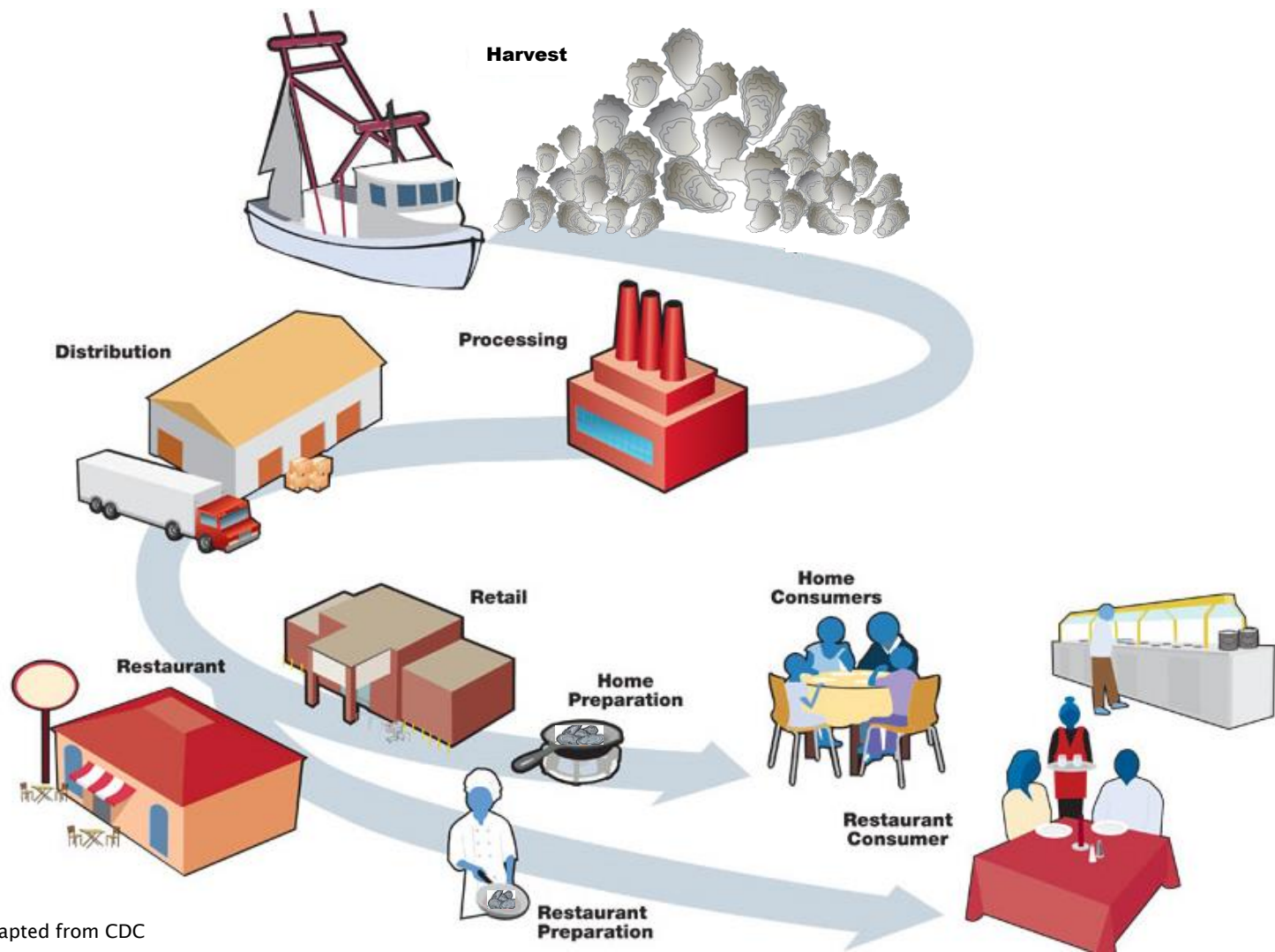
*Public Health – Always Working for a Safer and Healthier Washington*

# Training Overview

- ▶ Foodborne Illness
- ▶ *Vibrio*  
*parahaemolyticus*
- ▶ Model Ordinance  
Requirements
- ▶ Control Plan Revision
- ▶ Control Plan  
Requirements
- ▶ Compliance
- ▶ Harvest Plans
- ▶ Q&A



