

Washington Recreational Shellfishing Survey



Sponsored by NOAA Fisheries

This survey is voluntary.
All responses are anonymous and confidential.

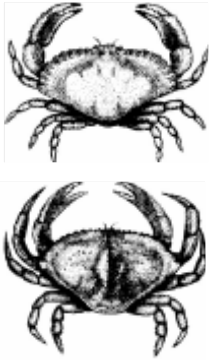
Information about Washington Shellfish

Razor clams



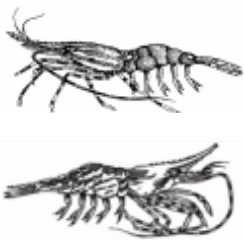
- In Washington, five Pacific coast beaches are periodically open to razor clam digging, depending on tides and marine-toxin levels.
- These clams can be dug with a clam shovel or a clam tube.
- The daily limit is the first 15 razor clams, regardless of size or condition.

Crab



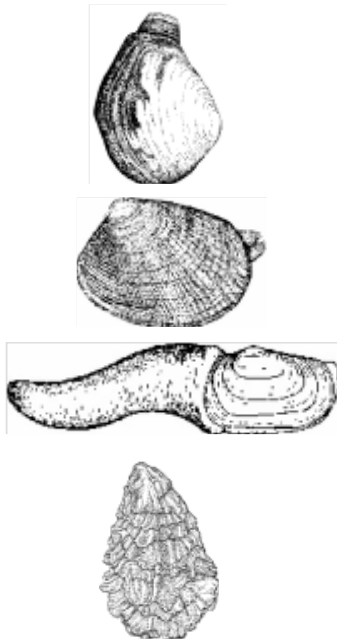
- Several species of crab are found in Washington's marine waters and along its shores, but the two most popular are Dungeness and red rock crab.
- The Dungeness crab is frequently associated with eelgrass beds and prefers sandy or muddy substrates. The red rock crab also prefers rocky areas, as its name implies.
- Crab pots are the most commonly used gear to catch Dungeness and red rock crab in Puget Sound.
- For Puget Sound, the crab season is usually open July through September.

Shrimp



- Many varieties of shrimp are found in the waters of Puget Sound, with spot shrimp being the most popular. Shrimp are found primarily on or near the bottom, and are most frequently caught at depths of 30 to 300 feet.
- Shrimpers use pots of various sizes and designs.
- Shrimp seasons in Puget Sound run from late spring through early fall, although the season for spot shrimp can be much shorter.

Clams (other than razor) and Oysters



- The beaches that surround Puget Sound are populated by a variety of clams (Manila, native littlenecks, butter, cockles, macomas, eastern softshell, varnish, geoduck, and horse clams), plus two species of oysters (Pacific and Olympia). All are available for harvest at various beaches at various times of the year.
- Except for the larger butter clams, rakes are usually most effective for gathering clams, and are less damaging to the clams and the beach. To unearth a geoduck, you'll generally need to excavate a hole up to three feet deep. The only equipment needed to collect oysters are sturdy gloves to protect your hands and a bucket.
- For "steamer" clams (which include all varieties except geoduck and horse clams), the daily limit is 40 clams or 10 pounds in the shell, whichever comes first. There are also separate daily limits for geoducks (three), horse clams (seven) and for oysters (18).

This survey will focus mostly on clams (other than razors) and oysters.

Section A: Your Washington Shellfishing Activities

The questions in this survey are about YOU and YOUR shellfishing activities and preferences. Except when asked, please do not include any information from other household members or other shellfishing party members.

Please print clearly.

Write numbers as two digits: 1 trip =

0	1
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 Fill in boxes with a or

A1

Have you harvested RAZOR CLAMS in Washington in the last 12 months?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

A2

Please tell us the number of days in the last 12 months you spent recreationally harvesting each of the following types of shellfish in PUGET SOUND, including the San Juan Islands, Strait of Juan de Fuca, and Hood Canal. (If you harvested more than one type of shellfish on the same day, please count that day toward the type of shellfish you spent the most time harvesting)

