

Appendices

Appendix A

A-1 Survey Questionnaire



Questionnaire No. _____

SUQUAMISH TRIBE SEAFOOD CONSUMPTION SURVEY

I. Survey/Activity Log

DATE CONTACTED to establish interview:

(Enter month/day/year, and time of day. Allow up to eight attempts to contact for appointment. Enter Code NR for no response or L/M for left message with someone who answered the telephone or an answering machine/voice message service. Enter C for completed call.)

1) date/time _____	code _____	5) date/time _____	code _____
2) date/time _____	code _____	6) date/time _____	code _____
3) date/time _____	code _____	7) date/time _____	code _____
4) date/time _____	code _____	8) date/time _____	code _____

INTERVIEW APPOINTMENT DATE/TIME/LOCATION: (use 2 and 3 only if respondent asks to change appointment originally set, circle interview location)

1) MONTH/DAY/TIME (originally set)	2) MONTH/DAY/TIME (first change)	3) MONTH/DAY/TIME (second change)
_____	_____	_____
Respondent's Home	Respondent's Home	Respondent's Home
Tribal Center	Tribal Center	Tribal Center
Other _____	Other _____	Other _____

notes: _____

INTERVIEW RESULT CODES (complete this section by circling the appropriate code)

1. Completed interview at home
2. Completed interview at Tribal Center or other location.
3. Not at home at time of visit; need to reschedule
4. Missed appointment at Tribal Center or other location: need to reschedule
5. Moved within survey area; need to reschedule
6. Moved out of the survey area, or no current address
7. Total refusal to participate
reason: ___ does not consume seafood ___ other _____
8. Refusal to participate stated at the beginning of the interview by the respondent or other family member
9. Interview not completed. Reason: _____

INTERVIEWER'S INITIALS _____

edited: date _____ By _____

keyed: date _____ By _____

verified: date _____ By _____

Note space for editor _____

INTRODUCTION

Hello, my name is _____, and I represent The Suquamish Tribe. We appreciate your willingness to participate in our fish and shellfish consumption survey.

The information given in response to this questionnaire will help The Suquamish Tribe to understand the rates of fish and shellfish consumption, how fish and shellfish are cooked and prepared, and the species or types of seafood regularly consumed by members of the Suquamish Tribe and their families.

All of the information which you provide to us during this interview is confidential. Your responses to the questions will be combined with those of others so that your answers cannot be identified. Once the survey is complete, there will be an article in The Suquamish Newsletter summarizing the results. In the meantime, if you have any questions, you are welcome to call me, or the Fisheries Department. Here is my card and that of the Project Coordinator, in the Fisheries Department.

This interview will take about one hour. It is in four parts. In Part One, I will ask you to tell me how much seafood you ate yesterday. The second and third parts focus on particular types of seafood you eat, and how the seafood is prepared. I will also ask you about the consumption patterns for children aged five and under who live within your household. Finally, I'll ask for some general information.

DATE OF INTERVIEW _____ TIME INTERVIEW BEGINS _____ : _____ AM
_____ : _____ PM

INTERVIEWER: USE #2 PENCIL. Draw lines through any answers which the respondent changes; do not erase. Feel free to make notations for discussion with the editor.

PART ONE - DIETARY INTAKE - 24 HOUR RECALL

First, I will to ask you to tell me whether you ate fish and shellfish yesterday, from the time you woke up in the morning until the time you went to sleep for the night. If you did eat fish and/or shellfish at meals or as snacks, I'll ask you to tell me the types of seafood and general amounts you consumed.

FISH CONSUMPTION SURVEY - 24 HOUR DIETARY RECALL

Dietary Recall: TYPE OF SEAFOOD CONSUMED in last 24 hours <i>(Refer to display cards and seafood portion models if needed)</i>	enter check if eaten	WHERE PREPARED Code 1= Home 2= Restaurant or Other	AMOUNT, INCLUDING SNACKS enter pounds/ounces
SALMON (Sockeye, Coho, Chum, King, Pink, Steelhead)			
SMELT			
HERRING			
COD (Rock, Tom)			
PERCH			
POLLOCK (imitation crab and other imitation seafood)			
STURGEON			
SABLE FISH			
SPINY DOGFISH			
GREENLING			
HALIBUT			
SOLE/FLOUNDER			
ROCKFISH			
CLAMS (Manillas, Littlenecks, Butters, Horse Clams)			
GEODUCKS			
COCKLES			
OYSTERS			
MUSSELS			
MOON SNAIL			

FISH CONSUMPTION SURVEY - 24 HOUR DIETARY RECALL

Dietary Recall: TYPE OF SEAFOOD CONSUMED in last 24 hours <i>continued</i>	enter check if eaten	WHERE PREPARED code: 1= Home 2= Restaurant or Other	AMOUNT, including snacks enter pounds/ounces
SHRIMP			
DUNGENESS CRAB			
REDROCK CRAB			
SCALLOPS			
SQUID			
SEA URCHIN			
SEA CUCUMBER			
CANNED TUNA (from grocery store)			
OTHER (<i>name</i>)			
OTHER			

PART TWO: FINFISH CONSUMPTION - SEASON, FREQUENCY, PORTIONS

I am now going to ask you questions concerning what species of FINFISH you eat, the amount you eat, and how frequently you eat each species.

The amount of fish you eat and how often you eat it may depend on the time of year. For example, if there are seasonal differences in how often you eat fish, you may answer two different ways: when it is fresh and readily available, and when it is not in season. Or, if you believe there is no difference in how often you eat the fish I ask you about, you can tell me how often you eat fish in general without regard to when it is in season. Please remember to include breakfast, lunch, dinner, and snacks. Do not include fish you eat at ceremonies or community gatherings and events, since I will be asking you about that in a later section.

I will read each species of fish from the list and ask if you eat it. If you say no, we'll go on to the next fish. If you say yes, that you eat that type of fish, I will then ask you to look at these fish models and tell me your typical serving size and how often you eat that type of fish.

You can answer that you eat fish "so-many times" during a week, or a month, or a year in season, the rest of the year, or during the year in general without regard to seasonality.

INTERVIEWER:

SHOW DISPLAY MODELS FOR TYPICAL PORTION/ SERVING SIZE

Question format for Table I:

Do you eat (*Read the fish species from column A of Table I*)? *IF NO, GO TO NEXT SPECIES.*
IF YES:

What is your typical portion or serving size?

How often do you eat this fish? You may tell me you eat so many portions per day, per week, per month, or per year.

If the respondent says, "I eat two portions per day", enter 2 under the "Day" column showing under "NUMBER OF PORTIONS PER". Then ask, "How many days per year?", and enter the information under the "Days" portion of the possible responses under the heading "NUMBER OF ___PER YEAR".

If the respondents says, "I eat two portions per week", enter 2 under the "Wk." column showing under "NUMBER OF PORTIONS PER". Then ask "How many weeks per year?", and enter the information under the "Week" portion of the possible responses under heading "NUMBER OF ___PER YEAR."

Follow the same procedure if the respondent answers in months. If the respondent answers "I eat about 10 portions per year", enter 10 under the Year column of "NUMBER OF PORTIONS PER", and proceed to next row.

Make sure as you record the response that the answers do not exceed the total possible, i.e., 365 days per year, 52 weeks, and 12 months, in the final columns under "NUMBER OF ___PER YEAR."

TABLE I. CONSUMPTION: FISH GROUPS A and B

FISH SPECIES (Group A)	Fish Eaten (circle one)	TYPICAL PORTION SIZE (enter seafood model code)	NUMBER OF PORTIONS PER				NUMBER OF _____ PER YEAR		
			DAY	WK.	MO	YR	DYs	WKs	MOs
KING SALMON (CHINOOK) In season	yes no								
Rest of the year	yes no								
<i>Throughout the yr.</i>	<i>yes</i>								
SOCKEYE (RED) In season	yes no								
Rest of the year	yes no								
<i>Throughout the yr.</i>	<i>yes</i>								
COHO (SILVER) In season	yes no								
Rest of the Year	yes no								
<i>Throughout the yr.</i>	<i>yes</i>								
CHUM (DOG) In season	yes no								
Rest of the year	yes no								
<i>Throughout the yr.</i>	<i>yes</i>								

TABLE I. CONSUMPTION: FISH GROUPS A and B

FISH SPECIES (Groups A and B) <i>continued</i>	Fish Eaten (Circle one)	TYPICAL PORTION SIZE (enter seafood model code)	NUMBER OF PORTIONS PER				NUMBER OF _____ PER YEAR		
			DAY	WK	MO	YR	DYs	WKs	MOs
PINK In Season	yes no								
Rest of the year	yes no								
<i>Throughout the year</i>	<i>yes</i>								
SALMON - Species unidentified. (Use this category only if respondent does not identify species) In season	yes no								
Rest of the Year	yes no								
<i>Throughout the year</i>	<i>yes</i>								
STEELHEAD In Season	yes no								
Rest of the Year	yes no								
<i>Throughout the Year</i>	<i>yes</i>								

TABLE I. CONSUMPTION: FISH GROUPS A and B

FISH SPECIES (Groups A and B) <i>continued</i>	Fish Eaten (Circle one)	TYPICAL PORTION SIZE (enter seafood model code)	NUMBER OF PORTIONS PER				NUMBER OF _____ PER YEAR		
			DAY	WK	MO	YR	DYs	WKs	MOs
SMELT In Season	yes no								
Rest of the Year	yes no								
<i>Throughout the year</i>	<i>yes</i>								
HERRING In Season	yes no								
Rest of the Year	yes no								
<i>Throughout the year</i>	<i>yes</i>								

FINFISH PARTS CONSUMED AND PREPARATION

INTERVIEWER: IF NO SALMON EATEN, GO TO QUESTION 7 on page 11. Otherwise, continue below.

2. Now I am going to ask you which parts of salmon you eat, and what percentage of the time you eat those parts.

A. What percent of the time do you eat the fillet with and without skin? Your two answers should equal 100%.

1. fillet with skin _____ %

2. fillet without skin _____ %

TOTAL: 100 %

B. How often do you eat the:

1. eggs _____ per cent (*need not total 100%*)
2. head, bones, organs, or skin _____ per cent (*need not total 100%*)

3. I'm now going to ask you how the salmon which you eat is prepared. Please tell me what percentage of the time you prepare salmon in the following ways. Again, your two answers should add up to 100%. (*read each category*)

- | | |
|---|---------|
| 1. baked, roasted/barbecued, soup, stew, or poached | _____ % |
| 2. smoked, canned, fried, or raw
(<i>Includes salad and dip</i>) | _____ % |
| TOTAL | 100 % |

SOURCES OF SALMON CONSUMED

4. Please tell me approximately what percentage of salmon which you eat is obtained from the following sources. First, I will read the categories so that you can think about each of them. Then, I'll repeat each category so that you can give me your answer. Your answers should total 100%.

- | Source | Per cent |
|--|----------|
| 1. Grocery stores | _____ % |
| 2. fish from Puget Sound caught by you, your family members, the Suquamish Tribe, and/or friends | _____ % |
| 3. fish from outside Puget Sound caught by you, your family members, and/or friends | _____ % |
| 4. Restaurants | _____ % |
| 5. Other--please specify _____ | _____ % |
| TOTAL | 100 % |

INTERVIEWER: IF THE ANSWER TO 4-2 (fish caught within Puget Sound by self, family members and/or friends) = 0, GO TO Q. 6; otherwise, continue below.