# Food Contamination

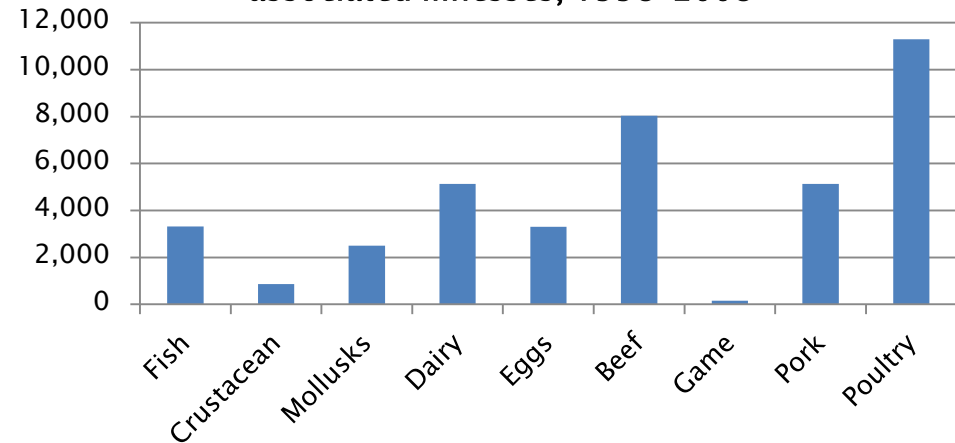


Adapted from CDC

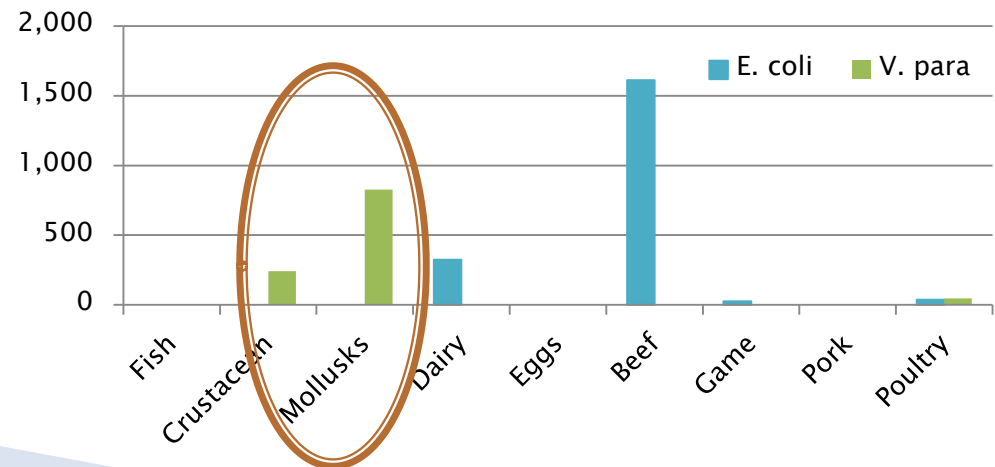
# Foodborne Illness

- ▶ According to the CDC:
  - 48 million people get sick with a foodborne illness each year in the U.S.
  - 128,000 people are hospitalized
  - 3,000 people die of foodborne diseases

Number of foodborne disease outbreak-associated illnesses, 1998-2008

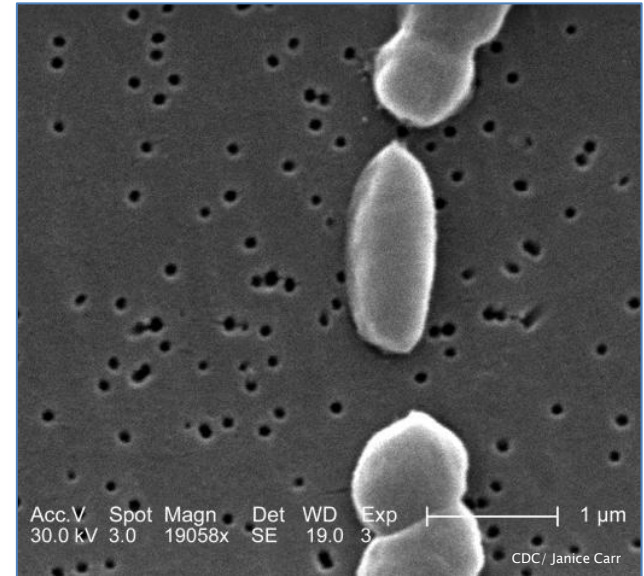


Number of E.Coli and V. para disease outbreak-associated illnesses, 1998-2008



# *Vibrio parahaemolyticus*

- ▶ Naturally-occurring bacteria
- ▶ Common in warm marine and estuarine environments
- ▶ Illnesses usually caused by eating raw or undercooked shellfish