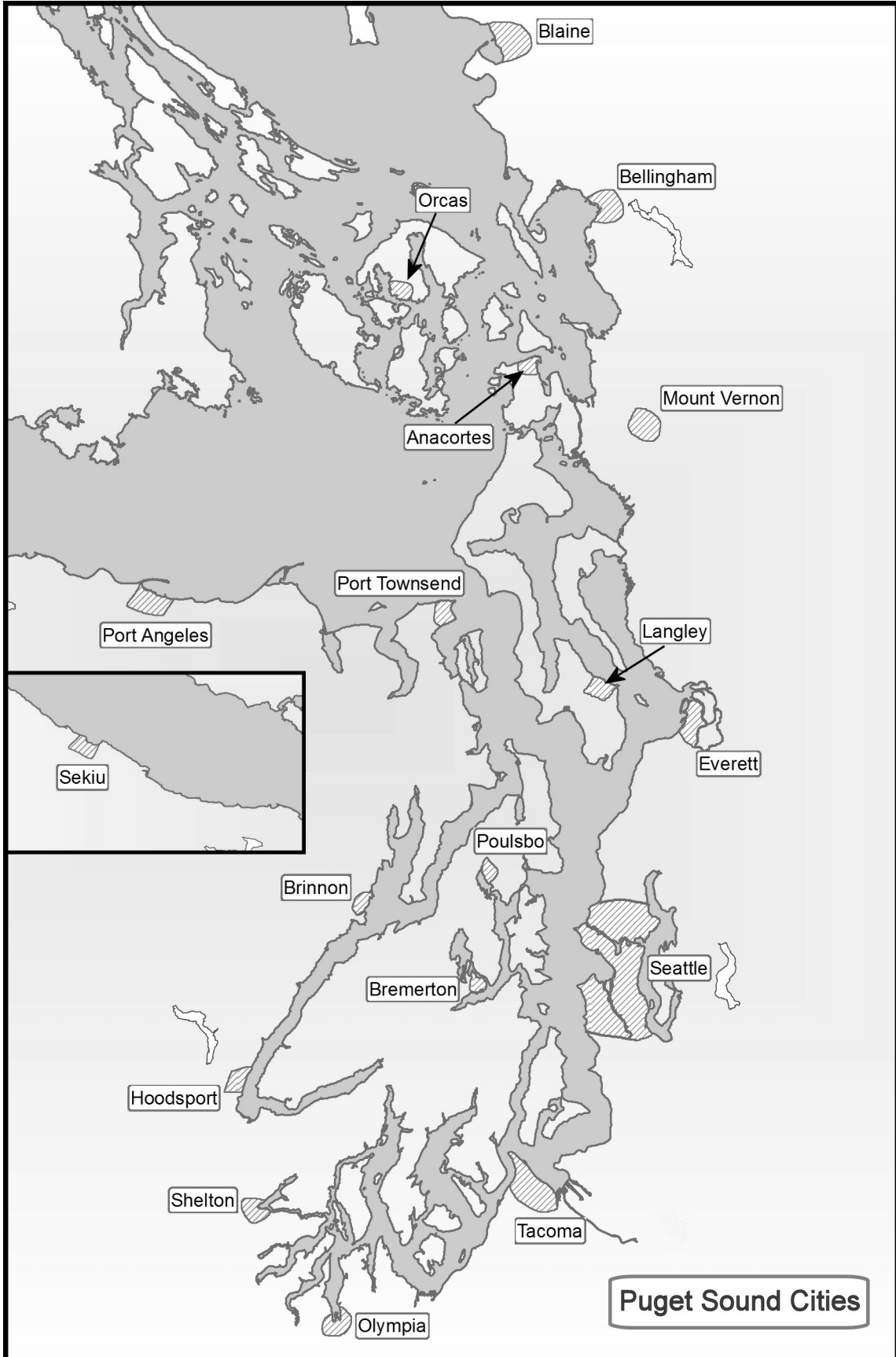
TYPE of SHELLFISH	# DAYS in Last 12 Months	
Clams (other than razor)	<input type="text"/>	<input type="text"/>
Oysters	<input type="text"/>	<input type="text"/>
Crab	<input type="text"/>	<input type="text"/>
Shrimp	<input type="text"/>	<input type="text"/>
Other (specify): _____	<input type="text"/>	<input type="text"/>

Based on your answer to question A2:

If you harvested CLAMS (other than razor) or OYSTERS in PUGET SOUND in the last 12 months, please continue to the next page.

If you did not harvest CLAMS (other than razor) and did not harvest OYSTERS in PUGET SOUND in the last 12 months, please skip to page 16.

Please use this map of Puget Sound when answering the questions on the next page.
The locations of some cities are given to help you locate your beach.