<p>SHOW DISPLAY MAPS FOR MARINE FISH CATCH AREAS</p>

5. We are interested in knowing where in Puget Sound you, your family members, The Suquamish Tribe, and/or friends catch the salmon which you eat. If you know where the fish is caught and want to show me by referring to these display maps, we would appreciate having the information. If you prefer not to tell me, we can go on to the next question. (*Circle response*)

- 9. Don't know
 - 1. Prefer not to say
 - 2. Site locations are as follows (*enter codes from display maps, or names of locations*):
-

INTERVIEWER: IF THE ANSWER TO 4-3 (fish caught outside of Puget Sound by self, family members and/or friends) = 0, GO TO Q. 7, otherwise, continue below.

6. Of all the salmon which you eat that is caught outside of Puget Sound by you, family members, and/or friends, we would appreciate your telling us where the fish is caught. If you don't know or prefer not to tell me, we can go on to the next question.

- 9. Don't know
 - 1. Prefer not to say
 - 2. Site locations are as follows: (*enter names of locations*).
-

7. Thank you. Now I will ask you about other types of fish. Once again, I will read each type of fish from the list and ask if you eat that type, in season and during the rest of the year, or throughout the year in general. If you say yes, that you eat that type of fish, please look at these models and tell me your typical serving size and how often you eat that type of fish.

INTERVIEWER:

<p>SHOW DISPLAY MODELS FOR TYPICAL PORTION / SERVING SIZE</p>
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Question Format for Table II:

Do you eat (read the fish species from column A)? IF NO, GO TO NEXT SPECIES.
IF YES:

What is your typical portion or serving size?

How often do you eat this fish? You may tell me you eat so many portions per day, per week, per month or per year.

If the respondent says, "I eat two portions per day", enter 2 under the "day" column showing under NUMBER OF PORTIONS PER". Then ask, "How many days per year?" and enter the information under the "Days portion of the possible responses under the heading "NUMBER OF ___ PER YEAR.

If the respondent says, "I eat two portions per week, enter 2 under the "WK." column showing under "NUMBER OF PORTIONS PER". Then ask, "How many weeks per year?" and enter the information under the "Weeks" portion of the possible responses under the heading "NUMBER OF ___ PER YEAR".

Follow the same procedure if the respondent answers in months. If the respondent answers, "I eat about ten portions per year", enter 10 under the Year column under "NUMBER OF PORTIONS PER", and proceed to the next row.

Make sure as you record the response that the answers do not exceed the total possible, i.e., 365 days per year, 52 weeks, and 12 months in the final columns under "NUMBER OF ___ PER YEAR".

TABLE II. CONSUMPTION: FISH GROUP C

FISH SPECIES (Group C)	Fish Eaten (circle one)	TYPICAL PORTION SIZE (enter seafood model code)	NUMBER OF PORTIONS PER				NUMBER OF _____ PER YEAR		
			Day	WK	MO	YR	DAY	WK	MOS
COD(Rock, Tom) In season	yes no								
Rest of the year	yes no								
<i>Throughout the year</i>	<i>yes</i>								
PERCH In season	yes no								
Rest of the year	yes no								
<i>Throughout the year</i>	<i>yes</i>								
POLLOCK (imitation crab and other imitation seafood) In season	yes no								
Rest of the Year	yes no								
<i>Throughout the year</i>	<i>yes</i>								
STURGEON In season	yes no								
Rest of the year	yes no								
<i>Throughout the year</i>	<i>yes</i>								

TABLE II. CONSUMPTION: FISH GROUP C

FISH SPECIES (Group C) <i>continued</i>	Fish Eaten (circle one)	TYPICAL PORTION SIZE (enter seafood model code)	NUMBER OF PORTIONS PER				NUMBER OF ____ PER YEAR		
			Day	WK	MO	YR	DAY	WK	MOS
SABLE FISH In Season	yes no								
Rest of the year	yes no								
<i>Throughout the year</i>	yes								
SPINY DOGFISH In season	yes no								
Rest of the year	yes no								
<i>Throughout the year</i>	yes								
GREENLING In Season	yes no								
Rest of the Year	yes no								
<i>Throughout the year</i>	yes								

**INTERVIEWER: IF NONE OF THESE SPECIES IS EATEN, GO TO Q. 13 on page 17.
Otherwise, continue below.**

REFER TO DISPLAY CARD FISH GROUPS B AND C

8. Now I will ask you about what parts of these fish you eat and what percentage of the time you eat those parts.

A. What percentage of the time you eat the fillet with and without skin? Your two answers should equal 100%.

- 1. fillet with skin _____%
- 2. fillet without skin _____%
- TOTAL: 100%

B. How often do you eat the:

- 1. eggs _____% (*need not total 100%*)
- 2. head, bones, organs, skin _____% (*need not total 100%*)

9. I'm now going to ask you how the fish which you eat in these groups is prepared. Please tell me what percentage of the time you prepare the fish in the following ways. Your two answers should add up to 100%. (*Read each category.*)

- 1. baked, broiled, soup, stew, roasted/barbecued, or poached _____%
- 2. canned, fried, smoked, dried, or raw(includes salad and dip) _____%
- TOTAL 100%

10. Please tell me approximately what percentage of these fish are obtained from the following sources. First, I'll read the categories so that you can think about each of them. Then, I'll repeat each category so that you can give me your answer. Your answers should total 100%.

Source	Per cent
1. Grocery stores	_____ %
2. Fish caught from Puget Sound by you, family members, and/or friends	_____ %
3. Fish caught outside of Puget Sound by you, family members, and/or friends	_____ %
4. Restaurants	_____ %
5. other -- please specify _____	_____ %
TOTAL	100%

INTERVIEWER: IF RESPONSE TO 10-2 (fish caught within Puget Sound by self, family members and/or friends) = 0, GO TO Q. 12; otherwise, continue below.

SHOW DISPLAY MAPS FOR MARINE FISH CATCH AREAS

11. We are interested in knowing where in Puget Sound you, your family members, and/or friends catch the fish which you eat in these groups. If you know where the fish is caught, please show me by referring to these display maps. If you don't know or prefer not to tell me, we can go on to the next question.

- 9. Don't know
- 1. Prefer not to say
- 2. Site locations are as follows: (enter code from display maps, or names of locations)

INTERVIEWER: IF RESPONSE TO 10-3 (fish caught outside of Puget Sound by self, family members and/or friends) = 0, GO TO Q. 13; otherwise, continue below.

12. Of all the fish in these groups caught outside of Puget Sound by you, family members, and/or friends, we would appreciate your telling us where the fish is caught. If you don't know or prefer not to tell me, we can go on to the next question.

9. Don't know
 1. Prefer not to say
 2. Site locations are as follows: *(enter names of locations)*
-

13. Thank you. Now I'll ask you to tell me about your consumption of other species of finfish that you consume. Once again, I'll read each type of fish from the list and ask if you eat that species, in season, during the rest of the year, or throughout the year in general. If you say yes, that you eat that type of fish, please look at these models and tell me your typical serving size and how often you eat that type of fish.

INTERVIEWER:

SHOW DISPLAY MODELS FOR TYPICAL PORTION / SERVING SIZE

Question format for Table III:

Do you eat (*read the species from column A*)? *IF NO, GO TO NEXT SPECIES.*

IF YES:

What is your typical portion or serving size?

How often do you eat this fish? You may tell me you eat so many portions per day, per week, per month or per year.

If the respondent says, "I eat two portions per day", enter 2 under the "day" column showing under "NUMBER OF PORTIONS PER". Then ask, "How many days per year?" And enter the information under the "DAYS" portion of the possible responses under the heading "NUMBER OF ___ PER YEAR."

If the respondent says, "I eat two portions per week, enter 2 under the "WK." column showing under "NUMBER OF PORTIONS PER". Then ask, "How many weeks per year?" and enter the information in the "WEEKS" portion of the possible responses under the heading "NUMBER OF ___ PER YEAR".

Follow the same procedure if the respondent answers in months. If the respondent answers "I eat about ten portions per year", enter 10 in the Year column under "NUMBER OF PORTIONS PER", and proceed to the next row. Make sure as you record the response that the answers do not exceed the total possible, i.e., 365 days per year, 52 weeks, and 12 months in the final columns under "NUMBER OF ___ PER YEAR".

TABLE III. CONSUMPTION: FISH GROUP D

FISH SPECIES (Group D)	FISH EATEN (circle one)	TYPICAL PORTION SIZE (enter seafood model code)	NUMBER OF PORTIONS PER				NUMBER OF _____ PER YEAR		
			DAY	WK	MO	YR	DAY	WK	MOS
HALIBUT In season	yes no								
Rest of the Year	yes no								
<i>Throughout the year</i>	<i>yes</i>								
SOLE/FLOUNDER In season	yes no								
Rest of the Year	yes no								
<i>Throughout the year</i>	<i>yes</i>								
ROCKFISH In Season	yes no								
Rest of the Year	yes no								
<i>Throughout the year</i>	<i>yes</i>								

FINFISH PARTS CONSUMED AND PREPARATION

INTERVIEWER: IF NONE OF THESE SPECIES IS EATEN, GO TO PART THREE. Otherwise, continue below.

14. Now I am going to ask you which parts of these fish species you eat, and what percentage of the time you eat those parts.

A. What percent of the time do you eat fillets from this group with skin and without skin?
Your answers should total 100%.

1. fillet with skin _____ %

2. fillet without skin _____ %

TOTAL: 100 %

b. How often do you eat the:

1. eggs _____ % (NOTE: need not total 100%)

2. head, bones, organs, skin _____ % (NOTE : need not total 100%)

15. I'm now going to ask you how the fish which you eat in this group is prepared. Please tell me what percentage of the time the fish which you eat in this group is prepared in the following way. Your two answers must add up to 100%. (Refer to Display Card Fish Group D)

1. baked, broiled, soup, stew, barbequed/roasted or poached _____ %

2. canned, fried, raw, smoked, or dried _____ %

TOTAL = 100%

16. Please tell me approximately what percentage of fish you eat in this group are obtained from the following sources. First, I will read the categories so that you can think about each of them. Then, I'll repeat each category so that you give me your answers. Your answers should total 100%.

Source

1. Grocery stores _____ %

2. Fish caught from Puget Sound by you, family members, and/or friends _____ %

3. Fish caught outside Puget Sound by you, family members, and/or friends _____ %

4. Restaurants _____ %

5. Other (please specify) _____ %

TOTAL 100%

INTERVIEWER: If 16-2 (fish caught from within Puget Sound by self, family members and/or friends) = 0, GO TO Q. Otherwise, continue below.

SHOW DISPLAY MAPS FOR MARINE CATCH AREAS AND DISPLAY CARD FISH GROUPS D

17. We are interested in knowing where in Puget Sound you, your family members, and/or friends catch the fish which you eat in this category. Using these display maps, please show me where the fish is caught. If you don't know or prefer not to tell me, we can go on to the next question. (*Refer to Display Maps and Display Card Fish Group D. Circle response*).

- 9. Don't know
- 1. Prefer not to say
- 2. Site locations are as follows: (*enter codes from display maps, or names of locations*)

INTERVIEWER: If 16-3 (fish caught outside Puget Sound by self, family members and/or friends) = 0, GO TO Q. 19. Otherwise, continue below.

18. Of all the fish caught outside of Puget Sound by you, family members, and/or friends, please tell me where the fish was caught. Again, if you don't know or prefer not to tell me, we can go on to the next question.

- 9. Don't know
- 1. Prefer not to say
- 2. Site locations are as follows: (*enter names of locations*)

Thank you. This concludes the section on finfish. Now we are ready to begin the third section of the questionnaire.