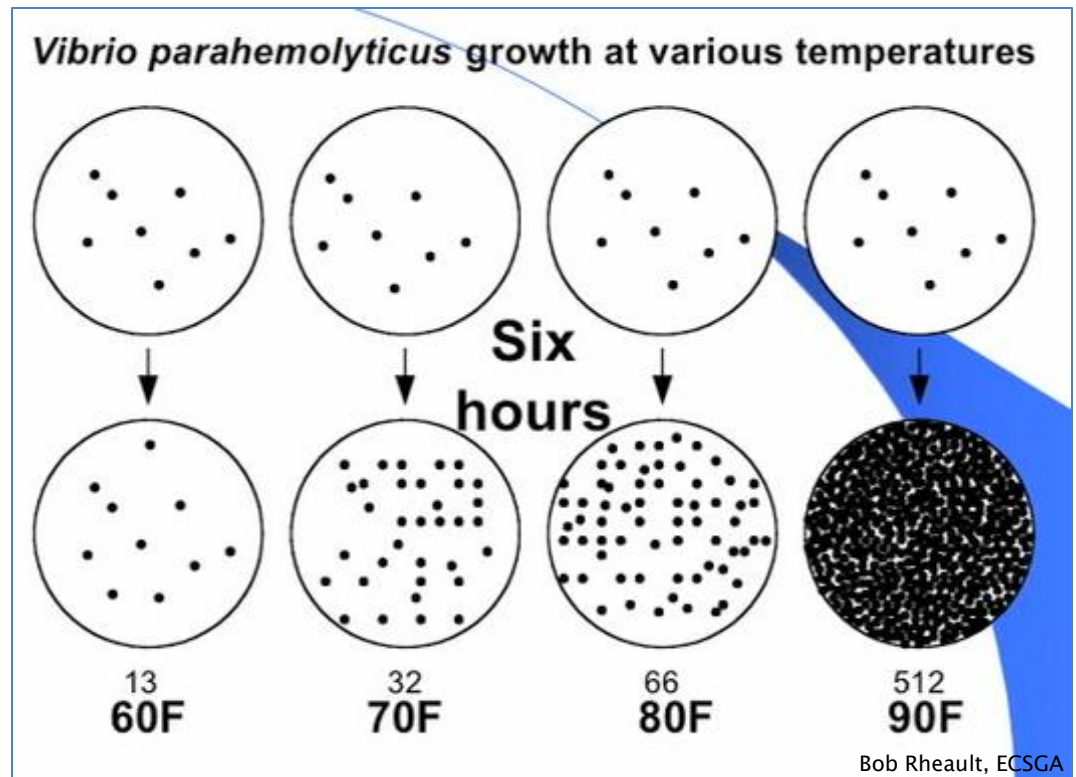


Symptoms	Onset	Duration
Watery diarrhea, abdominal cramping, nausea, vomiting, and fever	4–96 hours	2–5 days

# *Vibrio parahaemolyticus*

## Continued

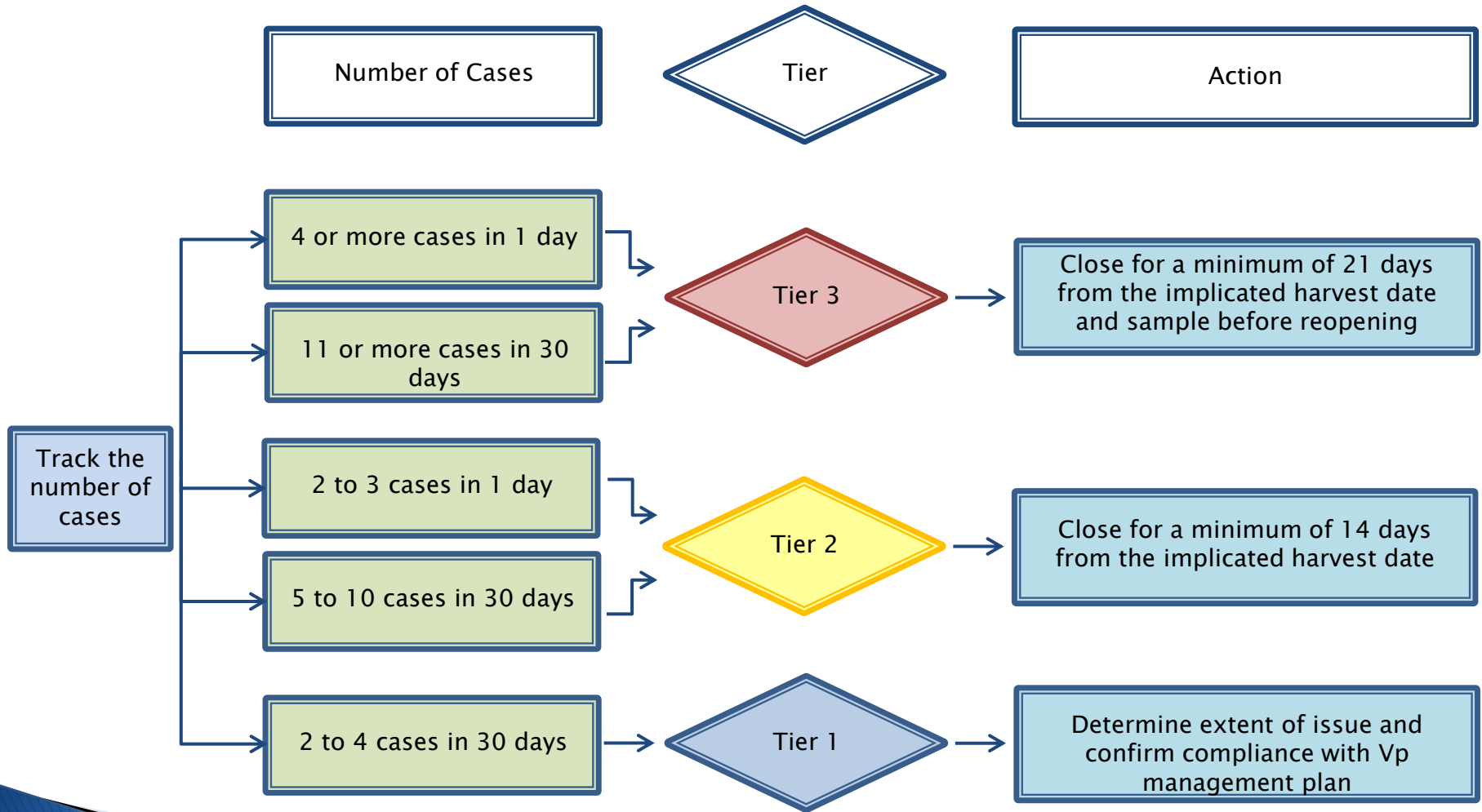
- ▶ Highly temperature dependent
  - Post-harvest cooling important to limit growth
- ▶ Many strains, only some cause illness
- ▶ Genetic markers to identify presence and likelihood to cause illness
  - *tlh*
  - *tdh*
  - *trh*