Questions? Email us at Mark.Plummer@noaa.gov

A9

Near the beach you most often use, are there other beaches that you also use to harvest clams or oysters? (mark all that apply)

<input type="checkbox"/>	No
<input type="checkbox"/>	Yes, within 10 miles of the beach I most often use
<input type="checkbox"/>	Yes, between 10 and 20 miles of the beach I most often use
<input type="checkbox"/>	Yes, between 20 and 30 miles of the beach I most often use
<input type="checkbox"/>	Yes, more than 30 miles from the beach I most often use

A10

Below are some reasons why you might harvest clams, oysters, or other shellfish in Puget Sound. Mark how much you agree or disagree with each statement.

"I harvest CLAMS, OYSTERS, or OTHER SHELLFISH in PUGET SOUND to ..."	Strongly Agree	Agree	Feel Neutral	Disagree	Strongly Disagree
... Spend time outdoors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... Spend time with family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... Spend time with friends or others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... Relax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... Get some exercise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... Eat something I caught myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... Provide food for me or my family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A11

Approximately how often do you consume meals that contain the clams or oysters you've harvested from Puget Sound?

<input type="checkbox"/>	Almost never
<input type="checkbox"/>	About once per year
<input type="checkbox"/>	One to three times per year
<input type="checkbox"/>	Four to ten times per year
<input type="checkbox"/>	More than ten times per year

B8

Was harvesting clams or oysters the primary purpose of this trip?

<input type="checkbox"/>	No	<input checked="" type="radio"/> Continue	<input type="checkbox"/>	Yes	<input checked="" type="radio"/> Skip to question B11 on page 9
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B9

As part of this trip, did you stay one or more nights in a house you own, a vacation rental, a hotel / motel, or a campground?

<input type="checkbox"/>	No. This was a day trip. <input checked="" type="radio"/> Skip to question B11 on page 9
<input type="checkbox"/>	House you own
<input type="checkbox"/>	Vacation rental
<input type="checkbox"/>	Hotel, motel, or B&B
<input type="checkbox"/>	Campground or trailer park
<input type="checkbox"/>	Other lodging: _____

B10

(If overnight trip) How many one-way miles was the beach you used to harvest clams or oysters from the place you stayed the night? (mark all that apply, round to nearest mile)

By car: I traveled miles to the beach from the place I stayed the night.

By boat: I traveled miles to the beach from the place I stayed the night.

B11

On this trip, what type(s) of shellfish did you personally target or harvest, and how many did you personally keep?

TYPE of SHELLFISH	Targeted or Harvested? (check if yes)	Number You Kept
Steamer clams (manila, littleneck, butter, cockle, softshell, macoma)	<input type="checkbox"/>	<input type="text"/> <input type="text"/>
Geoduck clams	<input type="checkbox"/>	<input type="text"/> <input type="text"/>
Horse clams	<input type="checkbox"/>	<input type="text"/> <input type="text"/>
Oysters	<input type="checkbox"/>	<input type="text"/> <input type="text"/>
Other (specify): _____	<input type="checkbox"/>	<input type="text"/> <input type="text"/>

B12

On this trip, about how much money did you or your household spend in each of the following expense categories? For each expense, indicate the number of people covered by the expense.

	TYPE of EXPENDITURE	Expenditures by you or your household (round to nearest dollar)	# of people covered by this expense (including you)
Transportation	Auto, truck, or RV fuel	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> .00	<input type="text"/> <input type="text"/>
	Boat fuel	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> .00	<input type="text"/> <input type="text"/>
	Parking or boat launch	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> .00	<input type="text"/> <input type="text"/>
	Ferry	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> .00	<input type="text"/> <input type="text"/>
	Other transportation: _____	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> .00	<input type="text"/> <input type="text"/>
Lodging / Food	Campgrounds and trailer parks	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> .00	<input type="text"/> <input type="text"/>
	Hotels, motels, and B&B	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> .00	<input type="text"/> <input type="text"/>
	Vacation rental	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> .00	<input type="text"/> <input type="text"/>
	Grocery and convenience stores	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> .00	<input type="text"/> <input type="text"/>
	Restaurants and bars	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> .00	<input type="text"/> <input type="text"/>
	Other lodging / food: _____	\$ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> .00	<input type="text"/> <input type="text"/>

B13

During the next 12 months, how likely is it that you will harvest shellfish in Puget Sound?