PART THREE: SHELLFISH CONSUMPTION

19. The first part of this section relates to your consumption of various types of shellfish. First, I will read from the list. As I read the name, please tell me whether you eat that type. If you say yes, that you eat that type of shellfish, I'll then ask you to tell me your typical serving size and how often you eat that type of shellfish. Please refer to these display models for portion sizes.

You can answer that you eat the shellfish "so many times" during a week, or a month, or a year.

INTERVIEWER:

SHOW DISPLAY MODELS FOR TYPICAL PORTION / SERVING SIZE

Question format for Table IV:

D you eat (read the species from column A). IF NO, GO TO NEXT SPECIES.

IF YES:

What is your typical portion or serving size?

How often do you eat this species of shellfish? You may tell me you eat so many portions per day, per week, per month, or per year.

If the respondent says, "I eat two portions per day", enter 2 under the "day" column showing under "NUMBER OF PORTIONS PER". Then ask, "How many days per year?" And enter the information under the "Day" portion of the possible responses under the heading "NUMBER OF ____ PER YEAR".

If the respondent says, "I eat two portions per week, enter 2 under the "WK" column showing under "NUMBER OF PORTIONS PER". Then ask, "How many weeks per year?" and enter the information in the "Weeks" portion of the possible responses under the heading "NUMBER OF ____ PER YEAR".

Follow the same procedure if the respondent answers in months. If the respondent answers, "I eat about ten portions per year", enter 10 in the Year column of "NUMBER OF PORTIONS PER", and proceed to the next row.

Make sure as you record the response that the answers do not exceed the total possible for that unit of time, i.e., 365 days per year, 52 weeks, and 12 months in the final columns under "NUMBER OF ____ PER YEAR".

TABLE IV. CONSUMPTION OF SHELLFISH (Group E)

SHELLFISH CONSUMPTION (Group E)	SPECIES EATEN (circle one)	TYPICAL PORTION SIZE (enter seafood model code)	NUMBER OF PORTIONS PER				NUMBER OF _____ PER YEAR		
			DAY	WK	MO.	YR	DAYS	WKS	MOS.
CLAMS (Manilla, Littlenecks)	yes no								
HORSE CLAMS	yes no								
BUTTER CLAMS	yes no								
GEODUCKS	yes no								
COCKLES	yes no								
OYSTERS	yes no								
MUSSELS	yes no								
MOON SNAIL	yes no								
SHRIMP	yes no								
DUNGENESS CRAB	yes no								
RED ROCK CRAB	yes no								
SCALLOPS	yes no								
SQUID	yes no								
SEA URCHIN	yes no								
SEA CUCUMBER	yes no								

20. Now I will ask you about which parts of the shellfish you eat. As I read each the species and categories of parts, please tell me what parts you eat, keeping in mind that your answer should total 100%. Let me first read the categories, so that you can think about them. Then, we will go down the list of types of shellfish.

TABLE V. SHELLFISH PARTS CONSUMED (Group E)

SPECIES	Species Consumed (circle yes or no)	PER CENT TIME EATEN...					TOTAL (columns 3-7, as applicable, must total 100%)
		whole	siphon (neck) and strap	siphon (neck) only	siphon (neck) and stomach	other	
Manilla/ Littlenecks	yes no						
Horse Clams	yes no						
Butter Clams	yes no						
Geoducks	yes no						
Cockles	yes no						
Oysters	yes no						
Mussels	yes no						
Moon Snails	yes no						

TABLE VI. CONSUMPTION: SHELLFISH PARTS (Group E continued)

SPECIES (Shellfish Group E continued)	Species consumed (circle yes or no)		PORTIONS CONSUMED				TOTAL (columns 3-6, as applicable, must total 100%)
	yes	no	body and head _____%	body only _____%	head only _____%	other (enter) _____%	
SHRIMP	yes	no	body and head _____%	body only _____%	head only _____%	other (enter) _____%	100 %
DUNGENESS CRAB	yes	no	whole crab (crab meat and butter) _____ %	crab meat only _____ %	crab butter only _____ %		100
RED ROCK CRAB	yes	no	whole crab (meat and butter) _____ %	crab meat only _____ %	crab butter only _____ %		100
SCALLOPS	yes	no	whole _____ %	abductor muscle only _____ %	gonads only _____ %		100
SQUID	yes	no	whole _____ %	meat only (body and tentacles) _____ %			100
SEA URCHIN	yes	no	roe (eggs) _____ %	roe and meat _____ %			100
SEA CUCUMBER	yes	no	whole _____ %	muscle _____ %			100

21. I'm now going to ask you how the shellfish which you eat is prepared. Please tell me what percentage of the time you eat shellfish prepared the following ways. Your two answers should total 100%. (Refer to Display card Shellfish Group E)

- 1. baked, steamed, boiled, broiled, roasted, or poached _____ %
 - 2. canned, smoked, dried, fried, or raw _____ %
- TOTAL 100 %

22. If you steam or boil any of the shellfish in this group, what do you usually do with the nectar (water it is prepared in)? (Circle response.)

- 1. Use it in cooking
- 2. Drink it
- 3. Throw it out
- 4. Non-applicable (don't steam or boil)
- 9. Don't know

23. Now I'm going to ask you about the sources of shellfish which you consume. First, I'll read the categories so that you can think about each of them. Then I'll repeat each category so that you can tell me approximately what percent of the shellfish you consume which you get from that source. Your answers should total 100%.

- Source
- 1. grocery stores _____ %
 - 2. harvested within Puget Sound by you, family members or friends _____ %
 - 3. harvested outside of Puget Sound by you, family, members or friends _____ %
 - 4. restaurants _____ %
 - 5. other (please specify) _____ %
- TOTAL 100 %

INTERVIEWER: If the response to Question 23-2 (shellfish harvested within Puget Sound by self, family members, and/or friends) = 0, GO TO Q. 25. Otherwise, continue below.

SHOW DISPLAY MAPS FOR SHELLFISH HARVESTING AREAS AND DISPLAY CARD FOR SHELLFISH GROUP E

24. Once again, we are interested in knowing where you, your family and/or friends harvested the shellfish in this group which you consume. Using these display maps, please tell me the location names or codes for the harvest locations. If you don't know, or prefer not to tell me, we can go on to the next question. *(Circle response, enter names and/or location code from display map if applicable.)*

a) all clams, including Geoducks

- 9. Don't know
- 1. Prefer not to say
- 2. Harvest locations are as follows: _____

b) cockles

- 9. Don't know
- 1. Prefer not to say
- 2. Harvest locations are as follows: _____

c) oysters

- 9. Don't know
- 1. Prefer not to say
- 2. Harvest locations are as follows: _____

d) mussels

- 9. Don't know
- 1. Prefer not to say
- 2. Harvest locations are as follows: _____

e) moon snails

- 9. Don't know
- 1. Prefer not to say
- 2. Harvest locations are as follows: _____

f) shrimp

9. Don't know

1. Prefer not to say

2. Harvest locations are as follows: _____

g) crabs

9. Don't know

1. Prefer not to say

2. Harvest locations are as follows: _____

h) scallops

9. Don't know

1. Prefer not to say

2. Harvest locations are as follows: _____

I) squid

9. Don't know

1. Prefer not to say

2. Harvest locations are as follows: _____

j) sea urchins

9. Don't know

1. Prefer not to say

2. Harvest locations are as follows: _____

k) sea cucumbers

9. Don't know

1. Prefer not to say

2. Harvest locations are as follows: _____

INTERVIEWER: If the answer to question 23-3 (shellfish harvested outside of Puget Sound by self, family members and/or friends) =0, GO TO Q. 26 on page 30. Otherwise, continue below.

25. Of all the shellfish in this group which you eat, harvested outside of Puget Sound by you, family members or friends, please give me site codes or location names for harvest locations. If you don't know, or prefer not to tell me, we can go on to the next question.

a) all clams, including Geoducks

9. Don't know

1. Prefer not to say

2. Harvest locations are as follows: _____

b) cockles

9. Don't know

1. Prefer not to say

2. Harvest locations are as follows: _____

c) oysters

9. Don't know

1. Prefer not to say

2. Harvest locations are as follows: _____

d) mussels

9. Don't know

1. Prefer not to say

2. Harvest locations are as follows: _____

e) moon snails

9. Don't know

1. Prefer not to say

2. Harvest locations are as follows: _____

f) shrimp

- 9. Don't know
- 1. Prefer not to say
- 2. Harvest locations are as follows: _____

g) crabs

- 9. Don't know
- 1. Prefer not to say
- 2. Harvest locations are as follows: _____

h) scallops

- 9. Don't know
- 1. Prefer not to say
- 2. Harvest locations are as follows: _____

I) squid

- 9. Don't know
- 1. Prefer not to say
- 2. Harvest locations are as follows: _____

j) sea urchins

- 9. Don't know
- 1. Prefer not to say
- 2. Harvest locations are as follows: _____

k) sea cucumbers

- 9. Don't know
- 1. Prefer not to say
- 2. Harvest locations are as follows: _____

We are just about finished with this set of questions concerning finfish and shellfish.

26. This final question asks you to identify any types of finfish and shellfish which you eat that I have not asked you about. Please look again at these display cards which list the species in each group. I will ask you about one, canned tuna, that is not on those cards. Please add any seafood which you eat that we haven't discussed.

SHOW FINFISH AND SHELLFISH GROUP DISPLAY CARDS - SIDES 1 AND 2

SHOW DISPLAY MODELS FOR TYPICAL PORTION / SERVING SIZES

Question format for Table VII. Question 27.

Do you eat any fish which we have not asked you about? *IF NO, GO TO Q. 28.*
IF YES:

Please name the fish. (*enter in column A*)

What is your typical portion or serving size?

How often do you eat this fish? You may tell me you eat so many portions per day, per week, per month, or per year.

Interviewer: If respondent distinguishes consumption patterns according to when the fish is in season versus the rest of the year, use the rows in Table VII below to enter data for "in season" and "rest of the year". Otherwise, use one row only if the respondent is providing consumption throughout the year, without regard to seasonality. When recording the responses, follow the same procedure as was used for consumption of finfish in the earlier sections of the questionnaire. Again, make sure as you record the response that the answer does not exceed the total possible, i.e., 365 days, 52 weeks, and 12 months.

TABLE VII - OTHER SPECIES OF SEAFOOD CONSUMED

TYPE OF SEAFOOD (GROUPS F and G)	Fish Eaten (Circle one)	Typical Portion Size (enter seafood model code)	NUMBER OF PORTIONS PER				NUMBER OF _____ PER YEAR		
			DAY	WK	MO	YR.	DAYS	WKS	MOS.
26 (continued). canned tuna	yes no								
27. Other finfish and shellfish (IDENTIFY)	yes no								

FISH AND SHELLFISH EATING PATTERNS OF CHILDREN

THIS NEXT SERIES OF QUESTIONS WILL HELP US TO LEARN MORE ABOUT FISH AND SHELLFISH EATING PATTERNS OF CHILDREN AGED FIVE AND UNDER.

28. Interviewer: Circle respondent's gender.

1= Male (GO TO Q. 33)

2= Female (CONTINUE BELOW)

29. Have you given birth in the last five years? (*Circle one*) 1. YES (*CONTINUE*)
 2. NO (*GO TO Q.33*)

30. How many children have you given birth to in the last five years? (*Circle response.*)

1 2 3 4 5

31. How many of these children did you breast feed? (*Circle response. If "none", GO TO Q. 33*)

None 1 2 3 4 5

32. How many months did you breast feed each of these children?

____ months ____ months ____ months ____ months ____ months
 (Child 1) (Child 2) (Child 3) (Child 4) (Child 5)

33. Are there any children under six years of age living in your household? (*Circle one*)

1= YES (*CONTINUE*) 2 = NO (*GO TO Q. 43, page 37*).