# MO Control Plan Requirements

- ▶ Required for all states that have a risk of *Vibrio parahaemolyticus*-associated illnesses
- ▶ Goal is to reduce the likelihood of *Vibrio parahaemolyticus* illnesses during periods historically associated with illnesses
- ▶ Control plan requirements are in addition to NSSP Model Ordinance requirements

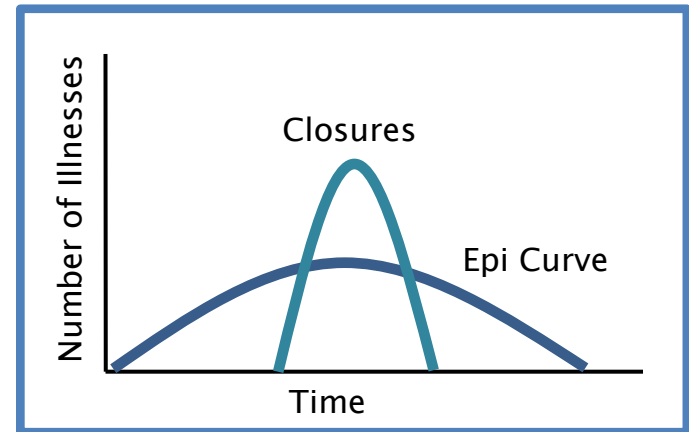
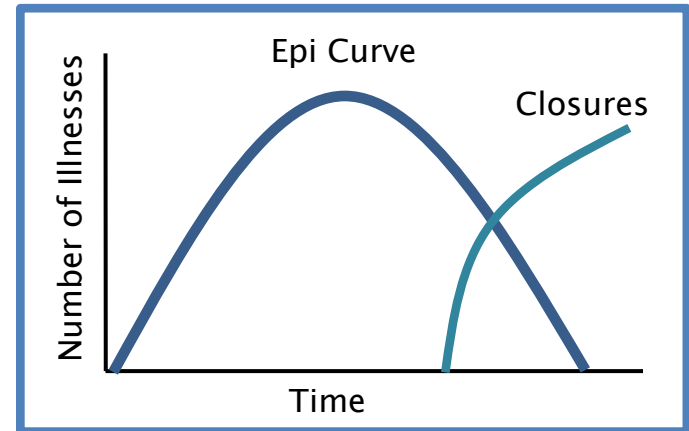
# Additional MO Requirements





# Intent of Control Plan Revision

- ▶ Prevent *Vibrio parahaemolyticus*-associated illnesses
- ▶ Move towards a proactive management approach
- ▶ Base controls on risk and environmental conditions
- ▶ Align Washington's Control Plan with the national requirements



# Control Plan Rule Revision: Changes

Component	Current Control Plan
Shucked meats	Exempt shucked meats and post harvest processed oysters
Shellfish production data	Requirement to report
Growing area categories	Risk level (historic illness trend)
Time of harvest to	Cooling (reaching and maintaining 50°F)
Time reduction and closure	Air temperature threshold and Harvest (water or tissue) temperature threshold
Closure period	24 hours

# Control Plan Requirements: Subsection 1

- ▶ Establishes control plan
- ▶ Establishes control months
  - May 1 through September 30
- ▶ Requirements in addition to the National Shellfish Sanitation Program Model Ordinance

# Control Plan Requirements: Subsection 2

- ▶ Exempts oysters harvested and delivered to a certified shucker packer for:
  - Shucking or
  - Postharvest processing (PHP)
- ▶ Requires harvest tag stating:
  - "For shucking by a certified dealer" or
  - "For PHP by a certified dealer"

# Control Plan Requirements: Subsection 3

- ▶ Single-source *Vibrio parahaemolyticus* case or case: a laboratory-confirmed *Vibrio parahaemolyticus*-associated illness or illnesses with a common exposure that are reported to the department. The case must be:
  - Associated with commercially harvested shellstock;
  - Not involve documented postharvest abuse; and
  - Traced back to a single growing area.
- ▶ Control months: May 1st through September 30th
- ▶ Cool or cooling:
  - Adequately ice or place in a controlled environment with a temperature of 45°F (7.2°C) or less; and
  - Reach and maintain an internal oyster tissue temperature of 50°F (10°C) or less
- ▶ Harvest temperature: the water temperature or internal oyster tissue temperature at the time of harvest

# Control Plan Requirements: Subsection 4

- ▶ Requirement to report oyster landings data by:
  - Month (May–September only),
  - Oyster species,
  - Size class for Pacific oysters, and
  - Growing area
- ▶ SS and SP licensees report by December 31st each year
- ▶ If landings are not reported, may not harvest oysters during the control months next year

# Oyster Production Reporting – Sample Form


Oyster Production Report					
<b>Company Name</b>					
<b>Company License Number</b>					
<b>Growing Area</b>					
<div style="float: right; border: 1px solid black; padding: 5px; width: 60%;">                     Use this form to organize oyster production in preparation for reporting to Washington Department of Health. Remember the production survey must be completed by all shellstock shipper (SS) and shucker packer (SP) licensees that harvest or purchase oysters directly from a licensed harvester (HA) for half-shell sales. Oysters harvested or sold for shucked meat or post-harvest processing (PHP) should not be reported. Oysters purchased from another dealer (SS or SP) should not be reported to avoid double-counting.                 </div>					
	<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>September</b>
<b>Pacific (up to 3")</b>					
<b>Pacific (3" to 4")</b>					
<b>Pacific (more than 4")</b>					
<b>Kumamoto</b>					
<b>Olympia</b>					
<b>Virginica</b>					
<b>Other</b>					