<input type="checkbox"/>	Certain to harvest shellfish
<input type="checkbox"/>	Very likely
<input type="checkbox"/>	Somewhat likely
<input type="checkbox"/>	Very unlikely
<input type="checkbox"/>	Definitely will not harvest shellfish

Section C: Trips You Might Take in the Next 12 Months

In this section, we'd like you to think about the NUMBER OF TRIPS you'd likely take during the next 12 months to harvest clams or oysters in Puget Sound. We'd also like to know how different types of beach closures might affect your plans.

There are three types of closures:

A **Resource Closure** occurs when the Washington Department of Fish and Wildlife closes a beach for the harvest of shellfish species in order to protect and conserve shellfish populations.

A **Biotoxin Closure** (Red Tide) occurs when the Washington Department of Health closes a beach for the harvest of some or all shellfish species due to the presence of biotoxins such as paralytic shellfish poison (PSP).

A **Pollution Closure** occurs when the Washington Department of Health closes a beach to the harvest of shellfish species due to pollution such as bacteria or harmful chemicals.

All of these closures can be for an entire season or for a shorter period of time, and can be for all species or just some species such as butter clams.

C1

During which month(s) do you take trips to harvest clams or oysters in Puget Sound? (mark all that apply)

<input type="checkbox"/> January	<input type="checkbox"/> April	<input type="checkbox"/> July	<input type="checkbox"/> October
<input type="checkbox"/> February	<input type="checkbox"/> May	<input type="checkbox"/> August	<input type="checkbox"/> November
<input type="checkbox"/> March	<input type="checkbox"/> June	<input type="checkbox"/> September	<input type="checkbox"/> December

C2

Please think about the beach you most often use to harvest clams or oysters in Puget Sound. Assuming there are no biotoxin / red tide or pollution closures on this beach, in the next 12 months how many trips would you take to this beach where you would harvest clams or oysters on the trip? How many other trips would you take to this beach where you would not harvest any clams or oysters?

Trips in the next 12 months to the beach you most often use:

Harvesting trips:

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Non-harvesting trips:

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Now, we will ask you about a few specific situations when a beach closure might affect the number of trips you think you'll make in the next 12 months, depending on the

- **Type of Closure,**
- **Period of Closure,**
- **Species Closed to Harvest,** and the
- **Additional Distance to a Nearby Beach that is Fully Open**

C3

Suppose that the Department of Health has closed an area for the next 12 months that includes the Puget Sound beach you most often use for harvesting clams or oysters and there is a nearby beach that is not affected by this closure that is an additional 10 miles away.

Please review the following table and answer the questions below.

Information on the Closure and Your Alternatives	
Type of Closure	Pollution
Period of Closure	12 months
Species Closed to Harvest	All Clams and Oysters
Additional Distance to a Nearby Beach that is Fully Open	10 miles

C3.1

During this 12 month closure, how many trips would you take to the beach you most often use, and to the nearby beach that is fully open?

Trips in the next 12 months to the beach you most often use:

Harvesting trips:

Non-harvesting trips:

Trips in the next 12 months to the nearby beach that is fully open (10 additional miles):

Harvesting trips:

C3.2

For comparison, now suppose that this closure would not occur. How many harvesting trips to the nearby beach (10 additional miles) would you now take?

Harvesting trips to nearby beach if no closure:

C4

Now, suppose instead that the Department of Health has closed an area for the next 12 months that includes the Puget Sound beach you most often use for harvesting clams or oysters and there is a nearby beach that is not affected by this closure that is an additional 30 miles away.

Please review the following table and answer the questions below.

Information on the Closure and Your Alternatives	
Type of Closure	Biotoxin / Red Tide
Period of Closure	12 months
Species Closed to Harvest	Butter Clams Only
Additional Distance to a Nearby Beach that is Fully Open	30 miles

C4.1

During this 12 month closure, how many trips would you take to the beach you most often use, and to the nearby beach that is fully open?

Trips in the next 12 months to the beach you most often use:

Harvesting trips:

Non-harvesting trips:

Trips in the next 12 months to the nearby beach that is fully open (30 additional miles):

Harvesting trips:

C4.2

For comparison, now suppose that this closure would not occur. How many harvesting trips to the nearby beach (30 additional miles) would you now take?

Harvesting trips to nearby beach if no closure:

C5

Now, suppose that the Department of Health has closed an area for **two months** (May through June) that includes the Puget Sound beach you most often use for harvesting clams or oysters and there is a nearby beach that is not affected by this closure that is an additional 10 miles away.

Please review the following table and answer the questions below.