Please tell me the names of all the children living in your household who are 5 years of age and under. Please include only those children who have been living in the household since birth or regularly for at least one year. Please give me the name of the youngest child first, then the next youngest, and so on. After we have listed them, I'll ask you questions about their seafood consumption patterns.

INTERVIEWER: The names of tribally enrolled children who are under six years of age living in the household are entered in the table below. Add the names of all other children 5 years old and younger, using the lines below the table for additional children if necessary. If the enrolled children are no longer in the household, draw a line through their names and enter that information under #58 at the end of the survey.

IF YOU LIST MORE THAN THREE CHILDREN, USE THE RANDOM NUMBER SHEET TO DETERMINE FOR WHICH CHILDREN THE RESPONDENT WILL ANSWER QUESTIONS.

CHILD'S NAME	TRIBAL ENROLL. (enter code) 1=Suquamish 2=other 3=NO	GENDER (enter code) 1= male 2= female	PRESENT WEIGHT lb / oz	PRESENT HEIGHT ft / inches	PRES-ENT AGE yr/mo	No. of months child breast-fed	age child began to eat seafood (yr/ mo) 77 - not yet 99 - don't know
34.							
35.							
36.							
37.							
38.							

39. What percent of the time are you present during meals with the children? (enter) _____ %

40. Do you prepare the majority of the meals which these children eat? (Circle response)

1. YES 2. NO

41. I will now ask you about finfish consumption according to fish groups, starting with the youngest child under age six listed in the question above. Please refer to the Display Models for portion sizes. If you believe that you are not familiar enough with any or all of the children's eating habits, we will skip this question.

INTERVIEWER:

If the respondent does not wish to complete this section for any of the children in the household, go to question # 43 on page 31, and make a notation here and on question #58 at the end of the questionnaire. Otherwise, complete the table below for the youngest child. For each additional child under age six listed above, use yellow sheets found at the end of this questionnaire. Follow question format used in previous tables.

SHOW DISPLAY MODELS FOR TYPICAL PORTION / SERVING SIZES
--

TABLE VIII. CHILDREN'S CONSUMPTION OF FINFISH
(Age Group Birth through five years)

Child's Name (from question 33-37) _____

FISH GROUP	Fish Eaten/ Typical Portion Size (circle yes or no. If fish is eaten, enter seafood model codes)	NUMBER OF PORTIONS EATEN PER				NUMBER OF MONTHS PER YEAR (max. 12)	FISH PARTS EATEN			
		day	wk.	mo.	yr		must total 100%		need not total 100%	
							fillet with skin	fillet without skin	eggs	head, bones, organs
GROUP A salmon , including steelhead	yes no									
GROUP B Smelt, Herring	yes no									
GROUP C Cod (Rock, Tom); Perch, Pollock, Sturgeon, Sable Fish, Spiny Dogfish, Greenling	yes no									
GROUP D Halibut, Sole, Flounder, Rockfish	yes no									
GROUP E other finfish canned tuna other	yes no									

42. Now I will ask about shellfish consumption. Again, we'll start with the youngest child.
 (Use additional sheets as needed).

TABLE IX. CHILDREN'S CONSUMPTION OF SHELLFISH
 (Age Group Birth through Five)

SHELLFISH SPECIES FREQUENCY						SHELLFISH PARTS EATEN				TOTAL Columns 8-11 as applicable must total 100%	
SPECIES EATEN	TYPICAL PORTION SIZE (refer to seafood models)	PORTIONS EATEN PER				No. of — Per year (enter D, W, M.)	PER CENT TIME EATEN...				
		D A Y	W E E K	M O	Y R		whole	Siphon (neck) and strap	Siphon (neck) only		Siphon (neck) and Stomach
Manilla, little- Neck Clams											
Yes No											
Horse Clams											
Yes No											
Geoducks											
Yes No											
Cockles											
Yes No											
Oysters											
Yes No											
Mussels											
Yes No											
Moon Snail											
Yes No											
Butter clams											
Yes No											

TABLE X. CHILDREN'S CONSUMPTION OF SHELLFISH (Group E continued)
(Age Group Birth through 5 years)

CHILD'S NAME (enter here)											
SPECIES	PORTION SIZE (see models)	PORTIONS EATEN PER				No. Of Mo Per yr.	SHELLFISH PARTS EATEN				TOTAL (columns 5 - 8, as applic., must total 100%)
		Dy	wk	mo	yr						
SHRIMP YES NO							body and head ____%	body only ____%	head only ____%	other	=100%
DUNGENESS CRAB YES NO							whole (meat & butter ____%	crab meat only ____%	crab butter only ____%		=100%
RED ROCK CRAB YES NO							whole (meat & butter) ____%	crab meat only ____%	crab butter only ____%		=100%
SCALLOPS YES NO							whole ____%	abductor muscle only ____%	gonads only ____%		=100%
SQUID YES NO							whole ____%	meat only (body & tentacles) ____%			=100%
SEA URCHIN YES NO							roe (eggs) ____%	roe and meat ____%			=100%
SEA CUCUMBER YES NO							whole ____%	muscle ____%			=100%

GENERAL QUESTIONS

This is the final section of the questionnaire. I'll be asking you for general information on seafood consumption followed by a few specific questions.

43. Sometimes, for various reasons, people's consumption of fish and shellfish changes. Has the amount of fish and/or shellfish consumed by you or your family changed over the last twenty years? (*Circle response.*)

1. Yes (*CONTINUE*)
2. No (*GO TO Q. 46*)
9. Don't know (*GO TO Q. 46*)

44. What has the change been?

1. Eat more fish and/or shellfish now
2. Eat less fish and/or shellfish now
3. Eat different types of fish and/or shellfish now

45. Please tell me what you think has caused the change in the amount or type of fish and shellfish you now eat.

INTERVIEWER: Possible probes:

for eating less: less available; less accessible; health reasons; personal reasons; family reduction/influence; less time available to smoke, can or preserve the fish and shellfish

for eating more: more available/accessible; like seafood more than used to; health reasons; self or family member started harvesting fish and/or shellfish; self, family, friends take more time to smoke, can or preserve the fish and shellfish

46. On the average, how many ceremonies, large gatherings or other community events do you attend per year?

_____ per year (IF "0", GO TO Q. 49. Otherwise, continue.)

47. At what percentage of these events do you eat salmon and steelhead? You may answer from 0 to 100%
 _____ percent (IF "0", GO TO Q. 49)

SHOW DISPLAY MODELS FOR TYPICAL PORTION / SERVING SIZES

48. Using the salmon display model, please tell me what your typical portion is on these occasions.
 _____portion size code

49. I'm now going to ask questions about your consumption of three categories of shellfish.

Question format for Table XI:

Do you eat (read the species groups in each row in column A). IF YES:

What is your typical portion or serving size at these ceremonies, gatherings or community events?

At what percentage of these occasions do you consume these species?

TABLE XI. CONSUMPTION OF SEAFOOD AT GATHERINGS

FINFISH AND SHELLFISH SPECIES	Consumption (circle one)	Typical Portion Size (enter code from display models)	per cent of occasions species eaten at gatherings
Clams:(manillas, littlenecks, butters, horse clams, and geoducks	yes no		
oysters	yes no		
crab (Dungeness and red rock)	yes no		

50. I'm going to read three age groups. Please tell me which age group you are in. (Circle one.)

- 1. age 16-42
- 2. age 43-54
- 3. age 55 and over

51. How much do you weigh? _____ pounds

52. What is your height? _____ feet _____ inches

53. This question is optional. I will read household income categories, representing the total income earned by all persons in the household. Please tell me which category you are in. If you prefer not to say, that's all right (*circle one*).

1. \$ 0 - 10,000 per year
2. 10,001 - 20,000 per year
3. 20,001 - 30,000
4. 30,001 - 40,000
5. 40,001 and over

CONCLUSION: Thank you very much for your cooperation in participating in this survey. Your participation will significantly contribute to information needed to help protect our natural resources.

We would appreciate your signing this form that verifies that the interview was conducted. After you sign it, please place it in the envelope. It will remain confidential and will be destroyed after the completion of the study. (**INTERVIEWER: HAND THE RESPONDENT A FORM AND ENVELOPE**).

As we mentioned when we set up this appointment, someone from the survey project team may call you within the next few weeks to ask you the same dietary recall question which you were asked at the very beginning of this interview. It shouldn't take more than about ten minutes. We will mail your honorarium of \$25.00 for participating in this survey soon after completing the dietary recall questionnaire.

Please call us if you have any questions.

Again, thank you very much. The Suquamish Tribe appreciates your help with this study.

INTERVIEWER: PUT THE ENVELOPE INTO YOUR EXPANDO FILE. RECORD THE TIME THE INTERVIEW ENDS: _____ AM PM

INTERVIEWER NOTES

54. The Respondent's cooperation was: (*circle*) 1 =Very good 2=Good 3= Fair 4= Poor

55. The reliability of the respondent's answers was: (circle one)

1. Highly reliable 2. Generally reliable 3. Questionable 4. Unreliable

56. If the reliability of the respondent's answers was questionable or unreliable, what do you think were the main reasons for the questionable or unreliable quality of the responses?

57. Please use the space below to enter notations and any remarks you might want to make about other aspects of the interview.

A-2 Interview Verification Form



FISHERIES DEPARTMENT

Area Code (360)

598-3311

Fax 598-4666

THE SUQUAMISH TRIBE

P.O. Box 498

Suquamish, Washington 98392

Questionnaire No. _____

THE SUQUAMISH TRIBE SEAFOOD CONSUMPTION SURVEY

Participation Verification Form (confidential)

By my signature below, I verify that I was interviewed on _____ (date)

at our scheduled appointment beginning at _____ AM PM

by _____ (Name of interviewer).

Respondent's Signature

Date

A-3 Display Booklet

FINFISH AND SHELLFISH GROUPS

FINFISH GROUPS

GROUP A	GROUP C	GROUP D
King Salmon (Tyee, Chinook)	Cod (Rock, Tom)	Halibut
Sockeye (Red)	Perch	Sole, Flounder
Coho (Silver)	Pollock	Rockfish
Chum (Dog)	Sturgeon	
Pink	Sable Fish	
Steelhead	Spiny Dogfish (shark)	
GROUP B	Greenling	
Smelt		
Herring		

GROUP E – SHELLFISH

CLAMS (Manila/Littleneck)
HORSE CLAMS
BUTTER CLAMS
GEODUCKS
COCKLES
OYSTERS
MUSSELS
MOON SNAIL

SHRIMP
DUNGENESS CRAB
RED ROCK CRAB
SCALLOPS
SQUID
SEA URCHIN
SEA CUCUMBER

GROUP F – OTHER FINFISH canned tuna fish

GROUPS F AND G – OTHER FINFISH AND SHELLFISH

GROUP F – OTHER FINFISH

Pelagic
mackerel
shark

Bottom
skate
eel
grunters

Other Aquatic Resources:

Marine Mammals (seal, whale [muktuk])