# Control Plan Requirements: Subsection 5 – 7

- ▶ Harvest plan should:
  - Describe harvest, temperature collection, cooling, and conveyance methods
  - Include example of harvest temperature record
  - Identify harvest temperature as water temperature or internal oyster temperature
- ▶ Submit to DOH by March 1st each year unless no changes have been made
  - Sign and date if no changes made
- ▶ May not harvest oysters in the control months without an approved harvest plan



# Harvest Plan – Sample Form

		Office of Environmental Health and Safety	
<b>Commercial Shellfish Company</b> <b>Harvest Plan for <i>Vibrio Parahaemolyticus</i> Control Months</b>			
(For Office Use Only) Date Received		(For Office Use Only) Reviewed By:	
		Assigned Inspector	
		Approved by	

I

Company Information:

Company Name/  
Certification  
Number: \_\_\_\_\_

Point of Contact: \_\_\_\_\_ Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_ Cell: \_\_\_\_\_

- Person in charge has read and understands the requirements of the Washington State *Vibrio parahaemolyticus* control plan found in WAC 246-282-006?
  - Yes
  - No
- Person in charge has attended Washington State *Vibrio parahaemolyticus* training offered by Department of Health?
  - Yes
  - No – If no date scheduled to attend \_\_\_\_\_
- Will you be harvesting product or purchasing product from a licensed harvester or dealer?
  - Harvesting complete question 4-8
  - Purchasing complete questions 8-10
  - Both harvesting and purchasing complete question 4-10

# Control Plan Requirements: Subsection 8 – 9

- ▶ Cooling requirements and harvest controls are based on risk categorization
- ▶ Risk categories are based on cases attributed to the area
- ▶ Cases are attributed to a growing area when they:
  - Are associated with commercially harvested shellstock;
  - Did not involve documented postharvest abuse;
  - Are traced back to a single growing area; and
  - Occurred during the previous consecutive five-year period within the control months
- ▶ Growing areas in Willapa Bay and Grays Harbor were initially categorized in the lowest risk category

# Control Plan Requirements: Subsection 10

- ▶ **Category 1:**
  - Average of 0.2, or fewer cases.
- ▶ **Category 2:**
  - Average of more than 0.2, but fewer than one cases.
- ▶ **Category 3:**
  - Average of one or more cases.

Category 2	Category 3
Burley Lagoon	Hammersley Inlet
Dabob Bay	Henderson Inlet
Henderson Bay	Pickering Passage
Hood Canal 1	Totten Inlet*
Hood Canal 5	
Hood Canal 6	
Nahcotta*	
Nisqually Reach*	
Oakland Bay	
Peale Passage	
Samish Bay	
Skookum Inlet	
Stony Point*	

# Control Plan Requirements: Subsection 11: Category 1:

Requirements:	Time to Cooling:
Except as noted below, the time of harvest to cooling requirement from June 1st through September 30th is:	9 hours
When ambient air temperature at harvest is greater than 90°F, the time of harvest to cooling requirement is:	7 hours
When harvest temperature is between 68°F and 70°F from July 1st through August 31st, the time of harvest to cooling requirement is:	5 hours
Harvest Control: From July 1st through August 31st, harvest is not allowed for twenty-four hours when harvest temperature is above 70°F.	

# Control Plan Requirements: Subsection 11: Category 2:

Requirements:	Time to Cooling
Except as noted below, the time of harvest to cooling requirement from May 1st through September 30th is:	7 hours
When ambient air temperature at harvest is greater than 85°F, the time of harvest to cooling requirement is:	5 hours
When harvest temperature is between 66°F and 68°F from July 1st through August 31st, the time of harvest to cooling requirement is:	3 hours
Harvest Control: From July 1st through August 31st, harvest is not allowed for twenty-four hours when harvest temperature is above 68°F.	

# Control Plan Requirements: Subsection 11: Category 3:

Requirements:	Time to Cooling
Except as noted below, time of harvest to cooling requirement from May 1st through September 30th is:	5 hours
When ambient air temperature at harvest is greater than 80°F, the time of harvest to cooling requirement is:	3 hours
When harvest temperature is between 64°F and 66°F from July 1st through August 31st, the time of harvest to cooling requirement is:	1 hour
Harvest Control: From July 1st through August 31st, harvest is not allowed for twenty-four hours when harvest temperature is above 66°F.	

# Control Plan Requirements: Subsection 12

- ▶ Harvest temperature record:
  - Time and location of harvest
  - Air temperature
  - Harvest temperature
- ▶ Verify thermometer weekly or use method approved in harvest plan

# Harvest Temperature Record – Sample Form

ABC Shellfish  
WA-0000-HA

Harvest Record (HA) Year \_\_\_\_\_

Harvest Date	Harvest Time	Harvest Area	Risk Category*	Area Open Y/N	Proper Tag Y/N	Air Temp at Time of Harvest*	Internal Tissue / Water Temp at Harvest	Cooling	
								Time	Temp.