Information on the Closure and Your Alternatives	
Type of Closure	Biotxin / Red Tide
Period of Closure	May through June
Species Closed to Harvest	All Clams and Oysters
Additional Distance to a Nearby Beach that is Fully Open	10 miles

C5.1

During this two month closure (May through June), how many trips would you take to the beach you most often use, and to the nearby beach that is fully open?

Trips during the closure (May through June) to the beach you most often use:

Harvesting trips:

Non-harvesting trips:

Trips during the closure (May through June) to the nearby beach that is fully open (10 additional miles):

Harvesting trips:

C5.2

How many trips you would take **the other 10 months** (before and after the closure) to the beach you most often use, and to the nearby beach that is fully open?

Trips the other 10 months to the beach you most often use:

Harvesting trips:

Non-harvesting trips:

Trips the other 10 months to the nearby beach that is fully open (10 additional miles):

Harvesting trips:

C5.3

For comparison, now suppose that this closure would not occur. How many harvesting trips to the nearby beach (10 additional miles) would you now take during May through June?

Harvesting trips in May through June to nearby beach if no closure:

C6

Now, suppose instead that the Department of Health has closed an area for **one month** (September) that includes the Puget Sound beach you most often use for harvesting clams or oysters and there is a nearby beach that is not affected by this closure that is an additional 20 miles away.

Please review the following table and answer the questions below.

Information on the Closure and Your Alternatives	
Type of Closure	Pollution
Period of Closure	September
Species Closed to Harvest	All Clams and Oysters
Additional Distance to a Nearby Beach that is Fully Open	20 miles

C6.1

During this one month closure (September), how many trips would you take to the beach you most often use, and to the nearby beach that is fully open?

Trips during the closure (September) to the beach you most often use:

Harvesting trips:

Non-harvesting trips:

Trips during the closure (September) to the nearby beach that is fully open (20 additional miles):

Harvesting trips:

C6.2

How many trips would you take **the other 11 months** (before and after the closure) to the beach you most often use, and to the nearby beach that is fully open?

Trips the other 11 months to the beach you most often use:

Harvesting trips:

Non-harvesting trips:

Trips the other 11 months to the nearby beach that is fully open (20 additional miles):

Harvesting trips:

C6.3

For comparison, now suppose that this closure would not occur. How many harvesting trips to the nearby beach (20 additional miles) would you now take during September?

Harvesting trips in September to nearby beach if no closure:

Section D: About You and Your Household

The following questions will help us know more about shellfish harvesters. The information you provide will remain **STRICTLY CONFIDENTIAL**, and you will not be identified with your answers.

D1 In what year were you born?

Year:

D2 Are you . . . ?

Male Female

D3 What is the highest level of education you have completed? (mark one response)

<input type="checkbox"/>	Some high school
<input type="checkbox"/>	High school graduate
<input type="checkbox"/>	Technical school
<input type="checkbox"/>	Some college
<input type="checkbox"/>	College graduate or more

D4 How many adults and children (under 18) are there in your household including yourself?

Adults: # Children:

D5 Which of the following best describes your household's TOTAL annual income before taxes in 2011?

<input type="checkbox"/> Less than \$20,000	<input type="checkbox"/> \$80,000 - \$99,999
<input type="checkbox"/> \$20,000 - \$39,999	<input type="checkbox"/> \$100,000 - \$124,999
<input type="checkbox"/> \$40,000 - \$59,999	<input type="checkbox"/> \$125,000 - \$149,999
<input type="checkbox"/> \$60,000 - \$79,999	<input type="checkbox"/> \$150,000 or more

D6 Are you employed part time or full time outside the home?

<input type="checkbox"/>	No, I am a homemaker, retired, or currently unemployed	➡ Skip to the next page
<input type="checkbox"/>	I work part time (less than 35 hours per week)	
<input type="checkbox"/>	I work full time (more than 35 hours per week)	

D7 Approximately what is your personal hourly wage rate?

<input type="checkbox"/> \$5.00 - \$9.99	<input type="checkbox"/> \$20.00 - \$29.99
<input type="checkbox"/> \$10.00 - \$14.99	<input type="checkbox"/> \$30.00 - \$49.99
<input type="checkbox"/> \$15.00 - \$19.99	<input type="checkbox"/> \$50.00 or more

D8 Do you take time off work to harvest shellfish? (mark all that apply)

<input type="checkbox"/>	No
<input type="checkbox"/>	Yes, I take paid time off (vacation, sick leave)
<input type="checkbox"/>	Yes, I take unpaid time off