GROUP G – OTHER SHELLFISH

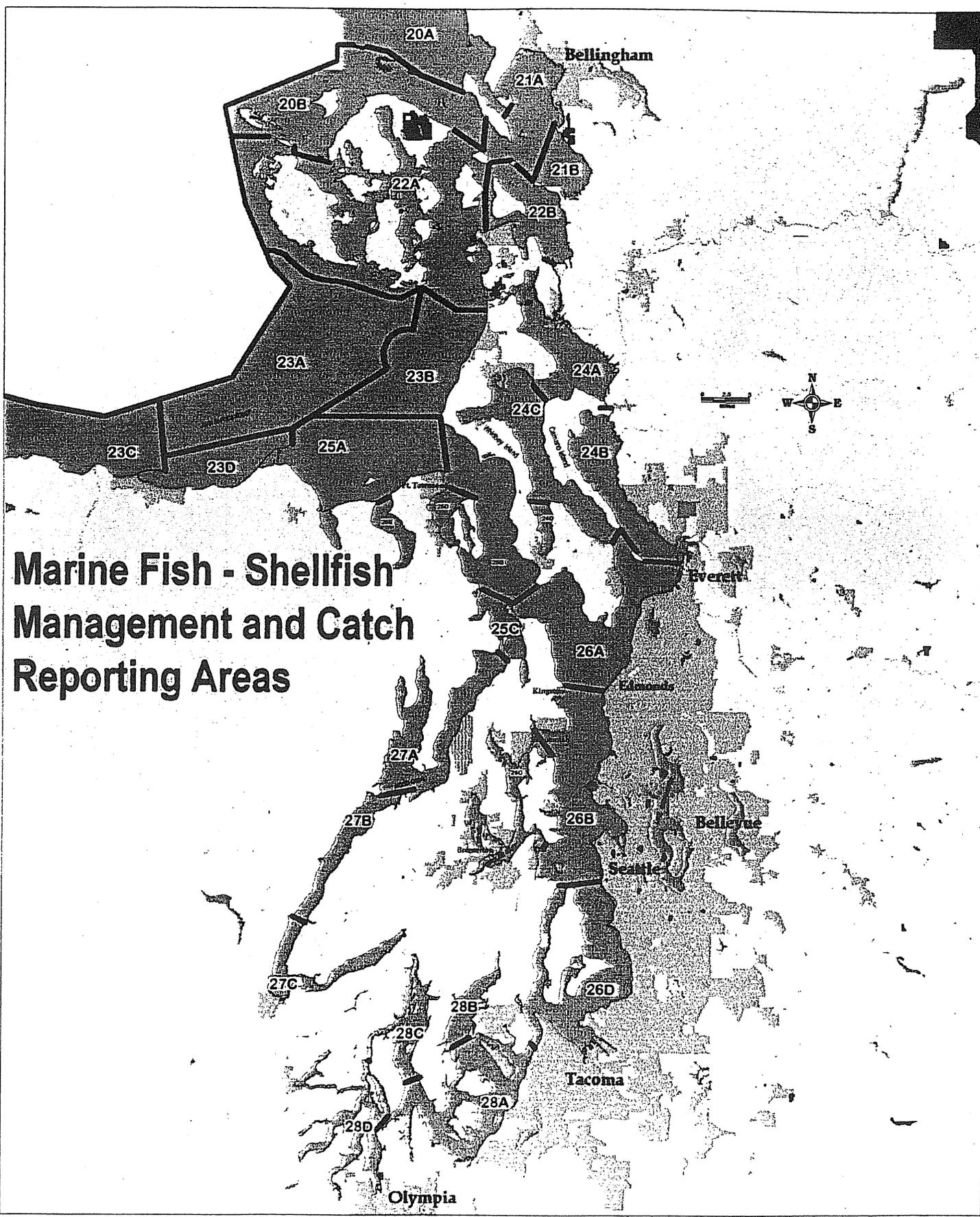
limpets
lobster
bullhead
Manta ray
razor clams
chitons
octopus
abalone
barnacles
crayfish

This section of the display booklet utilized cards produced by The Mountaineers as follows for illustrations of finfish and shellfish:

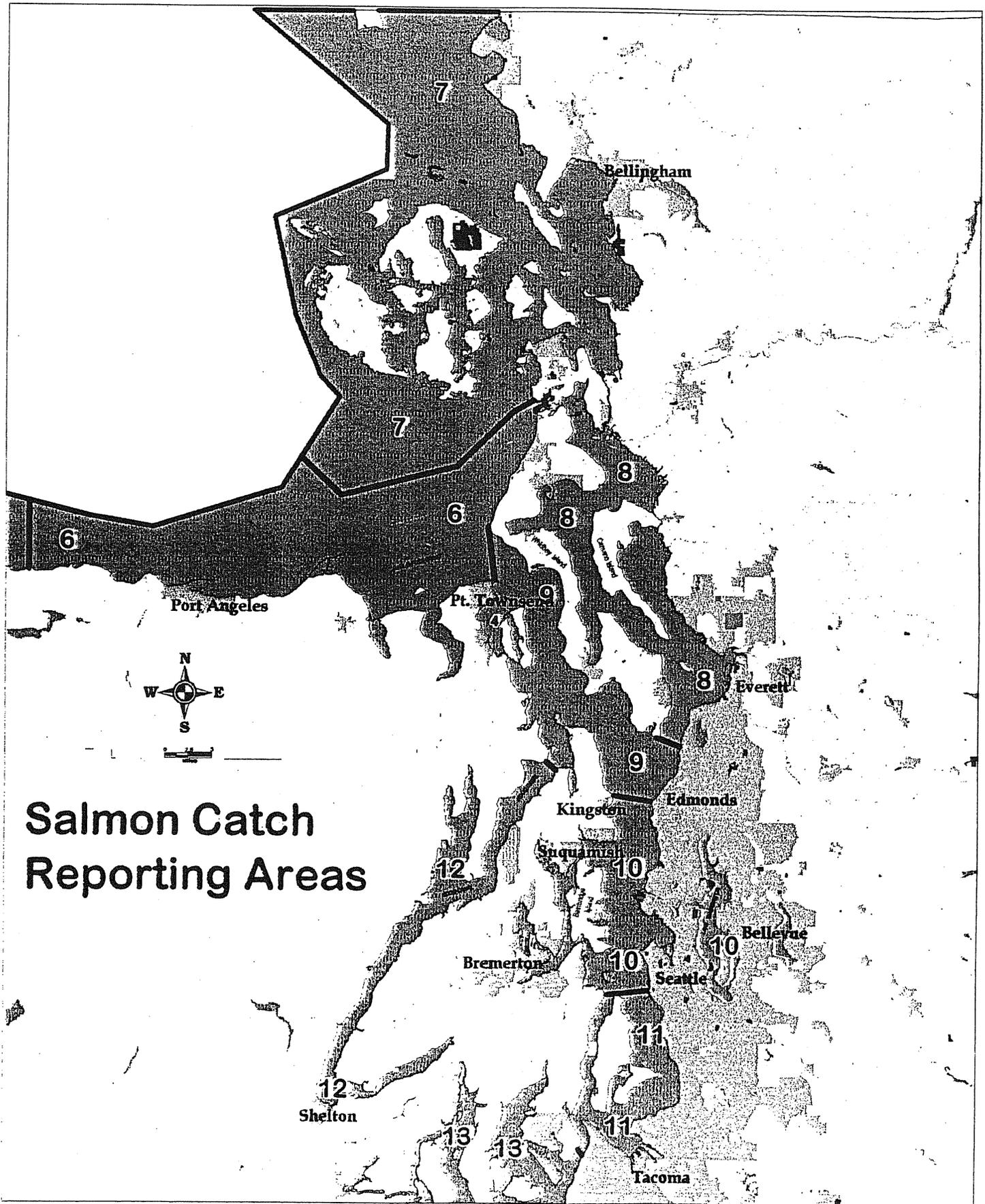
Mac's Field Guide to Northwest Coastal Fish, 1984

Mac's Field Guide to Northwest Coastal Invertebrates, 1984

Cards are available in shops, and from
The Mountaineers
1011 S.W. Klickitat Way
Seattle, Washington 98134



Marine Fish - Shellfish Management and Catch Reporting Areas



Salmon Catch Reporting Areas

Appendix B



FISHERIES DEPARTMENT

Area Code (360)

598-3311

Fax 598-4666

THE SUQUAMISH TRIBE

P.O. Box 498

Suquamish, Washington 98392

SAMPLE LETTER TO ADULT CONTACT FOR SURVEY OF FISH
CONSUMPTION PATTERNS OF ENROLLED CHILD UNDER SIX

date

name of adult in household

address

city, WA zip code

Dear _____,

I am pleased to invite your participation in the Fish Consumption Study which we initiated last year. A tribally enrolled child living at your address is among the selected children under six years of age for whom we would like to obtain information about fish and shellfish consumption patterns. Your participation will help us to ensure protection of the aquatic resources which are so important to our tribal members.

The survey will take about 15 minutes per child. The information which you give to us will be completely confidential, and your responses to the questions will be combined with those of others so that your answers cannot be identified. In appreciation for your time, you will be provided with an honorarium of \$25.00. We will be interviewing about 175 tribal members living on and near the Port Madison Indian Reservation.

Please call Margee Duncan at the Fisheries Department (598-3311, ext. 466) this week to arrange for an interview. A tribal member will interview you at the Tribal Center, your home, or a location that is most convenient for you. Interviews are being conducted from now until the end of July, on weekdays between 9 am and 6 pm or later, if you prefer, or on weekends if that is best for you.

Your willingness to provide information by participating in the survey is deeply appreciated and very important to our efforts to ensure a healthy and safe environment.

Sincerely,

Bennie J. Armstrong
Chairman



Area Code (360)

598-3311

Fax 598-6295

THE SUQUAMISH TRIBE

P.O. Box 498

Suquamish, Washington 98392

Date

Name of Tribal Member
address
city, WA zip code

Dear _____,

The seafood consumption survey which we started at the beginning of July is going very well, and I want to thank you very much for your participation.

Enclosed is a check for \$25.00, representing an honorarium for your having taken the time to respond to questions and provide such helpful information. The consumption study is important to the Tribe, and we look forward to writing an article summarizing the overall results once the project team has been able to complete the interviews and put all of the information together. If everything stays on schedule, there will be an article in the September of October newsletter.

Once again, your participation is deeply appreciated.

Sincerely,

Bennie J. Armstrong
Chairman, Suquamish Tribal Council

Enclosure

Appendix C

Table C-1. Adult Consumption Rate (g/kg/day): Individual Finfish and Shellfish and Fish Groups

Species/Group	n	Mean	SE	All Adult Respondents (including non-consumers)										Consumers Only				
				95%LCL	95%UCL	5%tile	Median	75%tile	90%tile	95%tile	Max	n	%	GM*	MSE**			
Group A																		
King Salmon	92	0.137	0.023	0.092	0.182	0.000	0.041	0.142	0.445	0.675	1.068	63	68%	0.095	1.178			
Sockeye	92	0.108	0.019	0.071	0.145	0.000	0.027	0.113	0.428	0.559	0.829	59	64%	0.076	1.197			
Coho	92	0.104	0.021	0.063	0.144	0.000	0.010	0.092	0.470	0.600	0.966	50	54%	0.089	1.206			
Chum	92	0.111	0.024	0.063	0.159	0.000	0.000	0.094	0.348	0.742	1.095	42	46%	0.109	1.256			
Pink	92	0.007	0.002	0.003	0.010	0.000	0.000	0.000	0.032	0.055	0.103	17	18%	0.024	1.273			
Other or Unspec Salmon	92	0.055	0.025	0.005	0.105	0.000	0.000	0.021	0.167	0.199	2.247	32	35%	0.050	1.291			
Steelhead	92	0.029	0.011	0.008	0.050	0.000	0.000	0.006	0.062	0.189	0.766	26	28%	0.033	1.353			
Salmon (gatherings)	92	0.068	0.011	0.046	0.090	0.000	0.029	0.077	0.205	0.271	0.751	85	92%	0.034	1.155			
Group B																		
Smelt	92	0.042	0.013	0.015	0.068	0.000	0.003	0.017	0.117	0.250	1.1026	49	53%	0.022	1.250			
Herring	92	0.009	0.004	0.002	0.016	0.000	0.000	0.000	0.019	0.075	0.271	14	15%	0.024	1.531			
Group C																		
Cod	92	0.107	0.021	0.065	0.149	0.000	0.046	0.110	0.275	0.439	1.498	78	85%	0.059	1.148			
Perch	92	0.0003	0.0002	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.014	2	2%	0.012	1.155			
Pollock	92	0.024	0.009	0.006	0.041	0.000	0.000	0.008	0.063	0.130	0.751	40	43%	0.018	1.253			
Sturgeon	92	0.004	0.002	0.000	0.008	0.000	0.000	0.000	0.000	0.019	0.182	8	9%	0.017	1.685			
Sable Fish	92	0.001	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.025	0.053	5	5%	0.009	2.005			
Spiny Dogfish	92	0.000				0.000	0.000	0.000	0.000	0.000	0.004	1	1%	0.004				
Greenling	92	0.0003	0.0002	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.014	2	2%	0.013	1.124			
Bull Cod	92	0.0002	0.0002	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.016	1	1%	0.016				
Group D																		
Halibut	92	0.064	0.015	0.035	0.093	0.000	0.026	0.053	0.144	0.319	1.068	74	80%	0.035	1.154			
Sole/Flounder	92	0.011	0.004	0.004	0.019	0.000	0.000	0.000	0.028	0.071	0.217	20	22%	0.026	1.317			
Rock Fish	92	0.022	0.011	0.000	0.044	0.000	0.000	0.000	0.045	0.081	0.855	12	13%	0.078	1.438			

Table C-1 continued next page.