\*For Growing Area

Company Address/Phone



# Verification Record – Sample Form

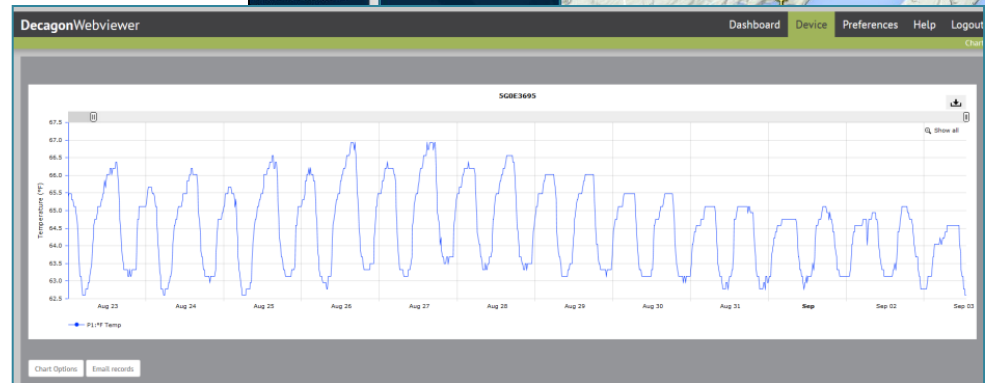
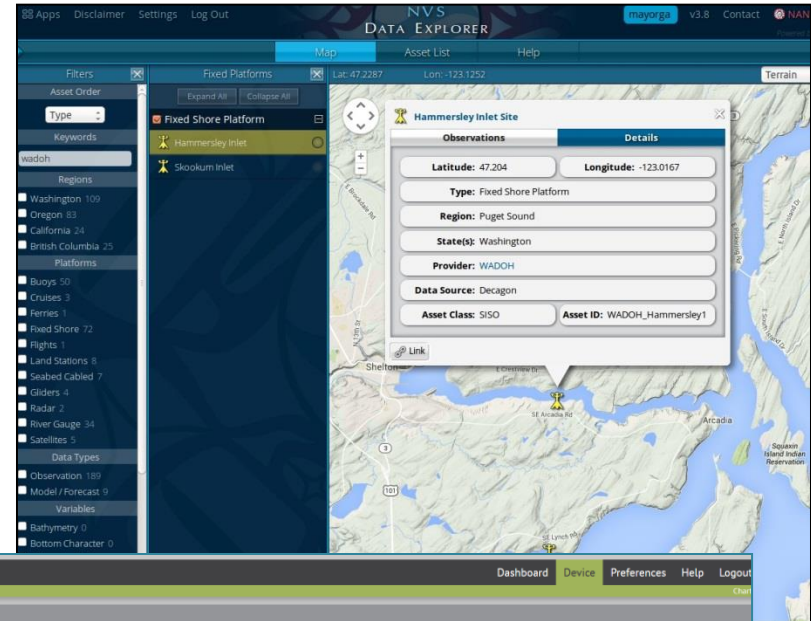
ABC Shellfish WA-0000-HA Year \_\_\_\_\_

**Vibrio Thermometer Verification Log (HA)**  
(Required Weekly)

Date Calibrated	Name & Type of Thermometer being calibrated	METHOD OF CALIBRATION	TEMPERATURE AFTER 2-MINUTES	VARIANCE	CORRECTIONS MADE

# Temperature Data Resources

- ▶ Finalize data sensor deployment and visualization
  - Deployed at 17 sites in 2015, 15 in 2016
  - Deploy at least 1 device in all category 2 and 3 risk areas



# 2015 Cellular data-loggers on NANOOS

<http://nvs.nanoos.org/ShellfishGrowers>



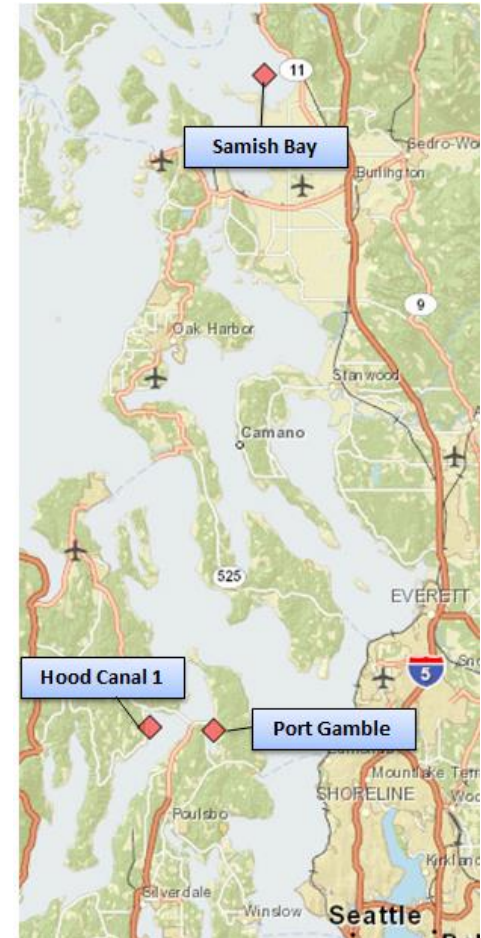
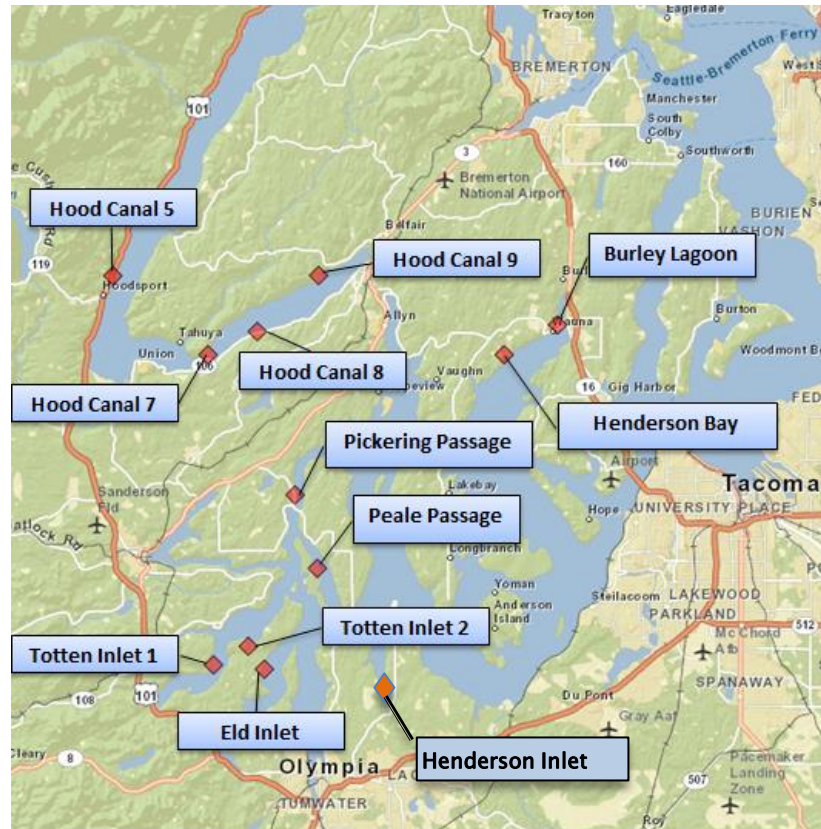
Decagon Remote Logger  
Em50G