Table C-1 (cont.). Adult Consumption Rate (g/kg/day): Individual Finfish and Shellfish and Fish Groups

Species/Group	All Adult Respondents (including non-consumers)													Consumers Only		
	n	Mean	SE	95%LCL	95%UCL	5%tile	Median	75%tile	90%tile	95%tile	Max	n	%	GM*	MSE**	
Group E																
Manilla/Littleneck Clams	92	0.439	0.141	0.162	0.715	0.000	0.077	0.265	1.080	1.816	11.020	84	91%	0.097	1.213	
Horse Clams	92	0.041	0.010	0.022	0.060	0.000	0.005	0.038	0.112	0.283	0.494	52	57%	0.029	1.212	
Butter Clams	92	0.206	0.050	0.108	0.304	0.000	0.049	0.171	0.486	1.224	3.128	72	78%	0.080	1.212	
Geoduck	92	0.166	0.035	0.097	0.235	0.000	0.041	0.140	0.392	1.055	2.291	83	90%	0.065	1.166	
Cockles	92	0.155	0.038	0.080	0.229	0.000	0.027	0.182	0.299	0.842	2.317	61	66%	0.087	1.203	
Oysters	92	0.107	0.023	0.061	0.153	0.000	0.021	0.096	0.348	0.641	1.490	60	65%	0.064	1.199	
Mussels	92	0.016	0.006	0.004	0.028	0.000	0.000	0.002	0.048	0.115	0.475	25	27%	0.019	1.385	
Moon Snails	92	0.000			0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0%			
Shrimp	92	0.163	0.026	0.112	0.214	0.000	0.075	0.177	0.476	0.876	1.173	86	93%	0.064	1.188	
Dungeness Crab	92	0.144	0.026	0.094	0.194	0.000	0.060	0.163	0.408	0.505	1.717	81	88%	0.071	1.160	
Red Rock Crab	92	0.008	0.003	0.003	0.013	0.000	0.000	0.000	0.016	0.066	0.162	19	21%	0.021	1.278	
Scallops	92	0.022	0.005	0.011	0.033	0.000	0.003	0.014	0.059	0.124	0.336	54	59%	0.013	1.213	
Squid	92	0.010	0.005	0.002	0.019	0.000	0.000	0.000	0.011	0.060	0.313	23	25%	0.009	1.456	
Sea Urchin	92	0.002	0.001	0.000	0.003	0.000	0.000	0.000	0.000	0.012	0.052	6	7%	0.020	1.397	
Sea Cucumber	92	0.003	0.002	0.000	0.007	0.000	0.000	0.000	0.000	0.005	0.156	5	5%	0.020	2.170	
Oyster (gatherings)	92	0.027	0.007	0.013	0.040	0.000	0.000	0.027	0.089	0.148	0.517	40	43%	0.026	1.264	
Clams (gatherings)	92	0.047	0.011	0.025	0.069	0.000	0.010	0.048	0.105	0.307	0.608	61	66%	0.027	1.204	
Crab (gatherings)	92	0.026	0.009	0.008	0.044	0.000	0.000	0.022	0.058	0.098	0.782	43	47%	0.020	1.260	
Clams (razor, unspecified)	92	0.047	0.015	0.018	0.077	0.000	0.000	0.036	0.137	0.179	1.214	35	38%	0.055	1.254	
Crab (king/snow)	92	0.0002	0.0002	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.017	1	1%	0.017		
Group F																
Cabazon	92	0.001	0.001	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.080	1	1%	0.080		
Blue Back (sockeye)	92	0.0001	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	2	2%	0.004	2.324	
Trout/Cutthroat	92	0.004	0.002	0.000	0.008	0.000	0.000	0.000	0.000	0.000	0.162	3	3%	0.097	1.501	
Tuna (fresh/canned)	92	0.116	0.016	0.085	0.147	0.000	0.060	0.136	0.313	0.497	0.778	83	90%	0.067	1.142	
Groupers	92	0.0003	0.0003	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.025	1	1%	0.025		
Sardine	92	0.001	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.049	1	1%	0.049		
Grunter	92	0.002	0.002	0.000	0.005	0.000	0.000	0.000	0.000	0.001	0.125	4	4%	0.029	2.295	
Mackerel	92	0.0001	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	1	1%	0.008		
Shark	92	0.000			0.000	0.000	0.000	0.000	0.000	0.000	0.002	1	1%	0.002		
Group G																
Abalone	92	0.001	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.063	3	3%	0.007	3.139	
Lobster	92	0.022	0.007	0.008	0.036	0.000	0.000	0.000	0.085	0.139	0.549	22	24%	0.052	1.266	
Octopus	92	0.019	0.006	0.008	0.030	0.000	0.000	0.015	0.069	0.128	0.407	25	27%	0.042	1.231	
Limpets	92	0.010	0.009	0.000	0.027	0.000	0.000	0.000	0.000	0.000	0.795	2	2%	0.261	3.047	
Miscellaneous	92	0.0003	0.0003	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.023	1	1%	0.023		

Table C-1 continued next page.

Table C-1 (cont.). Adult Consumption Rate (g/kg/day): Individual Finfish and Shellfish and Fish Groups

Species/Group	All Adult Respondents (including non-consumers)										Consumers Only				
	n	Mean	SE	95%LCL	95%UCL	5%tile	Median	75%tile	90%tile	95%tile	Max	n	%	GM*	MSE**
Group A	92	0.618	0.074	0.473	0.763	0.021	0.350	1.002	1.680	2.177	3.469	92	100%	0.274	1.167
Group B	92	0.051	0.016	0.019	0.082	0.000	0.003	0.019	0.128	0.270	1.149	49	53%	0.025	1.262
Group C	92	0.136	0.025	0.087	0.185	0.000	0.055	0.141	0.369	0.526	1.716	87	95%	0.064	1.147
Group D	92	0.097	0.021	0.056	0.138	0.000	0.029	0.076	0.206	0.613	1.069	76	83%	0.045	1.168
Group E	92	1.629	0.262	1.115	2.143	0.063	0.740	1.688	4.555	7.749	15.886	91	99%	0.703	1.160
Group F	92	0.124	0.016	0.092	0.156	0.000	0.068	0.144	0.352	0.533	0.778	85	92%	0.070	1.139
Group G	92	0.052	0.017	0.019	0.084	0.000	0.000	0.038	0.128	0.262	1.344	42	46%	0.043	1.240
All Finfish	92	1.026	0.113	1.153	2.208	0.087	0.639	1.499	2.526	3.412	5.516	92	100%	0.590	1.128
All Shellfish	92	1.680	0.269	2.049	3.364	0.063	0.796	1.825	4.590	7.754	15.976	91	99%	0.727	1.160
All Seafood	92	2.707	0.336	0.000	0.000	0.236	1.672	3.598	6.190	10.087	18.400	92	100%	1.530	1.123

* GM = Geometric Mean. ** MSE = Multiplicative Standard Error.

Note: The minimum consumption for all species and groups was zero, except for "Group A", "all finfish" and "all seafood". The minimum rate for "Group A" was 0.005, for "all finfish" was 0.018, and for "all seafood" was 0.080.

Table C-2. Adult Consumption Rate (g/kg/day) for Consumers Only:
Individual Finfish and Shellfish and Fish Groups

Group	Species	Consumers only						
		n	Mean	SE	Median	75%tile	90%tile	
Group A	King	63	0.200	0.031	0.092	0.322	0.581	
	Sockeye	59	0.169	0.026	0.070	0.293	0.493	
	Coho	50	0.191	0.033	0.084	0.247	0.584	
	Chum	42	0.242	0.046	0.147	0.280	0.768	
	Pink	17	0.035	0.007	0.034	0.057	0.077	
	Other or Unspecified Salmon	32	0.159	0.070	0.043	0.172	0.261	
	Steelhead	26	0.102	0.035	0.027	0.103	0.398	
	Salmon (gatherings)	85	0.074	0.012	0.031	0.079	0.205	
Group B	Smelt	49	0.078	0.024	0.016	0.078	0.247	
	Herring	14	0.059	0.020	0.034	0.093	0.197	
Group C	Cod	78	0.126	0.024	0.051	0.140	0.319	
	Perch	2	0.012	0.002	0.012	---	---	
	Pollock	40	0.054	0.020	0.013	0.060	0.139	
	Sturgeon	8	0.041	0.021	0.021	0.053	---	
	Sable Fish	5	0.018	0.009	0.014	0.034	---	
	Spiny Dogfish	1	0.004	---	---	---	---	
	Greenling	2	0.013	0.002	0.013	---	---	
	Bull Cod	1	0.016	---	---	---	---	
	Group D	Halibut	74	0.080	0.018	0.029	0.069	0.213
		Sole/Flounder	20	0.052	0.015	0.022	0.067	0.201
Rock Fish		12	0.169	0.072	0.066	0.231	0.728	
Group E	Manila/Littleneck Clams	84	0.481	0.154	0.088	0.284	1.190	
	Horse Clams	52	0.073	0.016	0.025	0.070	0.261	
	Butter Clams	72	0.263	0.062	0.123	0.184	0.599	
	Geoduck	83	0.184	0.039	0.052	0.167	0.441	
	Cockles	61	0.233	0.055	0.099	0.202	0.530	
	Oysters	60	0.164	0.034	0.068	0.184	0.567	
	Mussels	25	0.059	0.020	0.015	0.085	0.155	
	Moon Snails	0	---	---	---	---	---	
	Shrimp	86	0.174	0.027	0.088	0.196	0.549	
	Dungeness Crab	81	0.164	0.028	0.071	0.185	0.425	
	Red Rock Crab	19	0.037	0.010	0.012	0.057	0.117	
	Scallops	54	0.037	0.009	0.011	0.040	0.110	
	Squid	23	0.041	0.017	0.009	0.032	0.188	
	Sea Urchin	6	0.025	0.008	0.019	0.048	---	
	Sea Cucumber	5	0.056	0.031	0.008	0.130	---	
	Oyster (gatherings)	40	0.061	0.014	0.031	0.088	0.152	
	Clams (gatherings)	61	0.071	0.016	0.029	0.064	0.165	
	Crab (gatherings)	43	0.056	0.019	0.027	0.042	0.100	
	Clams (razor, unspecified)	35	0.124	0.036	0.062	0.138	0.284	
Crab (king/snow)	1	0.017	---	---	---	---		

Table C-2 continued next page.