ES-2  
Water and Salinity

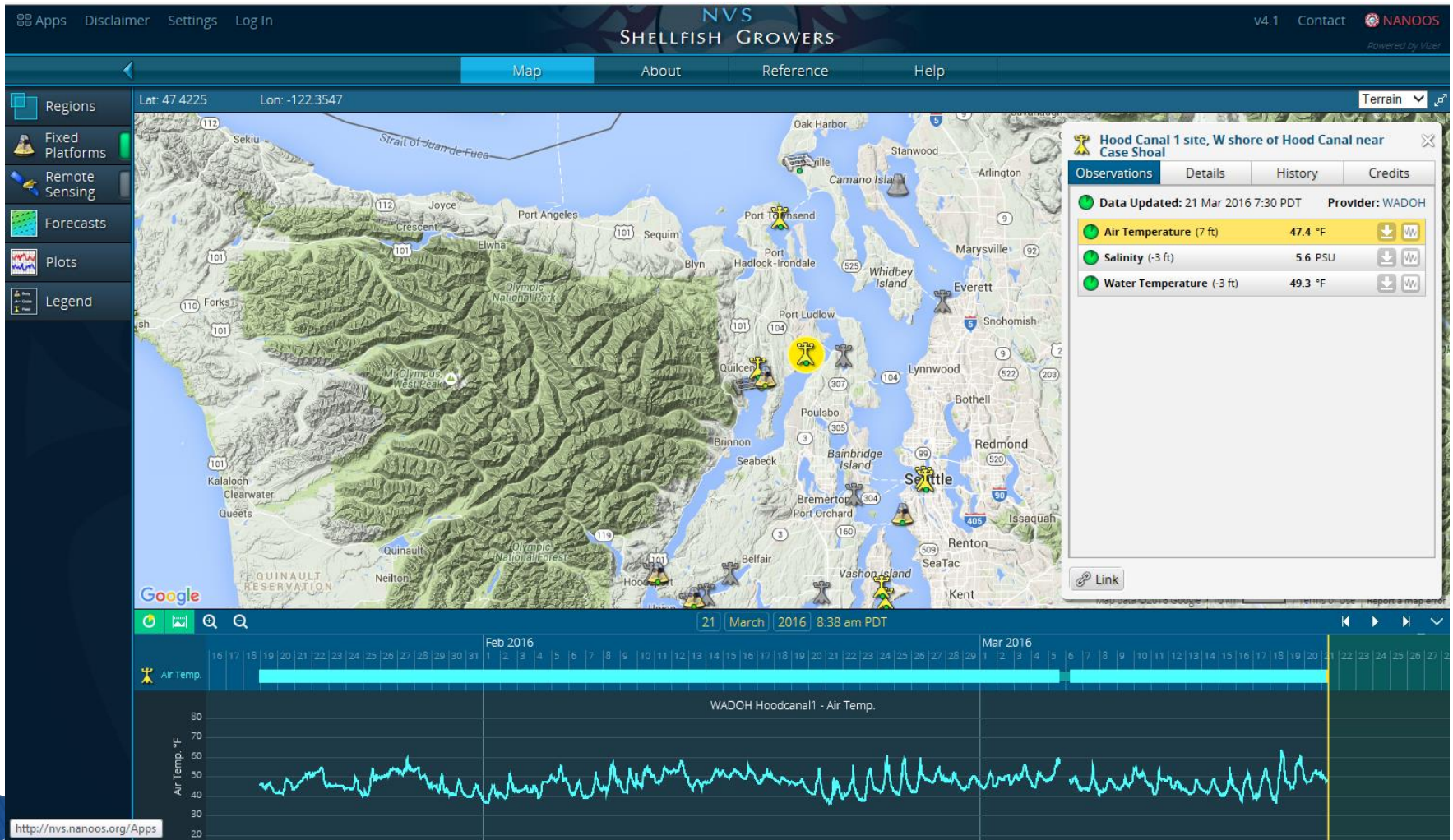


ECT  
Air Temp.