Table C-2 (cont.). Adult Consumption Rate (g/kg/day) for Consumers Only:
Individual Finfish and Shellfish and Fish Groups

Group	Species	Consumers only					
		n	Mean	SE	Median	75%tile	90%tile
Group F	Cabazon	1	0.080	---	---	---	---
	Blue Back (sockeye)	2	0.006	0.004	0.006	---	---
	Trout/Cutthroat	3	0.112	0.035	0.129	---	---
	Tuna (fresh/canned)	83	0.129	0.017	0.071	0.145	0.346
	Groupers	1	0.025	---	---	---	---
	Sardine	1	0.049	---	---	---	---
	Grunter	4	0.056	0.026	0.047	0.110	---
	Mackerel	1	0.008	---	---	---	---
	Shark	1	0.002	---	---	---	---
	Group G	Abalone	3	0.022	0.020	0.003	---
Lobster		22	0.092	0.025	0.057	0.130	0.172
Octopus		25	0.071	0.017	0.044	0.123	0.149
Limpets		2	0.440	0.355	0.440	---	---
Miscellaneous		1	0.023	---	---	---	---
Group A		92	0.618	0.074	0.350	1.002	1.680
Group B		49	0.095	0.029	0.017	0.098	0.261
Group C		87	0.144	0.026	0.068	0.141	0.403
Group D		76	0.118	0.025	0.042	0.091	0.392
Group E		91	1.647	0.265	0.750	1.691	4.577
Group F		85	0.134	0.017	0.076	0.163	0.372
Group G		42	0.113	0.034	0.042	0.118	0.270
All Finfish		92	1.026	0.113	0.639	1.499	2.526
All Shellfish	91	1.699	0.271	0.819	1.837	4.600	
All Seafood	92	2.707	0.336	1.672	3.598	6.190	

Table C-3. Adult Consumption Rate (g/kg/day) by Gender

Species/Group	All Adult Respondents (including non-consumers)										Consumers Only				
	n	Mean	SE	95%LCL	95%UCL	5%tile	Median	75%tile	90%tile	95%tile	n	%	GM*	MSE**	
Group A (p=0.02)	Male	46	0.817	0.120	0.582	1.052	0.021	0.459	1.463	2.033	2.236	46	100%	0.385	1.245
	Female	46	0.419	0.077	0.268	0.570	0.018	0.294	0.521	1.028	1.813	46	100%	0.195	1.232
Group B (p=0.04)	Male	46	0.089	0.031	0.028	0.150	0.000	0.008	0.076	0.269	0.623	27	59%	0.046	1.378
	Female	46	0.013	0.004	0.005	0.021	0.000	0.000	0.013	0.044	0.099	22	48%	0.012	1.309
Group C (p=0.03)	Male	46	0.170	0.043	0.086	0.254	0.007	0.078	0.148	0.432	0.847	46	100%	0.075	1.210
	Female	46	0.102	0.025	0.053	0.151	0.000	0.047	0.102	0.277	0.496	41	89%	0.053	1.215
Group D (p=0.08)	Male	46	0.135	0.037	0.062	0.208	0.000	0.045	0.133	0.546	0.948	39	85%	0.057	1.274
	Female	46	0.060	0.018	0.025	0.095	0.000	0.026	0.056	0.105	0.453	37	80%	0.035	1.204
Group E (p=0.03)	Male	46	1.865	0.316	1.246	2.484	0.068	1.101	2.608	4.980	7.453	46	100%	0.879	1.238
	Female	46	1.392	0.419	0.571	2.213	0.029	0.644	0.936	2.462	9.184	45	98%	0.559	1.224
Group F (p=0.6)	Male	46	0.141	0.026	0.090	0.192	0.000	0.072	0.195	0.413	0.597	40	87%	0.089	1.199
	Female	46	0.107	0.020	0.068	0.146	0.005	0.052	0.126	0.322	0.451	45	98%	0.056	1.198
Group G (p=0.2)	Male	46	0.081	0.032	0.018	0.144	0.000	0.001	0.070	0.261	0.476	23	50%	0.057	1.395
	Female	46	0.023	0.007	0.009	0.037	0.000	0.000	0.016	0.093	0.162	19	41%	0.031	1.272
All Finfish (p=0.007)	Male	46	1.351	0.193	0.973	1.729	0.115	0.905	1.871	3.341	4.540	46	100%	0.800	1.191
	Female	46	0.701	0.100	0.505	0.897	0.083	0.465	0.943	1.751	2.508	46	100%	0.434	1.169
All Shellfish (p=0.03)	Male	46	1.946	0.335	1.289	2.603	0.068	1.121	2.628	5.146	7.453	46	100%	0.909	1.240
	Female	46	1.415	0.421	0.590	2.240	0.029	0.678	1.007	2.462	9.231	45	98%	0.579	1.221
All Seafood (p=0.008)	Male	46	3.297	0.458	2.399	4.195	0.232	2.473	4.518	8.563	10.008	46	100%	1.971	1.188
	Female	46	2.116	0.480	1.175	3.057	0.236	0.965	2.219	4.898	10.400	46	100%	1.188	1.158

P-value is 2-sided and based upon Mann-Whitney test. The 95% CL is based on the normal distribution. The 5th and 95th percentiles are not reported for groups with less than 20 respondents.

* GM = Geometric Mean. ** MSE = Multiplicative Standard Error.

Table C-4. Adult Consumption Rate (g/kg/day) by Age

	All Adult Respondents (including non-consumers)										Consumers Only			
	n	Mean	SE	95%LCL	95%UCL	5%tile	Median	75%tile	90%tile	95%tile	n	%	GM*	MSE**
Group A (p=0.04)														
16-42 Years	58	0.512	0.083	0.349	0.675	0.015	0.294	0.660	1.544	2.105	58	100%	0.215	1.219
43-54 Years	15	1.021	0.233	0.564	1.478		1.020	1.596	2.468		15	100%	0.645	1.337
55 Years and Over	19	0.623	0.159	0.311	0.935		0.394	0.868	2.170		19	100%	0.294	1.402
Group B (p=0.001)														
16-42 Years	58	0.042	0.022	0.000	0.085	0.000	0.000	0.009	0.098	0.295	22	38%	0.023	1.447
43-54 Years	15	0.097	0.047	0.005	0.189		0.019	0.124	0.421		12	80%	0.049	1.503
55 Years and Over	19	0.041	0.017	0.008	0.074		0.010	0.054	0.182		15	79%	0.017	1.503
Group C (p=0.6)														
16-42 Years	58	0.122	0.026	0.071	0.173	0.000	0.055	0.134	0.301	0.578	54	93%	0.061	1.186
43-54 Years	15	0.117	0.029	0.060	0.174		0.078	0.146	0.339		15	100%	0.072	1.335
55 Years and Over	19	0.193	0.091	0.015	0.371		0.050	0.141	0.503		18	95%	0.066	1.429
Group D (p=0.2)														
16-42 Years	58	0.079	0.023	0.034	0.124	0.000	0.026	0.072	0.164	0.610	44	76%	0.043	1.218
43-54 Years	15	0.164	0.079	0.009	0.319		0.049	0.094	0.862		15	100%	0.056	1.435
55 Years and Over	19	0.102	0.038	0.028	0.176		0.033	0.088	0.513		17	89%	0.041	1.434
Group E (p=0.1)														
16-42 Years	58	1.537	0.289	0.971	2.103	0.059	0.740	1.715	3.513	8.259	57	98%	0.707	1.199
43-54 Years	15	2.241	0.571	1.122	3.360		1.679	4.403	6.115		15	100%	1.188	1.419
55 Years and Over	19	1.425	0.811	0.000	3.015		0.678	1.159	1.662		19	100%	0.456	1.415
Group F (p=0.5)														
16-42 Years	58	0.119	0.021	0.078	0.160	0.000	0.044	0.123	0.387	0.563	53	91%	0.065	1.180
43-54 Years	15	0.154	0.050	0.056	0.252		0.109	0.217	0.472		14	93%	0.098	1.339
55 Years and Over	19	0.115	0.029	0.058	0.172		0.072	0.145	0.302		18	95%	0.066	1.350
Group G (p=0.6)														
16-42 Years	58	0.052	0.024	0.005	0.099	0.000	0.006	0.035	0.126	0.241	30	52%	0.037	1.259
43-54 Years	15	0.088	0.043	0.004	0.172		0.000	0.116	0.420		5	33%	0.207	1.447
55 Years and Over	19	0.023	0.011	0.001	0.045		0.000	0.018	0.091		7	37%	0.028	1.875
All Finfish (p=0.03)														
16-42 Years	58	0.874	0.136	0.607	1.141	0.087	0.536	1.062	2.471	2.754	58	100%	0.489	1.163
43-54 Years	15	1.554	0.304	0.958	2.150		1.422	2.005	3.578		15	100%	1.146	1.249
55 Years and Over	19	1.074	0.247	0.590	1.558		0.861	1.525	2.424		19	100%	0.619	1.329
All Shellfish (p=0.1)														
16-42 Years	58	1.589	0.301	0.999	2.179	0.059	0.799	1.834	3.626	8.305	57	98%	0.736	1.197
43-54 Years	15	2.330	0.586	1.181	3.479		1.724	4.519	6.447		15	100%	1.225	1.426
55 Years and Over	19	1.447	0.815	0.000	3.044		0.688	1.160	1.837		19	100%	0.464	1.417
All Seafood (p=0.09)														
16-42 Years	58	2.463	0.387	1.704	3.222	0.247	1.270	3.410	6.206	9.954	58	100%	1.384	1.156
43-54 Years	15	3.884	0.781	2.353	5.415		3.869	4.942	9.725		15	100%	2.665	1.295
55 Years and Over	19	2.522	0.927	0.705	4.339		1.393	2.574	5.220		19	100%	1.340	1.293

P-value is 2-sided and based upon Kruskal-Wallis test. The 95% CL is based on the normal distribution. The 5th and 95th percentiles are not reported for groups with less than 20 respondents.
 * GM = Geometric Mean. ** MSE = Multiplicative Standard Error.