# Cellular data-loggers on NANOOS

## <http://nvs.nanoos.org/ShellfishGrowers>



# Control Plan Requirements: Subsection 13 – 14

- ▶ Cool oysters as quickly as possible, ensure maximum allowed hours are not exceeded
- ▶ If cooling requirements are not met:
  - Destroy,
  - Place oysters in an approved growing area and allow at least 14 days before reharvesting
  - Deliver oysters to a certified shucker packer for shucking or PHP and attach a harvest tag meeting the requirements in subsection (2)

# Control Plan Requirements: Subsection 15

- ▶ If ownership of oysters is transferred prior to the oysters being cooled, include in the harvest record:
  - Air and harvest temperatures;
  - Date, time, and person or entity to whom the oysters were transferred; and
  - Growing area risk category for the harvested product
- ▶ The receiving shellfish dealer shall meet the time of harvest to cooling requirements

# Transfer Record – Sample Form

## Transfer Records

All *Vibrio parahaemolyticus* products being transferred from a harvester to a dealer must have a transfer record or transportation document.

This document must have the following information (example below):

- a. The date of harvest.
- b. The time of harvest (time the first oyster was removed from the water or exposed to the air by the receding tide).
- c. The air temperature at the time of harvest.
- d. The water temperature at the depth of the oysters or an internal meat temperature of the product being harvested.
- e. The risk category for the harvest area.

<b>[Your Company Name]</b> <small>[Your Company Slogan]</small> <small>[Street Address]</small> <small>[City, ST ZIP Code]</small> <small>Phone [(509) 555-0198] Fax [(509) 555-0198]</small>		<b>INVOICE</b> <small>INVOICE #1002</small> <small>DATE: OCTOBER 9, 2011</small>	
<small>TO:</small> <small>[Name]</small> <small>[Company Name]</small> <small>[Street Address]</small> <small>[City, ST ZIP Code]</small> <small>[Phone]</small>	<small>FROM:</small> <small>[Project or service description]</small> <small>[I.O. #]</small>		
DESCRIPTION	QUANTITY	DATE	AMOUNT
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">                     Harvest date: 7/11/15                      Harvest Time: 6:00 am                      Air Temp.: 60°                      Water Temp.: 60°                      Risk Category: 2                 </div>			
<small>TOTAL</small>			
<small>Make all checks payable to [Your Company Name]</small> <small>Total due in 15 days. Overdue accounts subject to a service charge of 1% per month.</small> <p style="text-align: center;"><b>Thank you for your business!</b></p>			

# Control Plan Requirements: Subsection 16

- ▶ Complete an initial training prior to harvesting or shipping oysters during the control months
- ▶ Complete a refresher training within one year following rule revision or at least every five years
- ▶ Those responsible for the on-site management of harvest activities must be trained by either:
  - Harvesters and shellfish dealers at their operation who completed the department-approved training, or
  - The department
- ▶ Record those trained in operational records



# Control Plan Requirements: Subsection 17 – 20

- ▶ May request a waiver from a requirement of this section
- ▶ Waiver request must:
  - Be in writing, identify the requirement requested to be waived, state the reason for the waiver, provide supporting information
- ▶ DOH may grant the request if it:
  - Is consistent with applicable standards and the intent of this section
  - Provides a comparable level of public health protection

# Control Plan Requirements: Subsection 21

- ▶ The department shall review this section to evaluate the effectiveness of the rules and determine areas where revisions may be necessary by October 2017.

# Timeline of Important Dates

Risk categories announced

Harvest plan due

January						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

March						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

June						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

July						
Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Control plan months begin

Control plan months end

September						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

December						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Production data due

# Compliance:

- ▶ Harvesters:
- ▶ M.O. VIII. .01
  - G. Shellstock Temperature Control
    - (1) All harvesters shall comply with the applicable time to temperature requirements of
      - (a) State *V.v.* and *V.p.* Control Plans outlined in Chapter II. @.06 and @.07
- ▶ Dealers (SS/SP):
- ▶ M.O. XI,XIII. .01
  - A. Receiving Critical Control Point – Critical Limits.
    - (1) The dealer shall ship/shuck and pack only shellstock obtained from a licensed harvester who has:
      - (c) Harvested the shellstock in compliance with the time temperature requirements of Chapter VIII. @.02 A. (1), (2), or (3) as determined from records supplied by the harvester described in Chapter VIII. .02 G. (2) [C].

# Compliance

- ▶ Companies must have a harvest plan prior to Vibrio season.
- ▶ Companies must maintain records required by the Vibrio plan. Dealers these records are HACCP records.
- ▶ DOH inspectors will work with companies to refine their plan and records throughout the first season.
- ▶ Companies will be required to submit Vibrio product landings data by Dec. 31<sup>st</sup> every year.
- ▶ Companies must have department approved harvest plan prior to March 1<sup>st</sup> and have submitted previous year landings data to be authorized to harvest oysters for raw consumption during Vibrio season.

# Contact Information

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Thank You