Table C-5. List of High Consumption Rates (g/kg/day) Reported

	Consumers Only				List of Outliers					
	n	Mean	SD	Mean+3SD	ID Reported	Rate Reported	ID Reported	Rate Reported	ID Reported	Rate Reported
Group A	92	0.618	0.709	2.745	A	3.469				
Group B	49	0.095	0.201	0.698	A	0.718	F	1.149		
Group C	87	0.144	0.246	0.882	B	0.907	F	1.001	G	1.716
Group D	76	0.118	0.216	0.766	F	1.069	I	1.068		
Group E	91	1.646	2.523	9.215	C	15.886	E	9.707		
Group F	85	0.134	0.160	0.614	D	0.778	F	0.616		
Group G	42	0.111	0.223	0.78	H	1.344				
All Finfish	92	1.026	1.084	4.278	A	4.570	F	5.516	G	4.486
All Shellfish	91	1.699	2.589	9.466	C	15.976	E	9.771	H	10.464
All Seafood	92	2.707	3.219	12.364	C	18.400	H	14.796		
									H	4.332

Table C-6. Children's Consumption Rate (g/kg/day): Individual Finfish and Shellfish and Fish Groups

Species/Group	All Children (including non-consumers)											Consumers Only			
	n	Mean	SE	95%LCL	95%UCL	5%tile	Median	75%tile	90%tile	95%tile	Max	n	%	GM*	MSE**
Manila/Littleneck clams	31	0.095	0.051	0.000	0.195	0.000	0.031	0.063	0.181	0.763	1.597	23	74%	0.050	1.278
Horse clams	31	0.022	0.013	0.000	0.048	0.000	0.000	0.006	0.048	0.269	0.348	12	39%	0.015	1.587
Butter clams	31	0.021	0.014	0.000	0.048	0.000	0.000	0.000	0.041	0.247	0.422	6	19%	0.041	1.844
Geoduck	31	0.112	0.041	0.033	0.191	0.000	0.027	0.116	0.252	0.841	1.075	22	71%	0.054	1.480
Cockles	31	0.117	0.079	0.000	0.271	0.000	0.000	0.054	0.240	1.217	2.433	10	32%	0.123	1.545
Oysters	31	0.019	0.012	0.000	0.043	0.000	0.000	0.056	0.058	0.205	0.362	10	32%	0.020	1.606
Mussels	31	0.001	0.001	0.000	0.002	0.000	0.000	0.000	0.000	0.011	0.026	1	3%	0.026	1.000
Moon snails	31	0.000					0.000	0.000	0.000	0.000	0.000	0	0%		
Shrimp	31	0.093	0.038	0.019	0.168	0.000	0.004	0.059	0.394	0.712	0.982	17	55%	0.050	1.527
Dungeness crab	31	0.300	0.126	0.053	0.547	0.000	0.047	0.166	1.251	2.689	2.833	21	68%	0.116	1.442
Red rock crab	31	0.007	0.003	0.001	0.014	0.000	0.000	0.000	0.046	0.064	0.082	5	16%	0.040	1.308
Scallops	31	0.011	0.006	0.000	0.022	0.000	0.000	0.005	0.031	0.089	0.174	8	26%	0.026	1.410
Squid	31	0.002	0.002	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.411	2	6%	0.032	1.265
Sea urchin	31	0.000					0.000	0.000	0.000	0.000	0.000	0	0%		
Sea cucumber	31	0.000					0.000	0.000	0.000	0.000	0.000	0	0%		
Group A	31	0.271	0.117	0.043	0.499	0.000	0.063	0.216	0.532	2.064	3.559	28	90%	0.100	1.312
Group B	31	0.004	0.002	0.000	0.008	0.000	0.000	0.000	0.015	0.038	0.069	5	16%	0.014	1.618
Group C	31	0.131	0.040	0.052	0.210	0.000	0.036	0.205	0.339	0.838	1.014	25	81%	0.069	1.309
Group D	31	0.030	0.011	0.008	0.053	0.000	0.010	0.037	0.081	0.191	0.342	17	55%	0.033	1.262
Group F	31	0.240	0.075	0.094	0.387	0.000	0.092	0.254	0.684	1.571	1.901	24	77%	0.140	1.315
All Finfish	31	0.677	0.168	0.346	1.007	0.026	0.306	0.740	2.110	3.549	4.101	31	100%	0.312	1.273
All Shellfish	31	0.801	0.274	0.265	1.337	0.000	0.287	0.799	2.319	4.994	7.948	28	90%	0.314	1.360
All Seafood	31	1.477	0.346	0.799	2.155	0.042	0.724	1.983	3.374	7.272	9.063	31	100%	0.729	1.268

Group F includes tuna, other finfish and all others not included in Groups A, B, C and D.

* GM = Geometric Mean. ** MSE = Multiplicative Standard Error.

Note: The minimum consumption for all species and groups was zero, except for "all finfish" and "all seafood". The minimum rate for "all finfish" was 0.023, and for "all seafood" was 0.035.

Table C-7. Children's Consumption Rate (g/kg/day) for Consumers Only:
Individual Finfish and Shellfish and Fish Groups

Group	Species	Consumers only					
		n	Mean	SE	Median	75%tile	90%tile
Group E	Manila/Littleneck clams	23	0.128	0.068	0.043	0.066	0.200
	Horse Clams	12	0.058	0.032	0.009	0.046	0.308
	Butter Clams	6	0.106	0.066	0.032	0.203	---
	Geoduck	22	0.158	0.054	0.053	0.230	0.554
	Cockles	10	0.361	0.233	0.078	0.291	2.230
	Oysters	10	0.060	0.035	0.015	0.074	0.336
	Mussels	1	0.026	---	---	---	---
	Moon Snails	0	---	---	---	---	---
	Shrimp	17	0.170	0.064	0.035	0.299	0.621
	Dungeness Crab	21	0.443	0.179	0.082	0.305	2.348
	Red Rock Crab	5	0.046	0.011	0.051	0.067	---
	Scallops	8	0.042	0.019	0.027	0.032	---
	Squid	2	0.033	0.008	0.033	---	---
	Sea Urchin	0	---	---	---	---	---
Sea Cucumber	0	---	---	---	---	---	
	Group A	28	0.300	0.128	0.112	0.246	0.599
	Group B	5	0.023	0.012	0.017	0.043	---
	Group C	25	0.163	0.048	0.048	0.236	0.493
	Group D	17	0.055	0.019	0.033	0.064	0.140
	Group F (Tuna/other finfish)	24	0.311	0.092	0.177	0.336	1.035
	All Finfish	31	0.677	0.168	0.306	0.740	2.110
	All Shellfish	28	0.886	0.299	0.363	0.847	2.466
	All Seafood	31	1.477	0.346	0.724	1.983	3.374

Appendix D

Appendix D

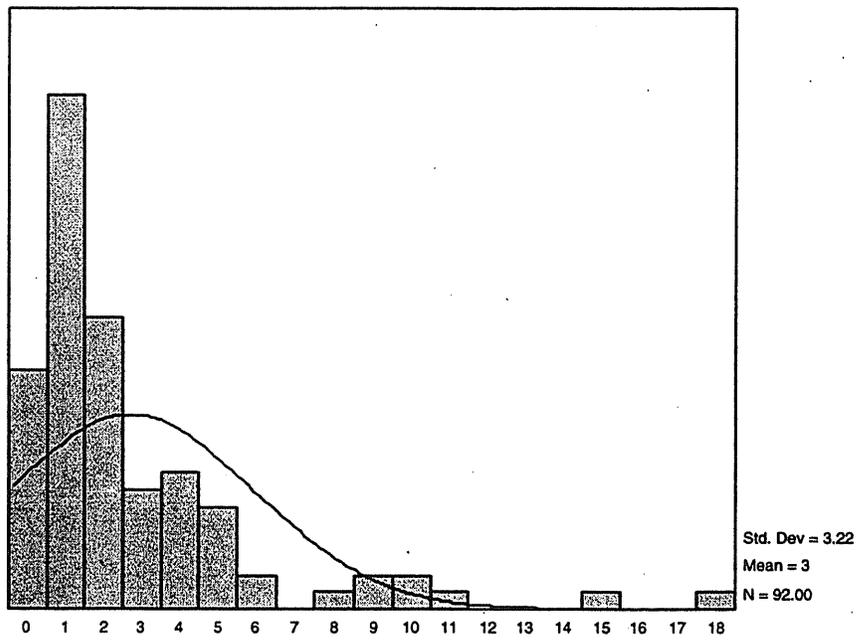
Lognormal Distribution and Modeling of Consumption Rates

The lognormal distribution can provide a model for consumption rates. Figure D-1 (two panels), below, shows the distribution of rates of consumption for all seafood on the original scale (g/kg/day) and on the logarithmic (\log_{10}) scale. (A normal distribution with the same mean and standard deviation (SD) has been superimposed on top of each distribution). The normal distribution fitted to the original rates shows a poor match, whereas the fit to the log values is quite good. The lognormal distribution was found to be a good fit for the other distributions examined, including that of all seafood, all finfish, all shellfish, and salmon (Group A). A plot of consumption rates versus the corresponding order statistics from the lognormal distribution shows almost a straight-line fit, suggesting that the lognormal distribution is a good representation for the variation in consumption rates among consumers. The binomial distribution can be used to represent the proportion of consumers of a species or species group among all respondents.

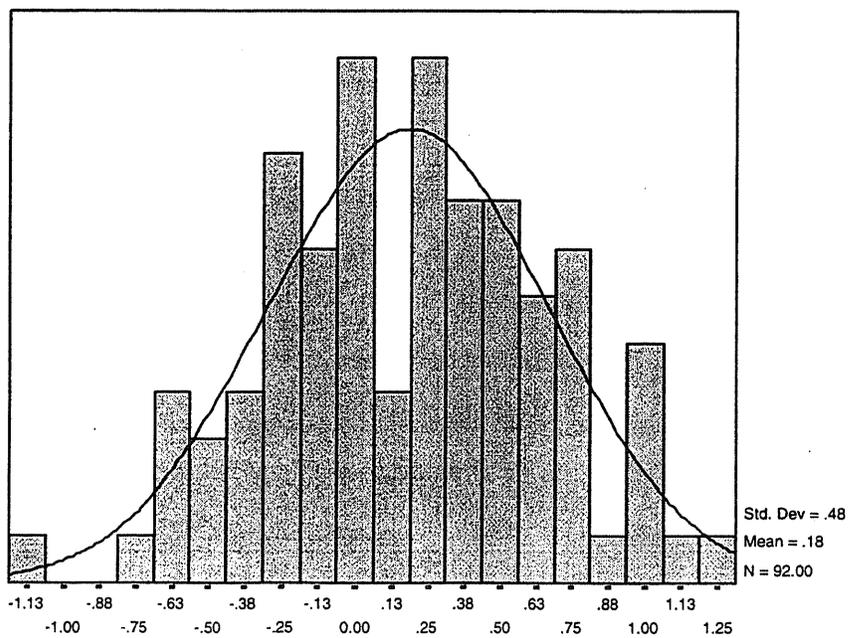
For the lognormal distribution, the log of the geometric mean (GM) and the standard deviation on the log scale are the parameters required to model the distribution. The GM of the observed distribution of consumption rates, which is simply the anti-log of the mean of the log of consumption rates, is provided in this report for consumers (those with a non-zero seafood consumption rate). The multiplicative standard error (MSE), which is the anti-log of the standard error of the log of the consumption rate is also provided. If there are n consumers, the value $\log_{10}(\text{MSE})$ can be multiplied by \sqrt{n} to yield the SD of the log of the observations, the second parameter needed for modeling the lognormal distribution.

As noted in the Methods section, the parameters of the lognormal distribution have descriptive uses, as well as their use in modeling. We can refer to the anti-log of the SD of the log observations as the multiplicative standard deviation (MSD), which is similar to a ratio. It would be very common to find that the consumption rates of two individuals differed by this ratio and it would not be uncommon to find individuals who differed by the square of this ratio, MSD^2 , based on two standard deviations. For example, in this report the adult consumption rate for all seafood has a multiplicative standard error of 1.123 for $n = 92$ respondents, which implies an MSD of 3.04 $\{= \text{antilog}[\log(1.123) * \sqrt{92}]\}$. Thus, three-fold differences in consumption rates among consumers would be very common (corresponding to one standard deviation) and nine-fold differences would not be uncommon (corresponding to two standard deviations and MSD^2).

Figure D-1. All Seafood: Distribution of original and log-transformed consumption rate



All Seafood: Rate as Reported (g/kg/day)



ALI Seafood: Log-transformed Rate (g/kg/day)

